

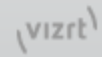


Graphics Plugin User Guide

Version 3.0



Graphics Plugin





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There are general best-practice solutions, these include setting the antivirus software to not scan the systems during operating hours and that the Vizrt components, as well as drives on which clips and data are stored, are excluded from their scans (as previously stated, these measures cannot be guaranteed).

Technical Support

For technical support and the latest news of upgrades, documentation, and related products, visit the Vizrt web site at www.vizrt.com.

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2024/11/07

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1 Basic Graphics Plugin Workflow

Graphics Plugins for Adobe Premiere Pro, Avid and Edius are available in this version. This guide focuses on workflows related to these plugins.

For information about other supported Graphics Plugins, please go to the relevant version of the [Graphics Plugin Administrator Guide](#).

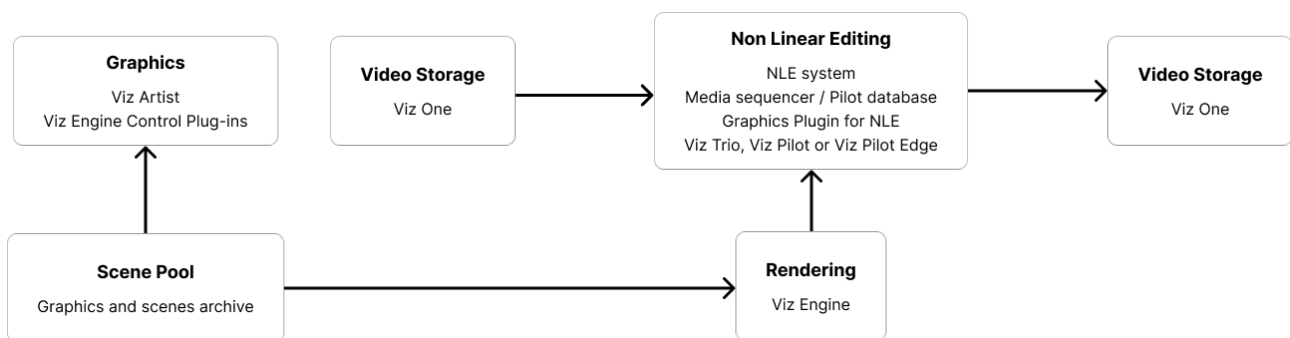
1.1 Workflow

A typical workflow starting with scene and template design, and ending with video rendering and playout, 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 to use with Viz Pilot in Template Wizard.
3. An editor or a journalist edits a video using an NLE system.
 - a. Using Vizrt's Graphics Plugin, the user can access and add graphics to the video.
 - b. Graphics properties can be edited using the graphics templates in either [Viz Trio](#), [Viz Pilot](#) or [Viz Pilot Edge](#).
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.

1.2 The Basic Graphics Plugin Workflow

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



While third party NLE workstations have different ways of importing and inserting graphics into a video, Graphics Plugin itself has the same interface across all third-party programs.

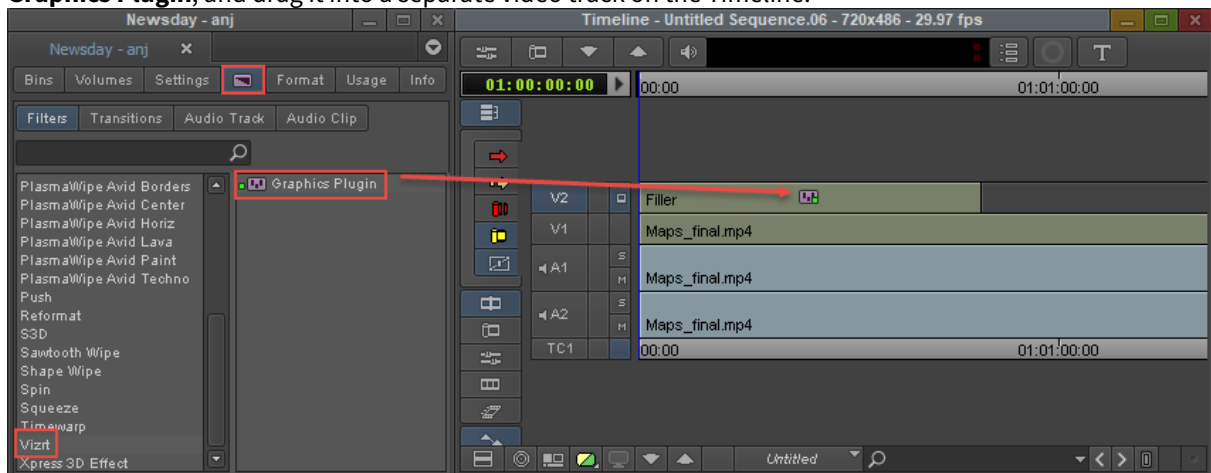
2 Using Graphics Plugin With Avid Media Composer

This section shows you how to add Vizrt graphics to the timeline in Avid Media Composer, and how to use stop points.

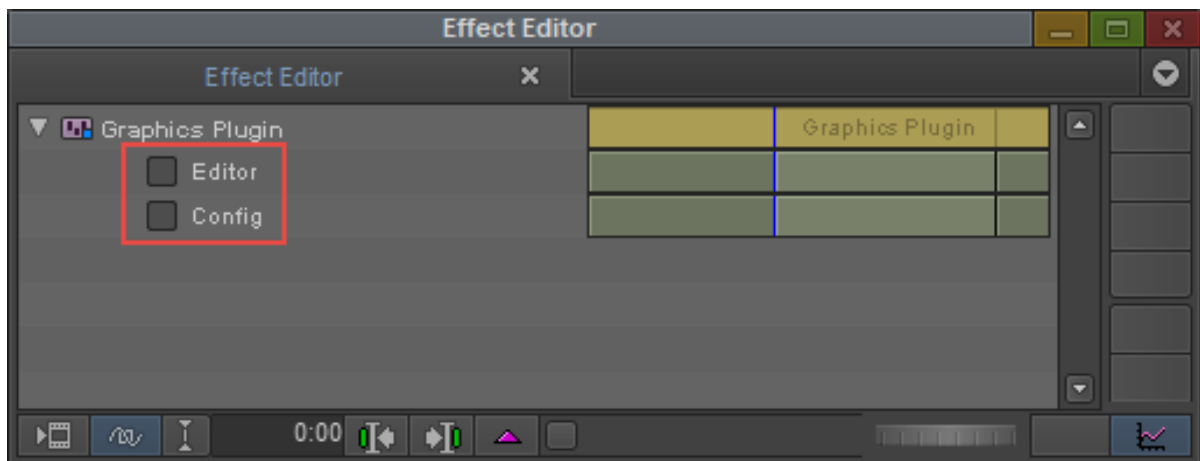
- [Adding Graphics Plugin](#)
- [Editing Stop Points](#)
- [Exporting Metagraphics](#)

2.1 Adding Graphics Plugin

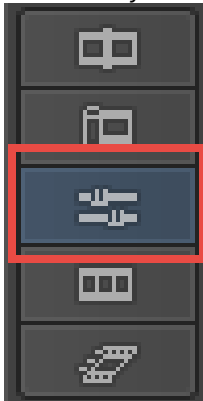
1. In Avid Media Composer, create a new project.
2. Import a video through the **Source Browser** window.
3. Click on the **film icon** on the item that you imported, and drag it into the **Timeline** window.
4. In the Project window, click on the **Effect Palette** tab (represented by a square purple icon), select **Vizrt > Graphics Plugin**, and drag it into a separate video track on the Timeline.



5. Open the **Effect Editor** by going to **Tools > Effect Editor**.
6. In the Effect Editor window, under Graphics Plugin, click **Editor** to start importing graphics into Avid Media Composer. [Viz Trio](#), [Viz Pilot Edge](#) or [Viz Pilot](#) start depending on the specified Graphics Plugin User Interface in the Configuration Tool.
7. Click on **Config** to access the [Configuration Tool](#).



8. Check that you are in **Effect** mode in order to see graphics animations in the Preview windows.



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

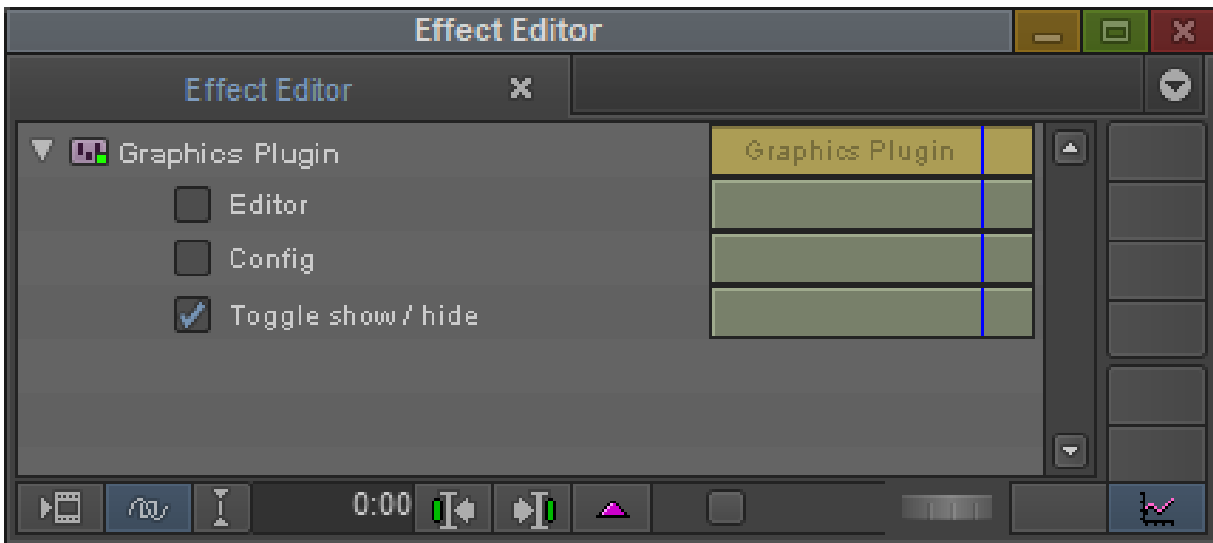
2.2 Editing Stop Points

Stop points are added to a graphics scene to control the playout of the animation. Graphics Plugin contains a stop point editor that allows you to adjust the length of the stop points when adding a graphic.

To access the stop point editor open the **Effect Editor**:

- Go to **Tools** from the top menu and select **Effect Editor** in the drop-down list.

Under **Graphics Plugin**, select the **Toggle show/hide** option.



Click enable. A stop point editor appears at the bottom of the preview window:

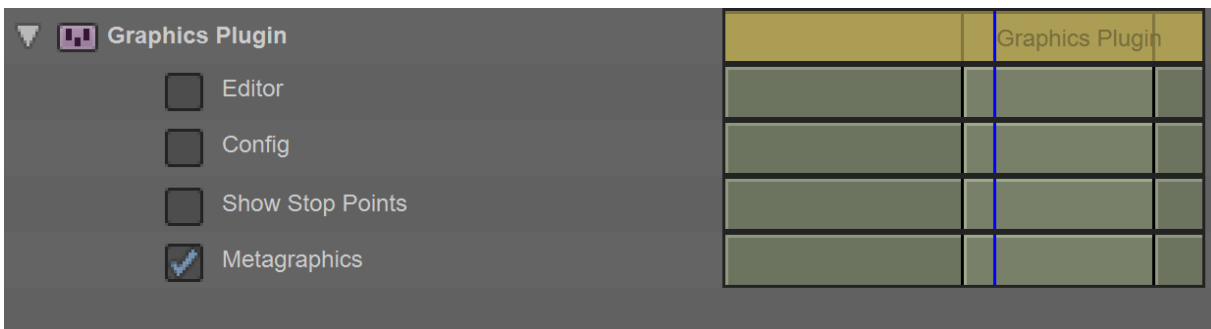


Click the **small square** next to the stop point and drag to adjust it.

2.3 Exporting Metagraphics

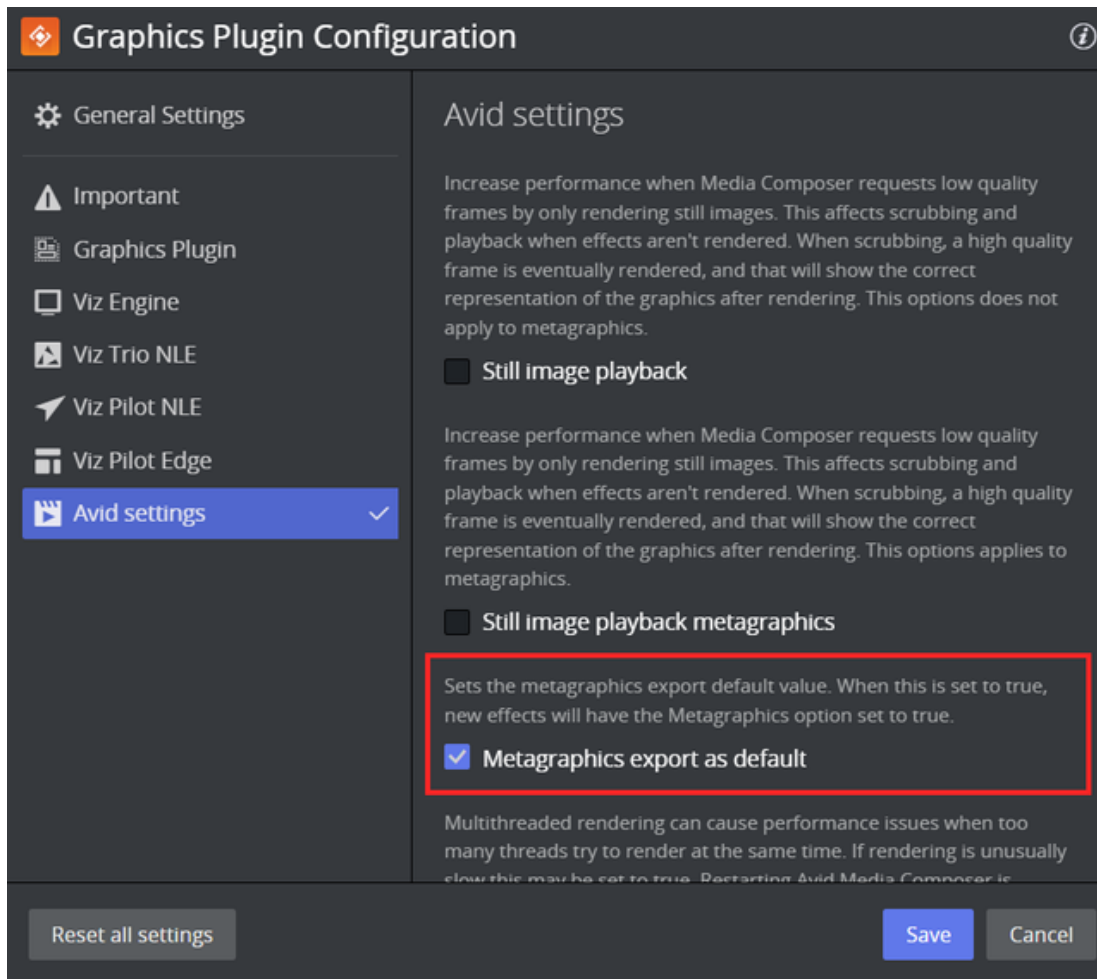
Exporting sequences as metagraphics allows users to export metagraphics without burning graphics into the video. To enable, select the effect and tick the **Metagraphics** checkbox of the Vizrt Graphics Plugin.

Note: As Avid Assistant is only available for Windows, exporting a sequence containing metagraphics is only available for that platform.



When a user creates a new Vizrt Graphics Plugin effect, the default value for the **Metagraphics** checkbox is read from a setting. This can be changed in **Avid settings**.

1. Click on **Config** to access the [Configuration Tool](#).
2. Click the **Advanced** tab and in **Settings view** select **Avid settings**.
3. Set **Metagraphics export as default** to the desired value.



Note: **Avid Assistant** must be installed to export graphics to **Viz One**. See the *Avid Assistant User Guide* for more information.

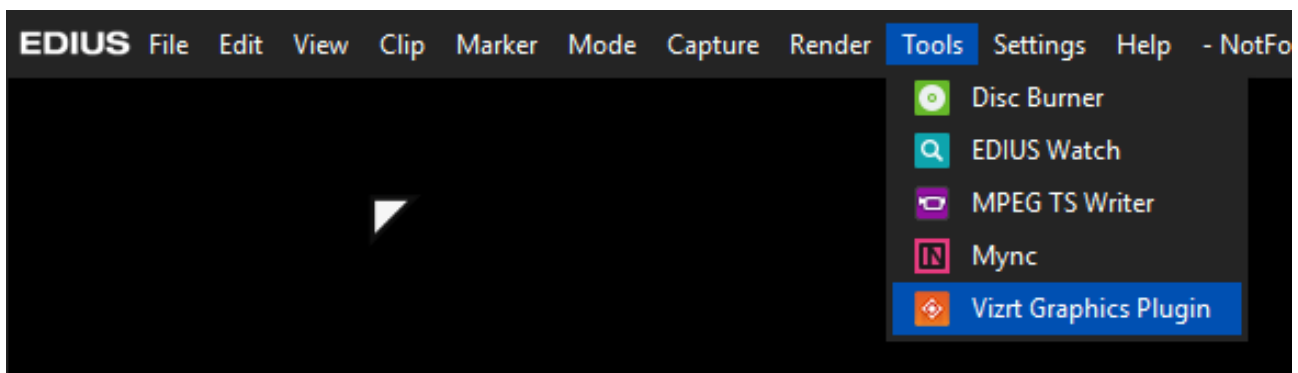
3 Using Graphics Plugin With EDIUS

This section shows you how to add Vizrt graphics to the timeline in EDIUS.

- [Accessing the Configuration Tool](#)
 - [Adding Graphics Plugin](#)
 - [Remote Rendering](#)
-

3.1 Accessing The Configuration Tool

To open the Graphics Plugin Configuration Tool in EDIUS, go to **Tools > Vizrt Graphics Plugin**:

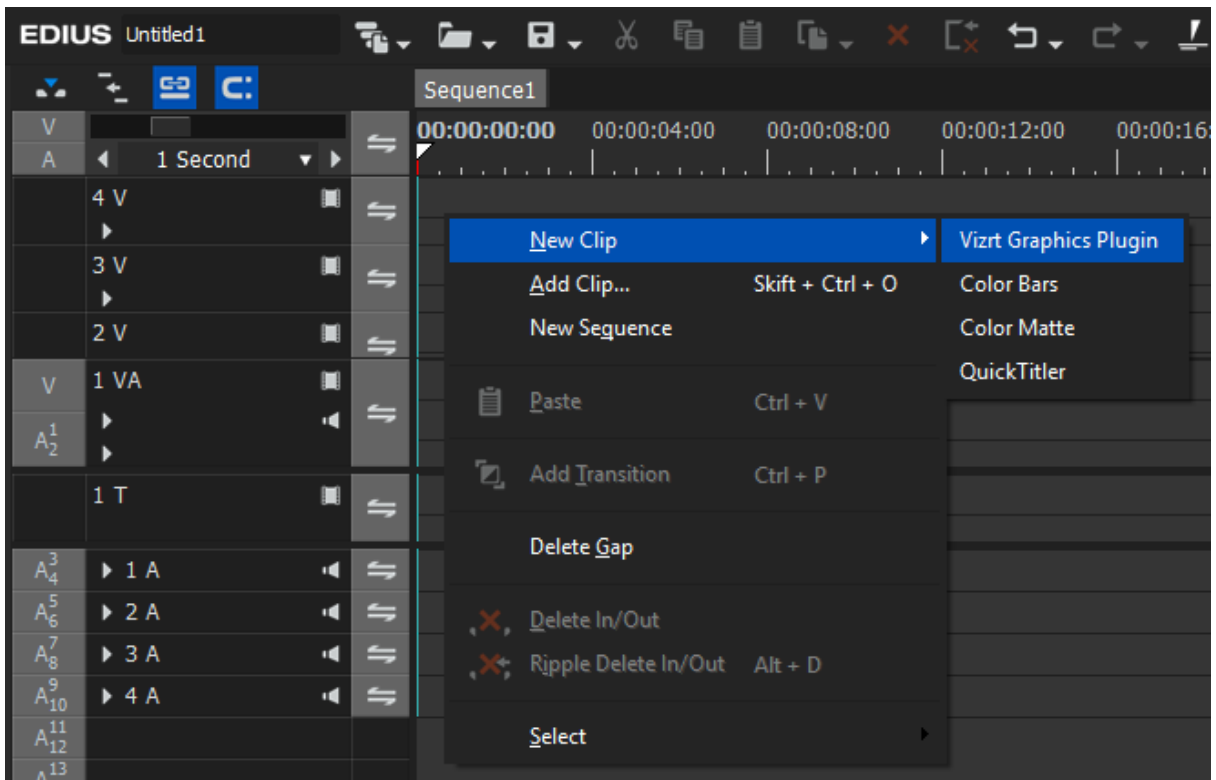


The Configuration Tool opens in a separate window where you can select your preferred Graphics Plugin User Interface, among other things. See [Configuration Tool](#) for more details.

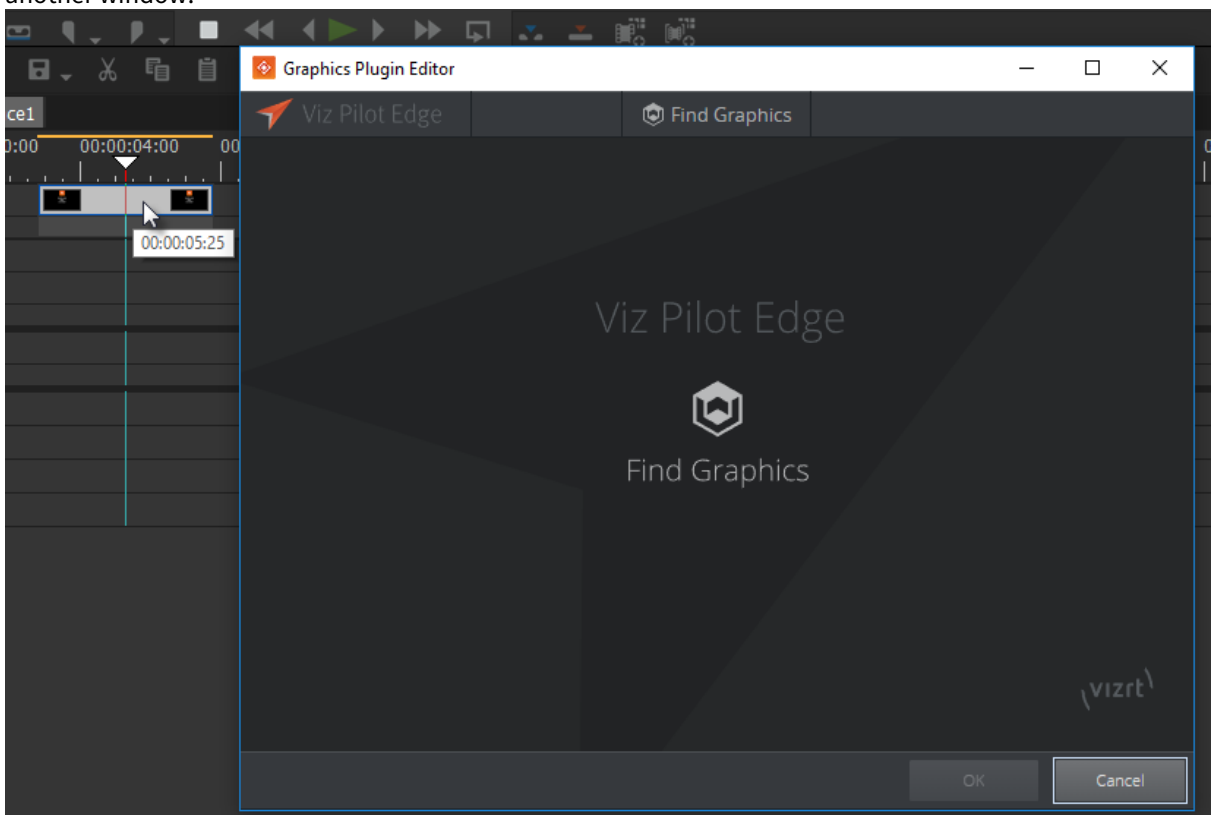
3.2 Adding Graphics Plugin

Before you can use Vizrt graphics, you must add Graphics Plugin to your project:

1. Create a new project or open an existing project in EDIUS.
2. Right-click on a video track on the timeline and select **New Clip > Vizrt Graphics Plugin**:



3. A graphics element appears on the timeline at the same time as the **Graphics Plugin Editor** opens in another window.



4. After closing the Graphics Plugin Editor, you can double-click the graphics element on the timeline to open it again to change or edit the graphics.

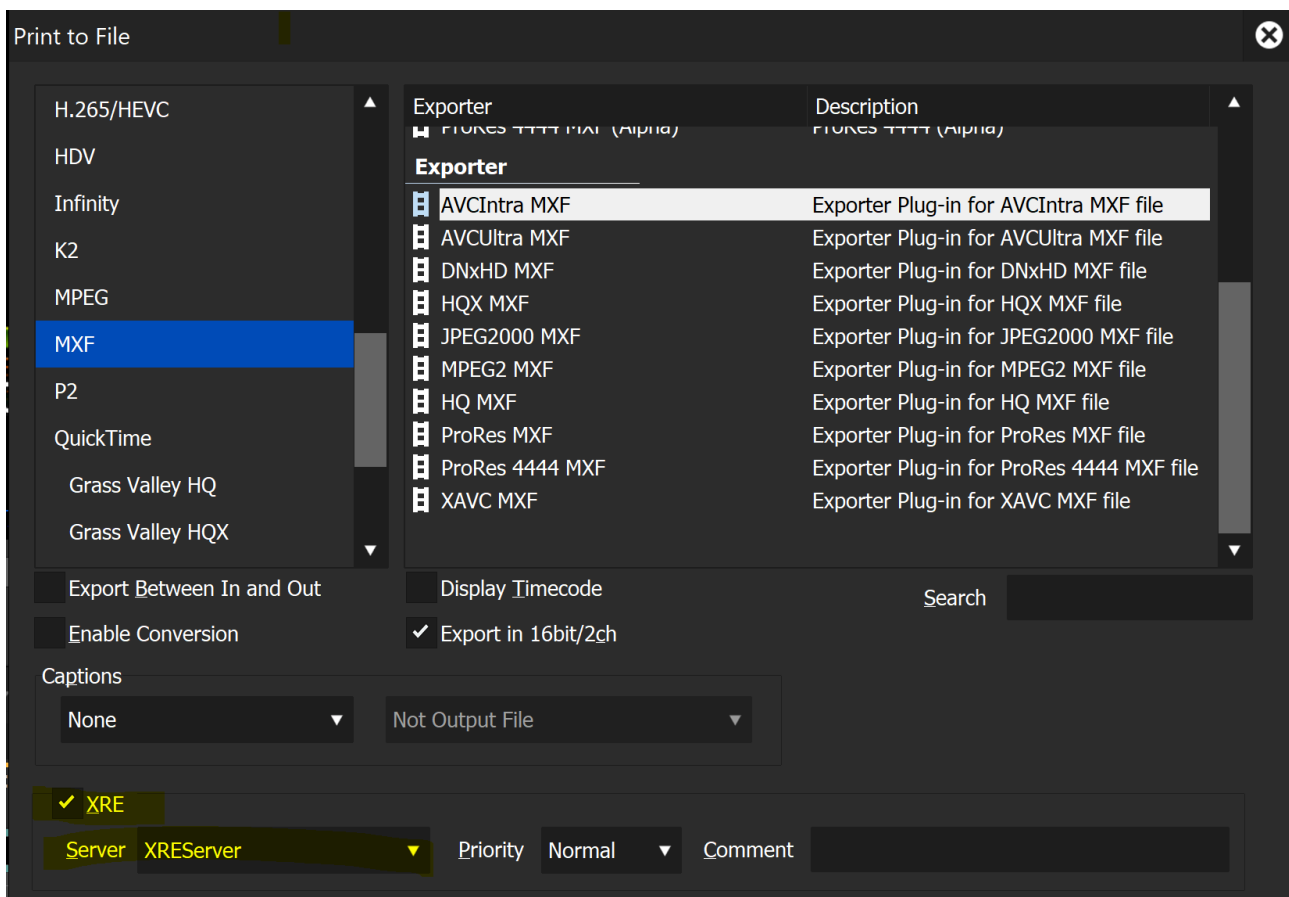
Note: For information about the graphics, right-click the graphics on the timeline and select **Properties....**

3.3 Remote Rendering

After setting up server-side rendering following the Configuring Server-side Rendering, you can remotely render an Edius project that contains Vizrt graphics.

3.3.1 Rendering the Project

1. Go to **File->Export->Print to File (F11)**.
2. Check the XRE checkbox and select the configured XRE server.
3. Click Export. The XRE Monitor displays a new job and progress report.



See also

- Configuring Server-side Rendering on the *Graphics Plugin Admin Guide*.

4 Configuration Tool

The Configuration Tool is the same for all applications. This section describes the UI and its options.

- **Reset all settings:** Resets all settings to default (factory settings).
- **Save:** Saves the current configuration.
- **Cancel:** Cancels all changes and closes the Configuration Tool.

The screenshot shows the 'Graphics Plugin Configuration' window. The 'General Settings' tab is selected in the left sidebar. The main area displays the 'General Settings' section, which includes a description of the Graphics Plugin's role in finding graphics templates and rendering. Below this, there are three sections for configuration: 'Render used' with radio buttons for 'Viz Engine' (selected) and 'Connection Broker'; 'Host Viz Engine' with a dropdown menu set to 'http://', a text input field containing '127.0.0.1', and a port input field containing '50007'; 'Connection Broker host' with a dropdown menu set to 'http://', a text input field containing 'localhost', and a port input field containing '21098'; and 'Media Sequencer' with a dropdown menu set to 'http://', a text input field containing 'localhost', and a port input field containing '8594'. At the bottom of the window, there are three buttons: 'Reset all settings', 'Save', and 'Cancel'.

The **General** section is selected by default with the following settings:

- **Render used:**
 - **Viz Engine** or **Connection Broker:** Specify one of them for rendering.
- **Media Sequencer:** Specify the Media Sequencer.

Info: Connection Broker is a separate component that acts as a load-balancer for multiple Viz Engines. It is suitable for big installations.

A description of configurable settings below the **General** section, follows:

- [Important](#)
 - [Graphics Plugin](#)
 - [Viz Engine](#)
 - [Editor Settings](#)
 - [Viz Trio NLE](#)
 - [Viz Pilot NLE](#)
 - [Viz Pilot Edge](#)
 - [Graphics Plugin Editor](#)
 - [Adobe/Avid/Edius Settings](#)
 - [Searching for Object Store Images](#)
 - [Startup Variables](#)
 - [Shared System Settings](#)
 - [Adding a Shared System Setting](#)
-

4.1 Important

Shows the most important settings needed to run Graphics Plugin:

Graphics Plugin Configuration ⓘ

- General Settings
- Important** ✓
- Graphics Plugin
- Viz Engine
- Viz Trio NLE
- Viz Pilot NLE
- Viz Pilot Edge
- Adobe settings

Important

Host Viz Engine

The machine running the Viz Engine rendering server. Note that when using Viz Engine 2, a Viz Multiplexer is also needed to serve multiple NLE systems, but this is not necessary when using Viz Engine 3.

http:// 127.0.0.1 50007

Determines whether to use the configured Viz host or to get one from the Connection Broker

Use Connection Broker

Connection Broker host

The machine running the Connection Broker.

http:// localhost 21098

Host Media Sequencer

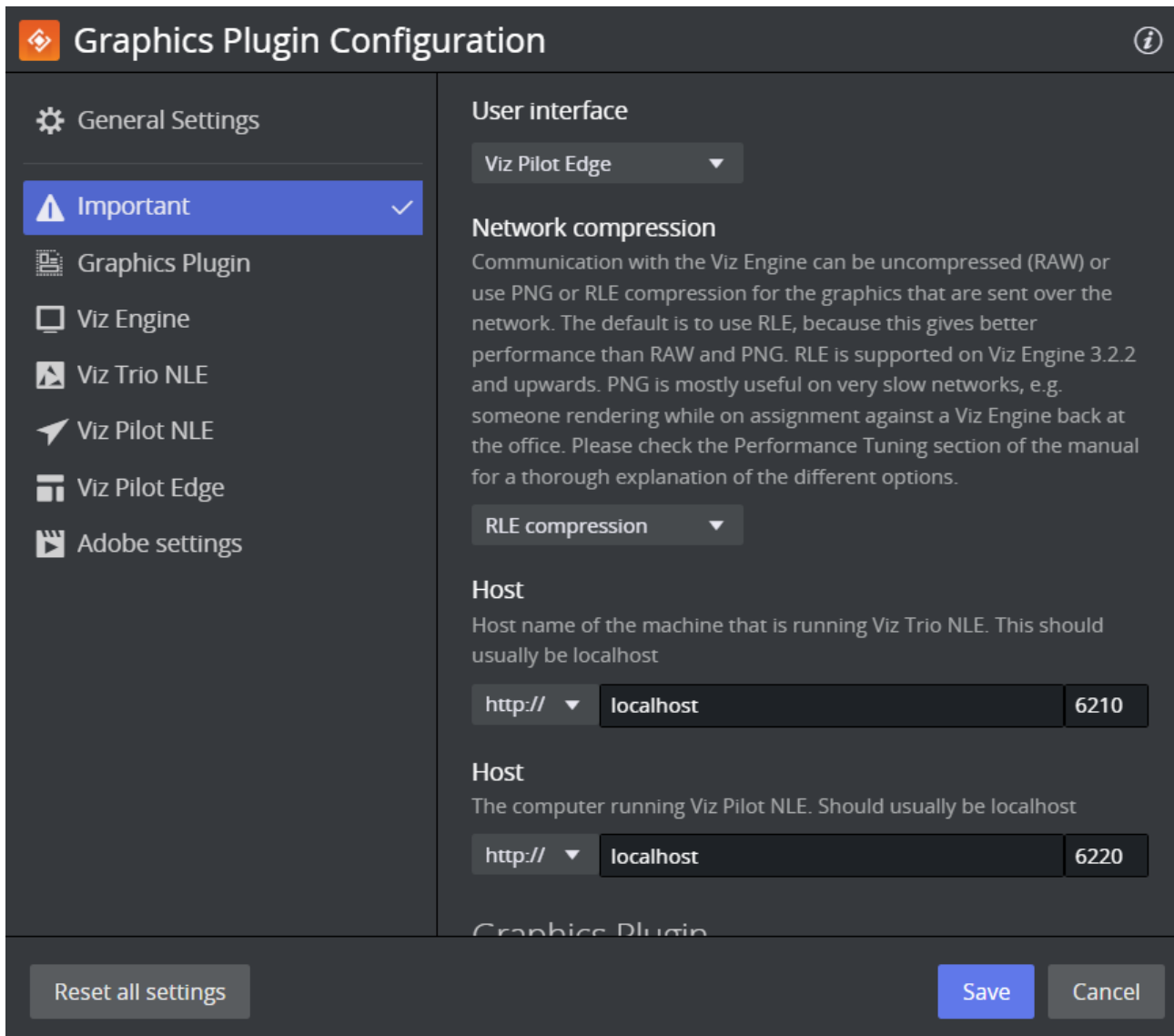
The computer running the Media Sequencer service.

http:// localhost 8594

User interface

Viz Pilot Edge

Reset all settings Save Cancel



- **Host Viz Engine:** Sets the hostname or IP address of the Viz Engine renderer.
- **Use Connection Broker:** See Connection Broker in the *Graphics Plugin Administrator Guide*.
- **Connection Broker host:** Sets the host of the computer running the connection broker.
- **Host Media Sequencer:** Sets the host of the computer running the Media Sequencer service.
- **User Interface:** See [User Interface](#).
- **Network compression:** See [Network compression](#) under Viz Engine.
- **Viz Trio NLE Host:** Defines the hostname of the machine running the Viz Trio NLE. Typically *localhost*.
- **Viz Pilot NLE Host:** Defines the hostname of the machine running the Viz Pilot NLE. Typically *localhost*.

4.2 Graphics Plugin

The screenshot shows the 'Graphics Plugin Configuration' dialog box. The title bar includes a gear icon and an information icon. The left sidebar contains a list of settings categories: 'General Settings', 'Important', 'Graphics Plugin' (selected and highlighted in blue), 'Viz Engine', 'Viz Trio NLE', 'Viz Pilot NLE', 'Viz Pilot Edge', and 'Adobe settings'. The main content area is titled 'Graphics Plugin' and contains three sections: 'User interface' with a dropdown menu set to 'Viz Pilot Edge'; 'Log Level' with a dropdown menu set to 'Extreme' and a descriptive paragraph about logging; and 'Log directory' with a text input field and a descriptive paragraph. At the bottom, there are three buttons: 'Reset all settings', 'Save', and 'Cancel'.

Graphics Plugin Configuration

General Settings

Important

Graphics Plugin ✓

Viz Engine

Viz Trio NLE

Viz Pilot NLE

Viz Pilot Edge

Adobe settings

Graphics Plugin

User interface

Viz Pilot Edge

Log Level

Extreme

If you run into problems and need to provide an error report to Vizrt, please set this setting to 'Report', which makes the plugin generate timestamped log files. On Windows, logs will by default be saved to the %AppData%\Vizrt\VizNLELogs, where %AppData% represents the 'application data' folder. On Mac OS X, the default is ~/Library/Logs/VizNLE/. For both platforms, you can however use the 'Plugin log directory' setting to choose another location. The more logging you select the slower things will work, and the more hard disk space will be taken by the logs, so please only use it when it is specifically needed to make a report.

Log directory

Use this setting to override the default logging directory. Ex. c:/some-directory/my-nle-logs/

Sometimes there are situations where graphics don't look as the designer intends them to. The cause of this might be hard to trace

Reset all settings Save Cancel

Graphics Plugin Configuration ⓘ

- General Settings
- Important
- Graphics Plugin** ✓
- Viz Engine
- Viz Trio NLE
- Viz Pilot NLE
- Viz Pilot Edge
- Adobe settings

Sometimes there are situations where graphics don't look as the designer intends them to. The cause of this might be hard to trace sometimes, but this setting tells the plugin to dump all frames and fields it renders to the filesystem. This allows you and Vizrt support staff to narrow down graphics issues. The frames/fields will be dumped in a subdirectory below the 'Plugin log directory'. Please be aware that turning this setting on will severely slow down your system and is only meant for debugging. After you are done debugging, we strongly recommend turning this setting off again. The dumped frames and fields need to be manually cleaned by the user as they will use a large amount of disk space.

Should log fields/frames

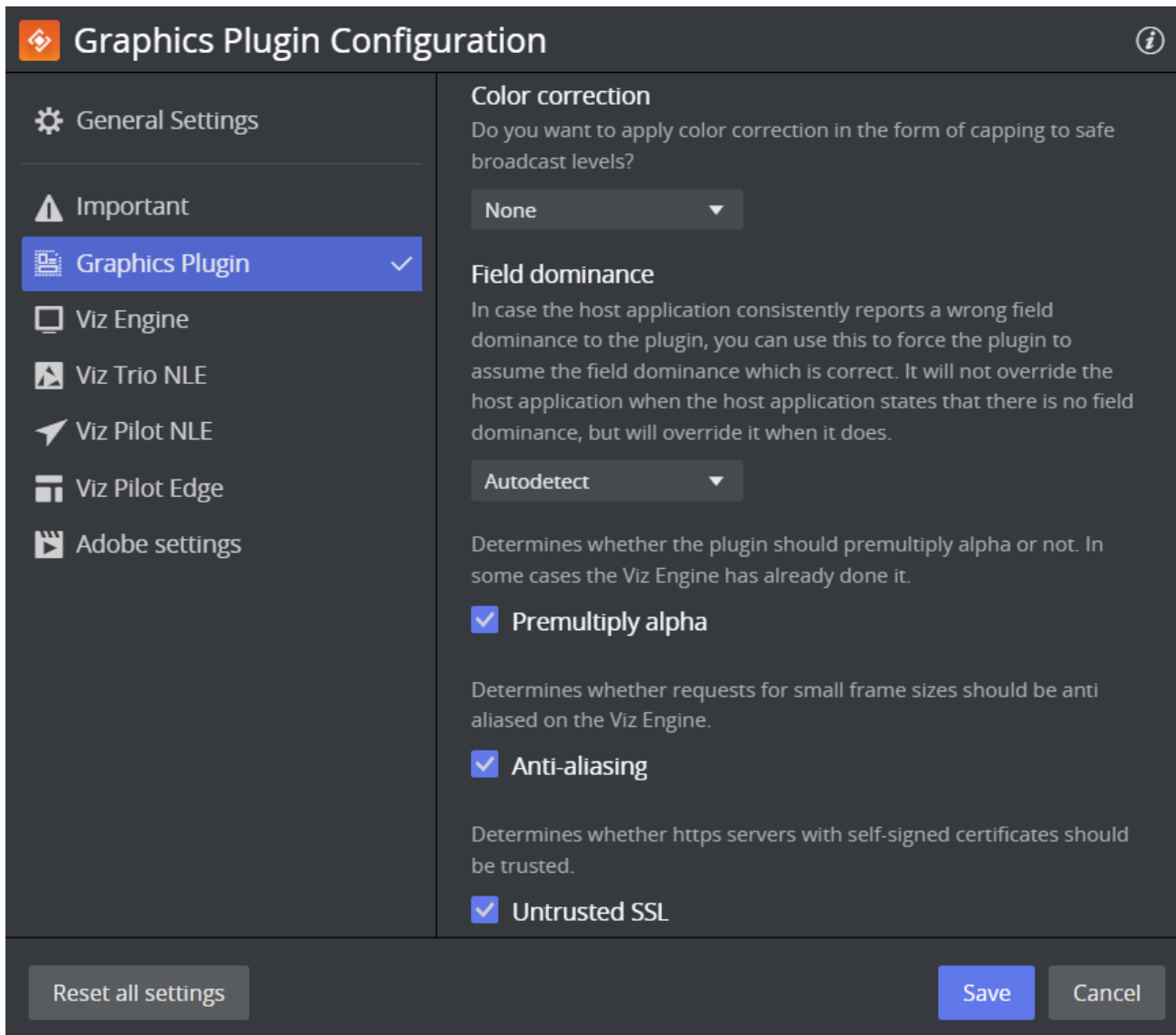
Color correction
Do you want to apply color correction in the form of capping to safe broadcast levels?

None ▼

Field dominance
In case the host application consistently reports a wrong field dominance to the plugin, you can use this 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.


Autodetect ▼

Reset all settings Save Cancel



- **User Interface:** Sets the interface to use for selecting graphics templates. Templates using the same scene but opened from Viz Trio, Viz Pilot or Viz Pilot Edge are 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.
- **Log Level:** Set the log level to provide an error report to Vizrt. Only do so when you need to make a report, as this slows down the plugin. See the Log Files section in the *Graphics Plugin Administrator Guide* for more information on log file locations.
 - **None:** Logs errors only, which is the default behavior.
 - **Report:** Generates dated log files. In almost every case, the log files include enough information to allow Vizrt to identify the issue.
 - **Extreme:** Generates a very large amount of logging information.
- **Log directory:** Use this setting to override the default logging directory. See the Log Files section in the *Graphics Plugin Administrator Guide* for more information on logging.

- **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 of the **Log directory**.
- **Color correction:** Enables broadcast-safe colors. Set cap-601 to cap high and low values directly to get 16-235. Set linear-cap-601 to perform a linear recalculation of the data to 16-235. The default value is **None**.

 **Note:** The background videos (or images) should also be at safe levels to prevent darkening on semi-transparent pixels.

- **Premultiply alpha:** Configures whether the plugin pre-multiplies alpha when rendering. In some cases, the Viz Engine has already multiplied the color channels with the alpha channel.
- **Anti-aliasing:** Controls whether requests for small frame sizes should be anti-aliased on Viz Engine.
- **Untrusted SSL:** Controls whether HTTPS servers with self-signed certificates should be trusted.

4.3 Viz Engine

The Viz Engine Settings view is shown below:

Graphics Plugin Configuration i

- General Settings
- Important
- Graphics Plugin
- Viz Engine** ✓
- Viz Trio NLE
- Viz Pilot NLE
- Viz Pilot Edge
- Adobe settings

Viz Engine

Host Viz Engine

The machine running the Viz Engine rendering server. Note that when using Viz Engine 2, a Viz Multiplexer is also needed to serve multiple NLE systems, but this is not necessary when using Viz Engine 3.

http:// 127.0.0.1 50007

Determines whether to use the configured Viz host or to get one from the Connection Broker

Use Connection Broker

Connection Broker host

The machine running the Connection Broker.

http:// localhost 21098

Network compression

Communication with the Viz Engine can be uncompressed (RAW) or use PNG or RLE compression for the graphics that are sent over the network. The default is to use RLE, because this gives better performance than RAW and PNG. RLE is supported on Viz Engine 3.2.2 and upwards. PNG is mostly useful on very slow networks, e.g. someone rendering while on assignment against a Viz Engine back at the office. Please check the Performance Tuning section of the manual for a thorough explanation of the different options.

Reset all settings Save Cancel

Graphics Plugin Configuration i

- General Settings
- Important
- Graphics Plugin
 - Viz Engine** ✓
 - Viz Trio NLE
 - Viz Pilot NLE
 - Viz Pilot Edge
 - Adobe settings

Network compression

Communication with the Viz Engine can be uncompressed (RAW) or use PNG or RLE compression for the graphics that are sent over the network. The default is to use RLE, because this gives better performance than RAW and PNG. RLE is supported on Viz Engine 3.2.2 and upwards. PNG is mostly useful on very slow networks, e.g. someone rendering while on assignment against a Viz Engine back at the office. Please check the Performance Tuning section of the manual for a thorough explanation of the different options.

RLE compression ▼

Prefetching, also known as caching, greatly increases the rendering speed when rendering a whole effect.

Prefetching

Prefetch size

Use this setting to indicate how many frames or fields the plugin should prefetch. A higher number improves start to stop rendering (pre-render) performance but reduces the scrub performance.

20

Network timeout

How long should Viz Engine connections wait for replies? Unless you have performed network measurements for your Viz Engine, you should not touch this.

Reset all settings Save Cancel

Graphics Plugin Configuration

General Settings

- Important
- Graphics Plugin
- Viz Engine** ✓
- Viz Trio NLE
- Viz Pilot NLE
- Viz Pilot Edge
- Adobe settings

Prefetch size
Use this setting to indicate how many frames or fields the plugin should prefetch. A higher number improves start to stop rendering (pre-render) performance but reduces the scrub performance.
20

Network timeout
How long should Viz Engine connections wait for replies? Unless you have performed network measurements for your Viz Engine, you should not touch this.
45 seconds

Information timeout
How long should Viz Engine connections wait for reply for initial information? Unless you have performed network measurements for your Viz Engine, you should not touch this.
6 seconds

Network cleanup
How long should the plugin wait after last use before considering tidying up loose connections to the Viz Engine? Unless you have measured your actual use of the plugin you should not touch this.
8 minutes

Reset all settings Save Cancel

- **Host:** Sets the hostname or IP address of the Viz Engine renderer.
- **Use Connection Broker:** Enables Graphics Plugin to connect to the Connection Broker for graphics rendering.
- **Connection Broker host:** Sets the hostname or IP address of the Connection Broker.
- **Network compression:** Sets the compression level. It is recommended to use no compression on gigabit networks, and compressed formats on slower networks (e.g. 100mbit). The default value is **RLE**.
 - **No Compression:** Sends all frames across the network uncompressed (for gigabit networks).
 - **PNG** (Portable Network Graphics): A lossless compression format.
 - **RLE** (Run-length Encoding): A lossless compression format. RLE is only supported by Viz Engine 3.2.2. and later versions (see the Software Requirements section on the *Graphics Plugin Administrator Guide*).
- **Prefetching:** Prefetching, also known as caching, greatly increases the rendering speed when using start to stop rendering, like Pinnacle's yellow slices, or Avid's pre-render effect mode.

Failsafe mode is **off**.

Default value is **on**.

- **Prefetch size:** 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. Note that this option is only available if pre-fetching is enabled. Prefetch values above 50 are ignored. Default value is **20**.
- **Network timeout:** Controls how long Viz Engine connections wait for replies. Unless network measurements for Viz Engine have been performed, this setting should not be changed. Default value is **45 sec**.
- **Information timeout:** Controls how long Viz Engine waits for a reply for initial information. This setting should not be changed unless network measurements of Viz Engine have been performed.
- **Network cleanup:** Controls how long the plugin waits after last use before cleaning up loose connections to Viz Engine. This should not be changed unless the actual use of the plugin has been measured. Default value is **8 mins**.



Host port number restrictions when previewing templates on Editor

Note: Viz engine port `50007` or `50107` must be used in order to preview templates on Graphics Plugin Editor (Viz Trio, Viz Pilot or Viz Pilot Edge). These ports connect to preview ports `50008` and `50108`, respectively. See Network Requirements in the *Graphics Plugin Administrator Guide* for port numbering information.

4.4 Editor Settings

Toggle **settings view** to display settings for either the Graphics Plugin Editor, Viz Trio, Viz Pilot or Viz Pilot Edge. Common settings are presented first, followed by editor-specific settings:

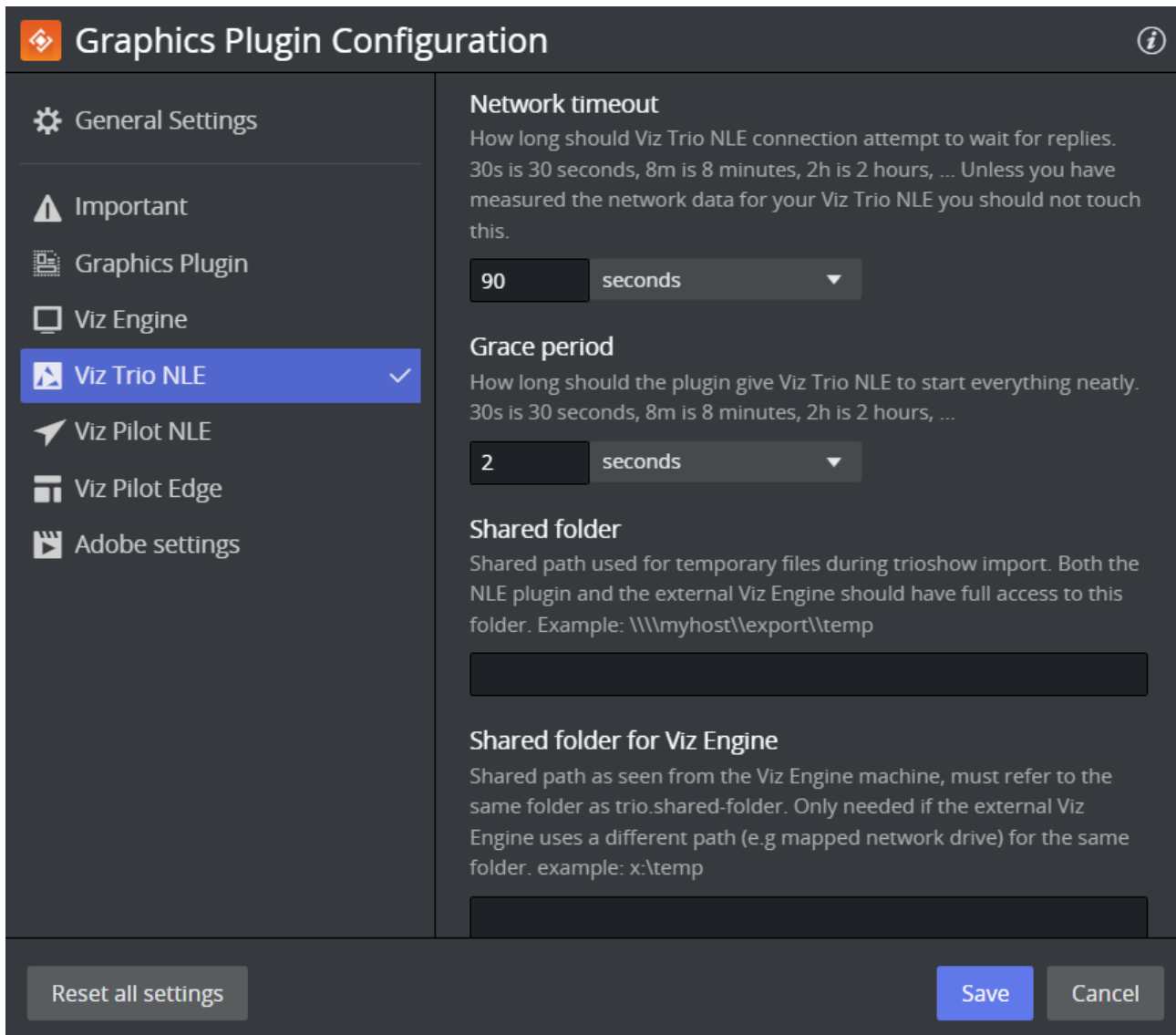
- **Host/URL:** Sets the hostname or IP address (URL for Viz Pilot Edge app) of the machine running the Graphics Plugin Editor, Viz Trio or Viz Pilot.
- **Network timeout:** Controls how long connections to Graphics Plugin Editor wait for replies. This should not be changed unless network data for the Graphics Plugin Editor has been measured. Default value is **90s**.
- **Grace period:** Controls how long Graphics Plugin waits for the editor to start everything without interruptions. Default time is **2s**.

4.4.1 Viz Trio NLE

The screenshot shows the 'Graphics Plugin Configuration' dialog box with the 'Viz Trio NLE' section selected in the left-hand navigation menu. The main content area is titled 'Viz Trio NLE' and contains the following settings:

- Host:** Host name of the machine that is running Viz Trio NLE. This should usually be localhost. The input field shows 'http://' in a dropdown menu, 'localhost' in a text box, and '6210' in a separate field.
- Executable:** Name of the Viz Trio NLE process executable, in case you want to use another filename than the usual. The input field contains 'trio.exe'.
- Options:** The exact options string that should be passed to the Viz Trio NLE process at startup. The input field contains '-nle-mode -control -mse MSE_HOST -logfile-path "LOG_PATH"'.
- Network timeout:** How long should Viz Trio NLE connection attempt to wait for replies. 30s is 30 seconds, 8m is 8 minutes, 2h is 2 hours, ... Unless you have measured the network data for your Viz Trio NLE you should not touch this. The input field shows '90' and a dropdown menu set to 'seconds'.

At the bottom of the dialog, there are three buttons: 'Reset all settings' (disabled), 'Save' (active), and 'Cancel' (disabled).



Graphics Plugin Configuration

General Settings

- Important
- Graphics Plugin
- Viz Engine
- Viz Trio NLE** ✓
- Viz Pilot NLE
- Viz Pilot Edge
- Adobe settings

Network timeout
How long should Viz Trio NLE connection attempt to wait for replies. 30s is 30 seconds, 8m is 8 minutes, 2h is 2 hours, ... Unless you have measured the network data for your Viz Trio NLE you should not touch this.

90 seconds

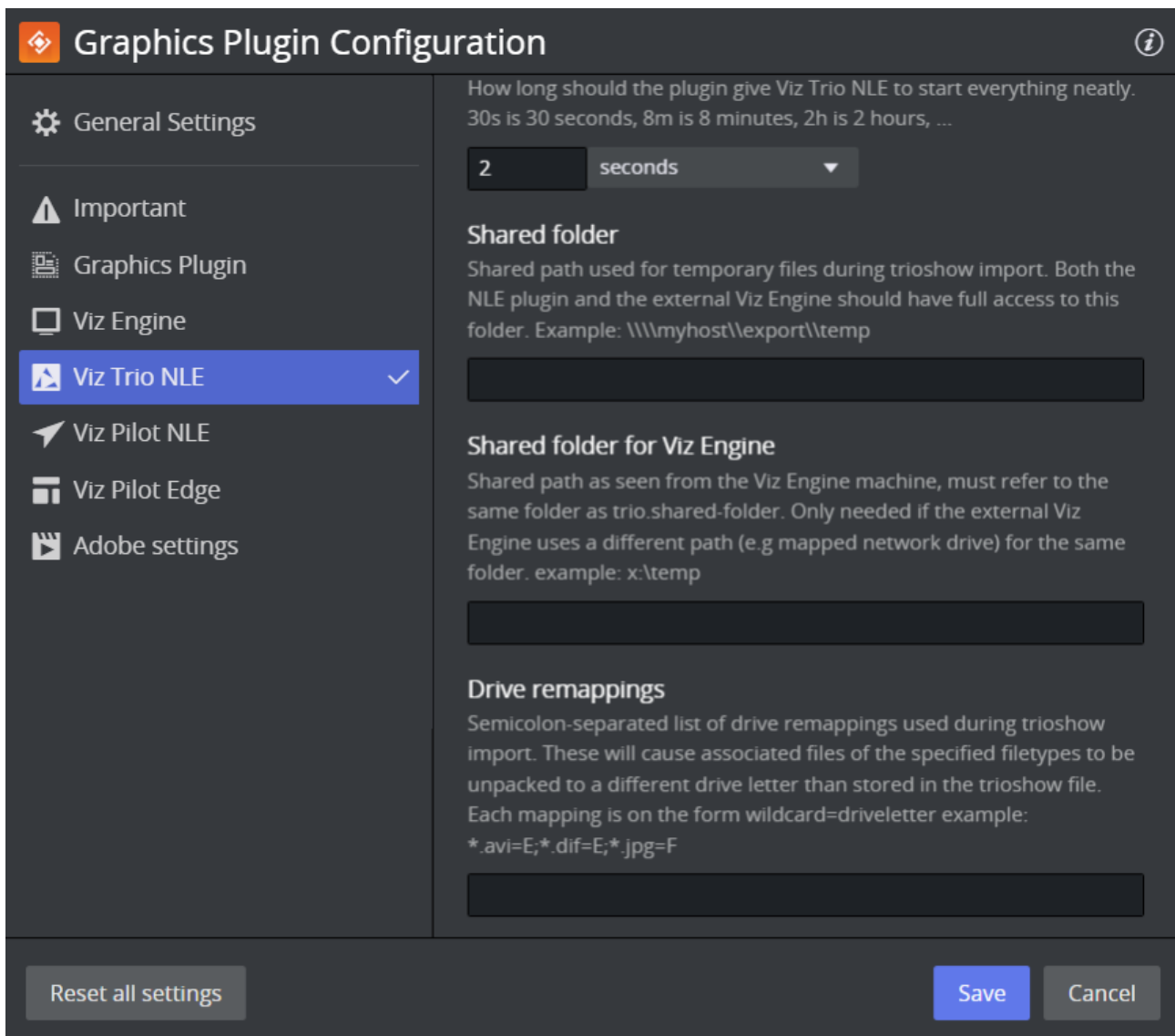
Grace period
How long should the plugin give Viz Trio NLE to start everything neatly. 30s is 30 seconds, 8m is 8 minutes, 2h is 2 hours, ...

2 seconds

Shared folder
Shared path used for temporary files during trioshow import. Both the NLE plugin and the external Viz Engine should have full access to this folder. Example: \\myhost\export\temp

Shared folder for Viz Engine
Shared path as seen from the Viz Engine machine, must refer to the same folder as trio.shared-folder. Only needed if the external Viz Engine uses a different path (e.g mapped network drive) for the same folder. example: x:\temp

Reset all settings Save Cancel



- **Host:** Sets the hostname or IP address of the Viz Trio renderer.
- **Executable:** Name of the editor's executable file. Can be changed if a different filename is in use. Default value is *trionle.exe*.
- **Options:** The exact command line options string passed to the editor's process at startup. For more information on command line options, see the [Startup Variables](#) section.
- **Network timeout:** Controls how long connections to Graphics Plugin Editor wait for replies. This should not be changed unless network data for the Graphics Plugin Editor has been measured. Default value is **90s**.
- **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.
- **Shared folder for Viz Engine:** Shared path as seen from the Viz Engine machine, must refer to the previous setting. Only required if the external Viz Engine uses a different path (such as a mapped network drive) for the same folder.

- **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 rather than stored in the *.trioshow file. Each mapping is in the form *wildcard=driveletter*.

4.4.2 Viz Pilot NLE

The screenshot shows the 'Graphics Plugin Configuration' dialog box with the 'Viz Pilot NLE' section selected in the left sidebar. The main area displays the following settings:

- Host:** The computer running Viz Pilot NLE. Should usually be localhost. The input field shows 'http://' as a dropdown, 'localhost' as the text, and '6220' as a port number.
- Executable:** Name of the Viz Pilot NLE executable, in case you want to use another filename than the usual. The input field contains 'VcpAxNle.exe'.
- Options:** The exact options string that should be passed to the Viz Pilot NLE process at startup. The input field contains '-mse MSE_HOST -logfile-path "LOG_PATH"';
- Network timeout:** How long should Viz Pilot NLE connection attempt to wait for replies. 30s is 30 seconds, 8m is 8 minutes, 2h is 2 hours, ... Unless you have measured the network data for your Viz Pilot NLE you should not touch this. The input field shows '90' and a dropdown menu set to 'seconds'.
- Grace period:** How long should the plugin give Viz Pilot NLE to start everything neatly. 30s is 30 seconds, 8m is 8 minutes, 2h is 2 hours, ... The input field shows '2' and a dropdown menu set to 'seconds'.

At the bottom of the dialog, there are three buttons: 'Reset all settings', 'Save', and 'Cancel'.

- **Host:** Sets the hostname or IP address of the Viz Pilot NLE renderer.

- **Executable:** Name of the editor's executable file. Can be changed in case another filename is in use. Default value is *VcpAxNle.exe*.
- **Options:** The exact command line options string passed to the editor's process at startup. For more information on command line options, see the [Startup Variables](#) section.
- **Network timeout:** Controls how long connections to Graphics Plugin Editor wait for replies. This should not be changed unless network data for the Graphics Plugin Editor has been measured. Default value is **90s**.
- **Grace period:** Controls how long Graphics Plugin waits for the editor to start everything without interruptions. Default time is **2s**.

4.4.3 Viz Pilot Edge

The screenshot shows the 'Graphics Plugin Configuration' dialog box with the 'Viz Pilot Edge' settings selected in the left sidebar. The main panel displays the following configuration options:

- Host:** The computer running Viz Pilot Edge. The configuration is set to `http://` (selected from a dropdown) and `localhost` (text input), with a port of `6230` (text input).
- Executable:** Name of the Viz Pilot Edge executable file. The configuration is set to `payload_editor.exe` (text input).
- Url:** The URL to be loaded in the Viz Pilot Edge host application. The input field is currently empty.
- Network timeout:** How long should Viz Pilot Edge connection attempt to wait for replies. The configuration is set to `30` (text input) and `seconds` (selected from a dropdown).

At the bottom of the dialog, there are three buttons: 'Reset all settings', 'Save', and 'Cancel'.

Graphics Plugin Configuration

General Settings

Important

Graphics Plugin

Viz Engine

Viz Trio NLE

Viz Pilot NLE

Viz Pilot Edge

Adobe settings

30 seconds

Grace period
How long should the plugin give Viz Pilot Edge to start everything neatly. 30s is 30 seconds, 8m is 8 minutes, 2h is 2 hours, ...

100 milliseconds

Viz One Username
The username used to log into Viz One

Viz One Password
The password used to log into Viz One

Graphic Hub Username
The username used to log into Viz Graphic Hub

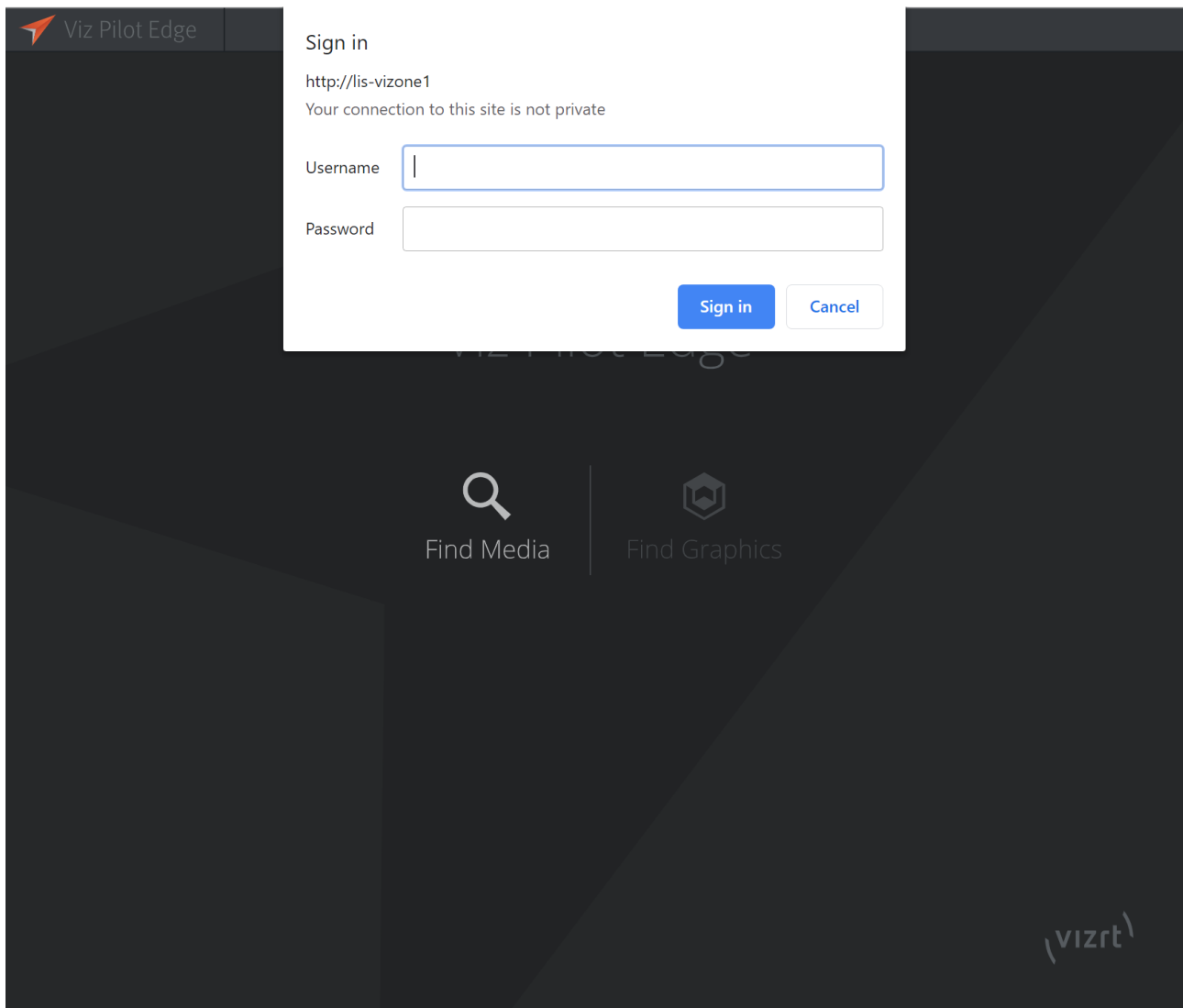
Graphic Hub Password
The password used to log into Viz Graphic Hub

Reset all settings Save Cancel

- **Host:** Sets the hostname or IP address of the Viz Pilot Edge renderer.
- **Executable:** Name of the editor's executable file. Can be changed in case another filename is in use. Default value is *payload_editor.exe*.
- **Viz One Username:** The username to log in to Viz One.
- **Viz One Password:** The password to log in to Viz One.
- **Graphic Hub Username:** The username to log in to Graphic Hub.
- **Graphic Hub Password:** The password to log in to Graphic Hub.

When using Viz Pilot Edge in a Regular Browser (Chrome/Firefox/IE)

The popup below appears if Pilot Data Server is configured to use a Viz One server, or you have manually specified a Viz One server via URL parameters (by appending *?vizione=hostname* to the end of the URL), but no default password has been configured in Pilot Data Server settings. If the username and password are not entered, the server's media is unavailable for the duration of the session and it is not visible while browsing Viz Pilot Edge.



Pop-ups are not shown when Viz Pilot Edge is used via the NLE Editor

Note: As the pop-ups are not shown when Viz Pilot Edge is used via the NLE Editor, any authentication request fails silently. This can be fixed by filling in the **Username** and **Password** fields. If the server requests additional authentication for either Viz One or Graphic Hub, the above fields are used. However, if the server does not request Viz One or Graphic Hub credentials, either because valid credentials already exist in the server side, or because no Viz One or Graphic Hub is configured, these fields are silently ignored.

4.4.4 Graphics Plugin Editor

- **VOS image search:** URI template for image search from the Object Store, a component of Viz Pilot. This requires a Pilot Data Server. Since it is a URI template, there must be a placeholder in the text you enter,

indicated by curly-brackets, which is replaced by specific search terms, for example: <http://vcpserver.example:8177/vos/search?q={query}>.

4.4.5 Adobe/Avid/Edius Settings

Info: For Edius, depends on your NLE application.

The screenshot shows the 'Graphics Plugin Configuration' dialog box. On the left is a sidebar with navigation options: General Settings, Important, Graphics Plugin, Viz Engine, Viz Trio NLE, Viz Pilot NLE, Viz Pilot Edge, and Adobe settings (which is selected and highlighted in blue). The main area is titled 'Graphic Hub Username' and 'Graphic Hub Password', each with a text input field. Below these is the 'Adobe settings' section, which includes a descriptive paragraph and two checkboxes: 'Still image playback' and 'Disable multithreaded rendering', both of which are currently unchecked. At the bottom of the dialog are three buttons: 'Reset all settings', 'Save', and 'Cancel'.

- **Still image playback:** Only render still images to increase performance when low-quality frames are requested. This affects scrubbing and playback. A high-quality frame will eventually be rendered upon scrubbing, which shows the correct representation of the graphics after rendering.
- **Disable multithreaded rendering:** Multithreaded rendering can cause performance issues when too many threads try to render at the same time. If rendering is unusually slow this may be set to true. You must restart the NLE application after changing this setting.

 **Note:** The option to **Disable multithreaded rendering** is only available for Adobe Premiere Pro and Avid Media Composer.

4.4.6 Searching for Object Store Images


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 **Graphics Plugin Config**.
6. In the **Graphics Plugin Configuration Tool** window, 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 **OK**.
10. Back in the **Controls** panel, click **Graphics Plugin Editor**.
11. In the **Graphics Plugin Editor** window, 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 **OK** to return to the sequence view.

4.5 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.

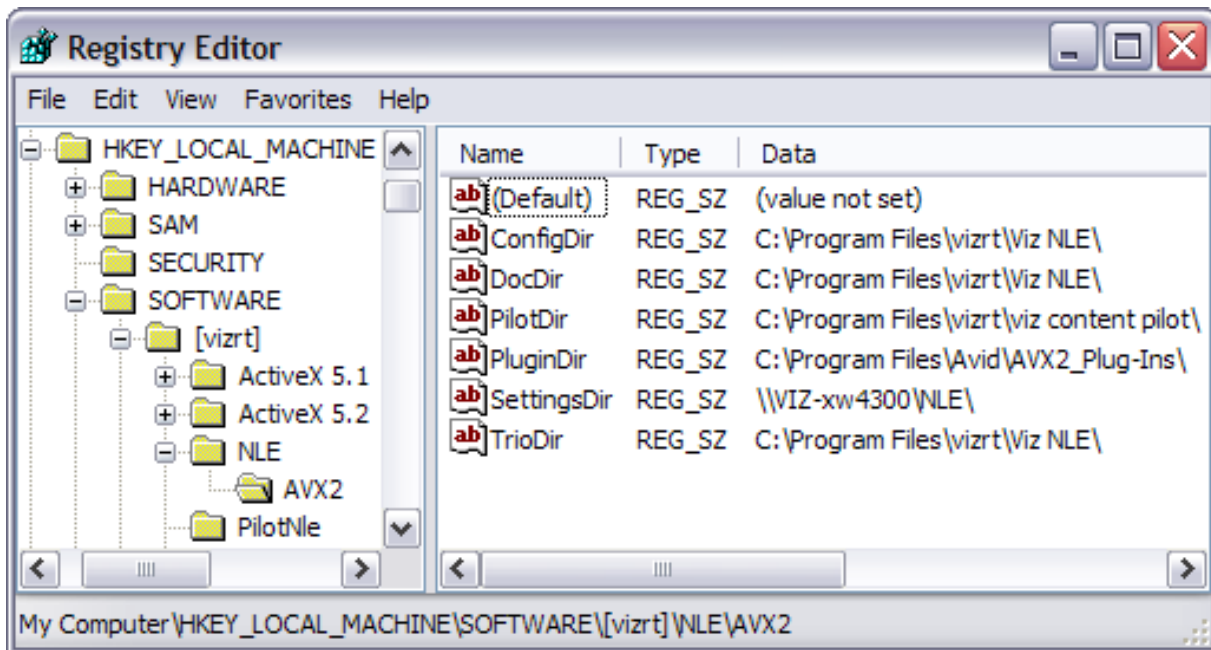
The following options are available and configurable:

- **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.

4.6 Shared System Settings

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



The system stores the settings in a per-user directory, for example under `C:\Documents and Settings\<username>`. Placing the same file in a shared directory allows multiple users to use a standardized setup overriding per-user settings.

Note: Shared settings do not apply to Mac users.

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

```
HKEY_LOCAL_MACHINE/SOFTWARE/[vizrt]/NLE/AVX2/SettingsDir
```

Given a particular setting, the following rules apply:

- If a setting is set using the Graphics Plugin configuration tool, that value is used.
- If it has a value in the master configuration file, that value is used.
- The *default* value for the setting is used.

4.6.1 Adding a Shared System Setting

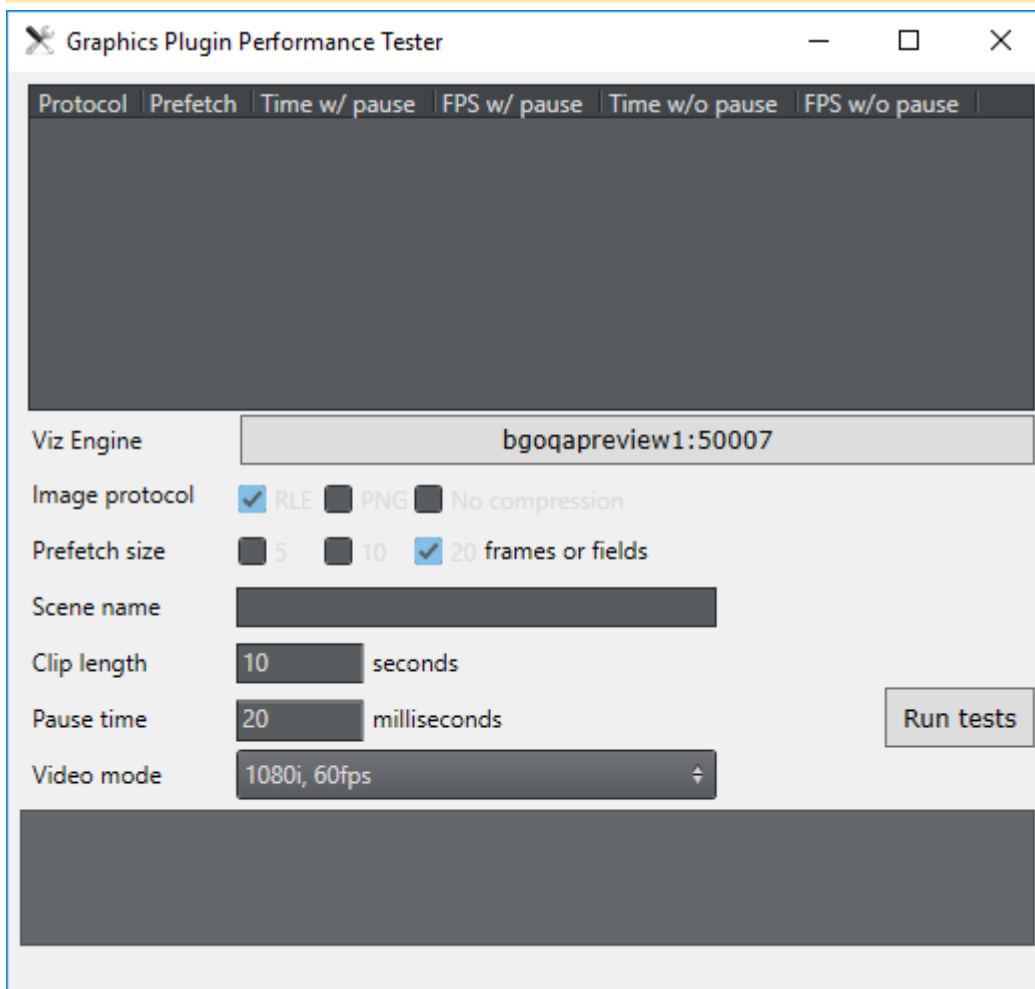
1. Start the Graphics Plugin configuration tool.
2. Configure Graphics Plugin using the configuration tool.
3. Save and exit the configuration tool.
4. Find the file *vizplugin.xml* in the current user's *Application Data* folder.
5. Copy the file to the designated shared location.
6. Set up the *SettingsDir*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

4.7 Performance Tester

The Performance Tester is used to test different configurations. It tests Graphics Plugin directly and how it performs on the network, and rendering. It also shows how quickly Graphics Plugin returns graphics to the NLE system - the raw speed of the plugin.


Note: The Performance Tester is accessed by clicking the Performance button at the lower left of the [Configuration Tool](#).

Note: The time it takes to fill the NLE system's frame buffer and the time used between each request for frames to the NLE system are not tested. It's therefore recommended to test the NLE system once Graphics Plugin has been tested and found to be working satisfactorily.



- **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 and choose between **RLE**, **PNG** and **No compression**.
- **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 (for example, *02_GFX/VizNLE/1000*).
- **Clip length:** Sets the length of the clip that is to be rendered. Five or ten 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 lower for SD than for HD. It's recommended to try other values between 0 and 100 ms+ to see how this affects the network use. For more information, see Fine-tuning the System in the *Graphics Plugin Administrator Guide*.
- **Video mode:** Sets the Viz Engine video mode to either:
 - 1080i 50 FPS
 - 1080i 60 FPS
 - 720p 50 FPS
 - 720p 60 FPS
 - PAL
 - NTSC
- **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.
- **Test summary:** Shows a report of problems and various statistics.

 **Note:** Once the settings that provide optimal results are found, they can be manually set in the Viz configuration tool and tested with the NLE system itself.

5 User Interface

This section describes user interfaces that can be used with Graphics Plugin. The NLE version of Viz Trio is bundled with the Graphics Plugin installation. The Graphics Plugin Editor is the user interface for Mac machines since Viz Trio is not supported. Viz Pilot Edge can be used by providing the URL in the Configuration Tool. Viz Pilot can also be used as the user interface if it's installed on your computer.

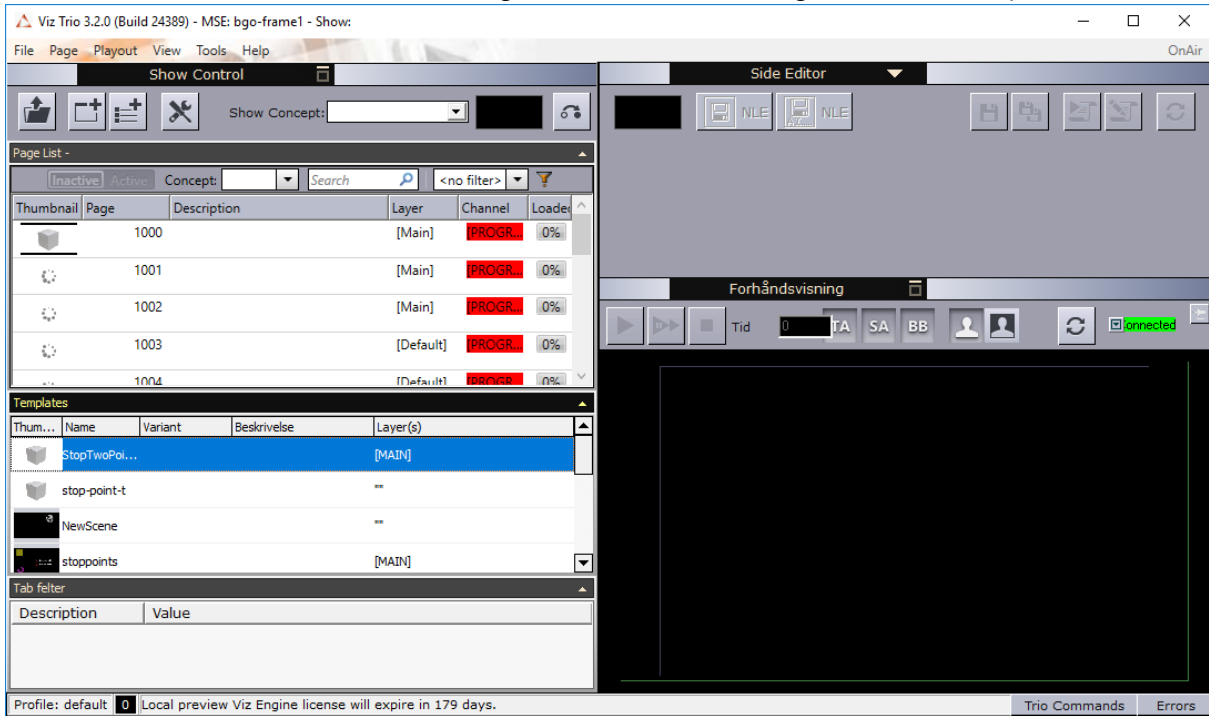
Click the [Edit](#) button in Adobe Premiere Pro, or the [Editor](#) button in Avid to open the user interface selected in the [Configuration Tool](#) in a separate window.

This section contains more information about how to use the various user interfaces:

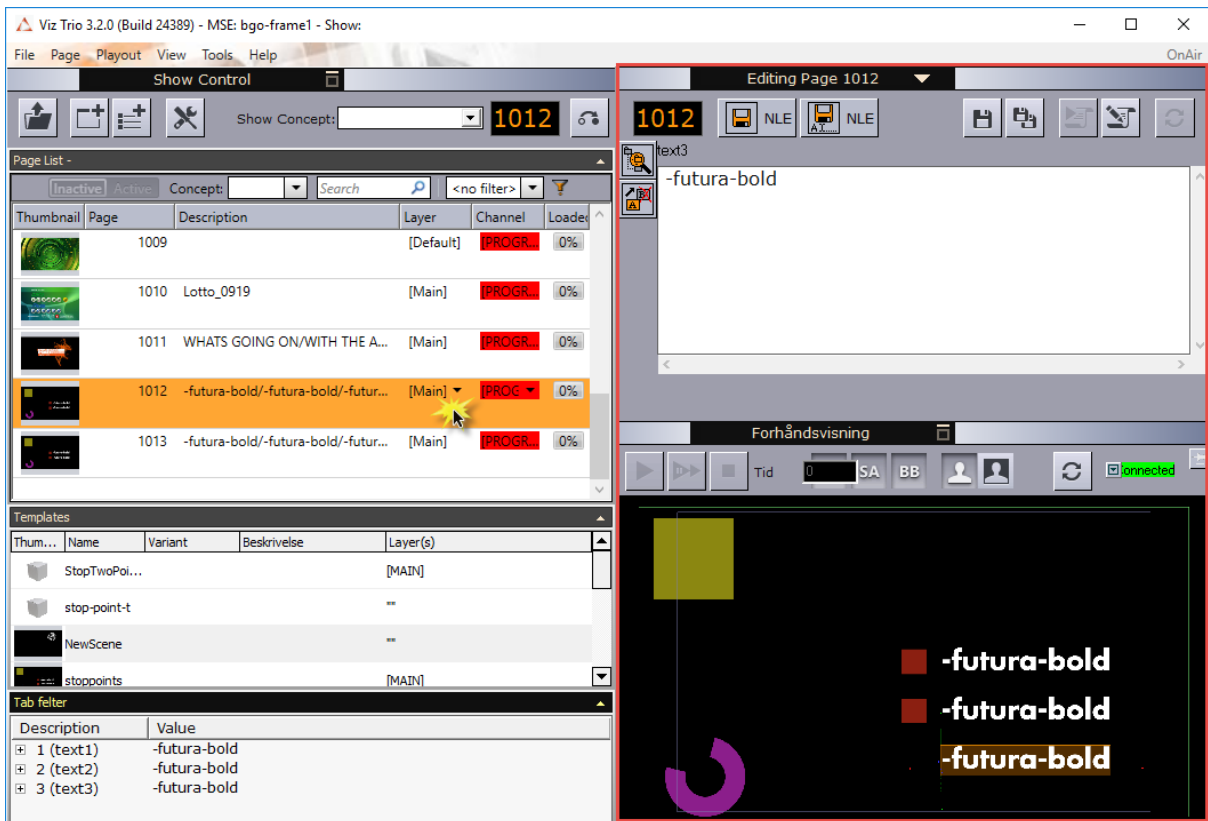
- [Viz Trio](#)
- [Viz Pilot Edge](#)
- [Viz Pilot](#)

5.1 Viz Trio

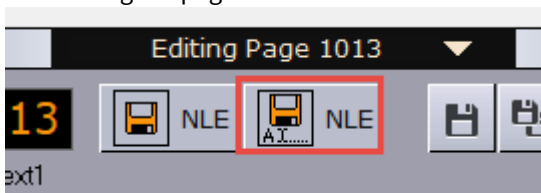
- If Viz Trio NLE has been selected in the Configuration Tool, the following Viz Trio window opens:



- Select a graphics template by double-clicking it in the **Page List**. The graphic will open in the **Side Editor** where it can be edited and previewed in the window below:

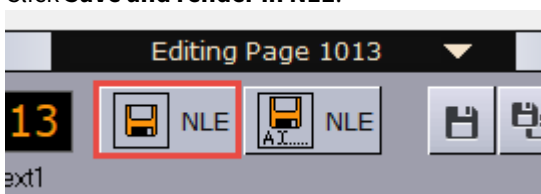


- When your graphics is ready to be used in your NLE system, click the **Save As NLE** button to avoid overwriting the page:



The graphics will be given a new Page ID.

- Click **Save and render in NLE:**

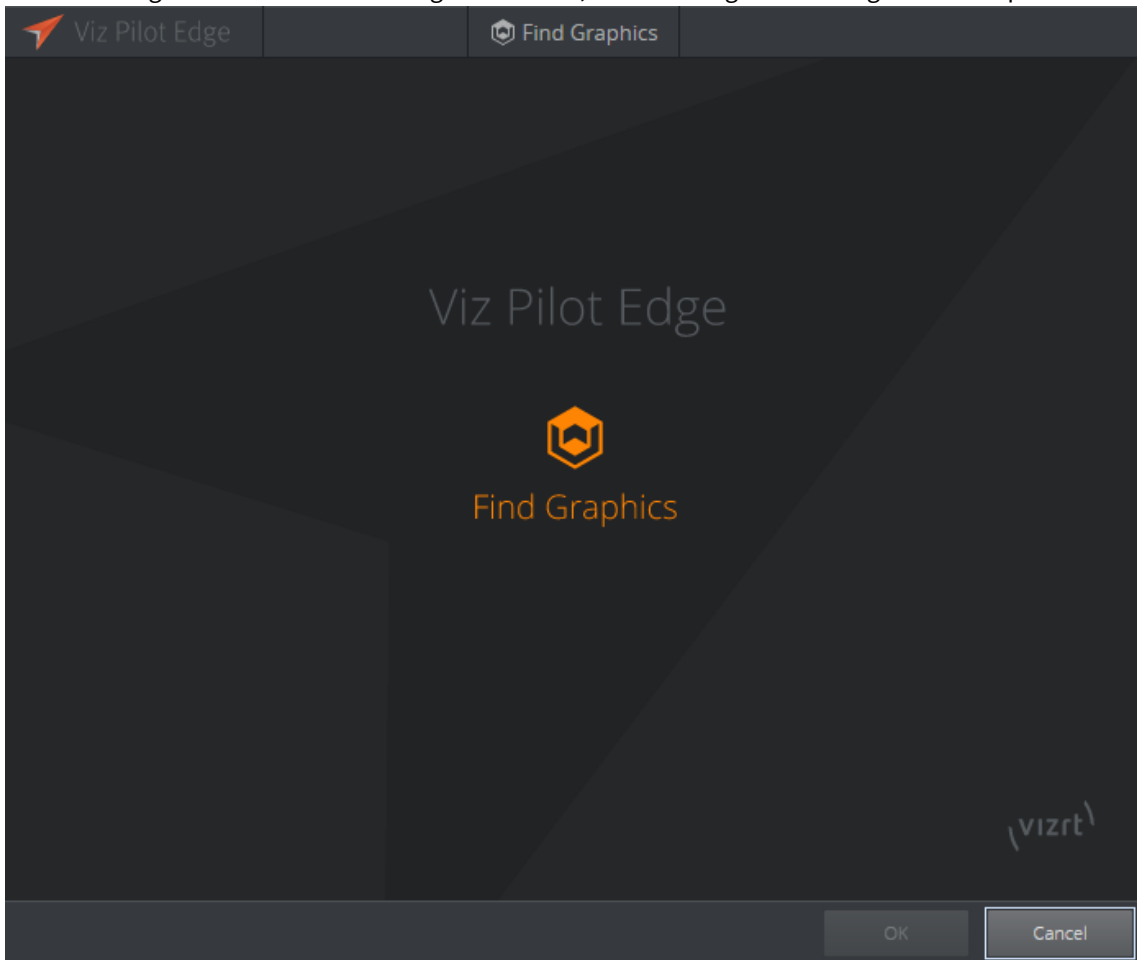


Viz Trio closes and the graphics appear in your NLE system.

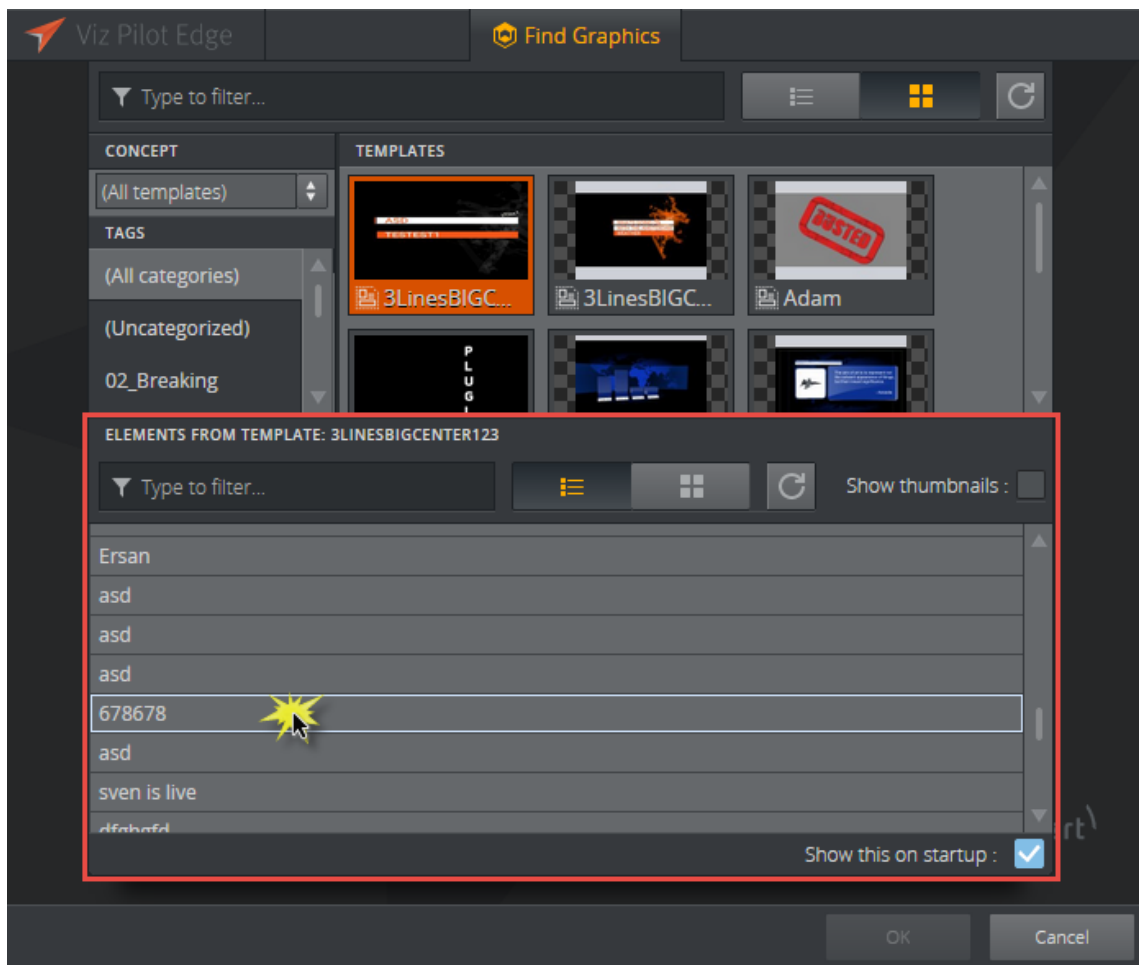
For more information on how to use Viz Trio, please see the [Viz Trio User Guide](#).

5.2 Viz Pilot Edge

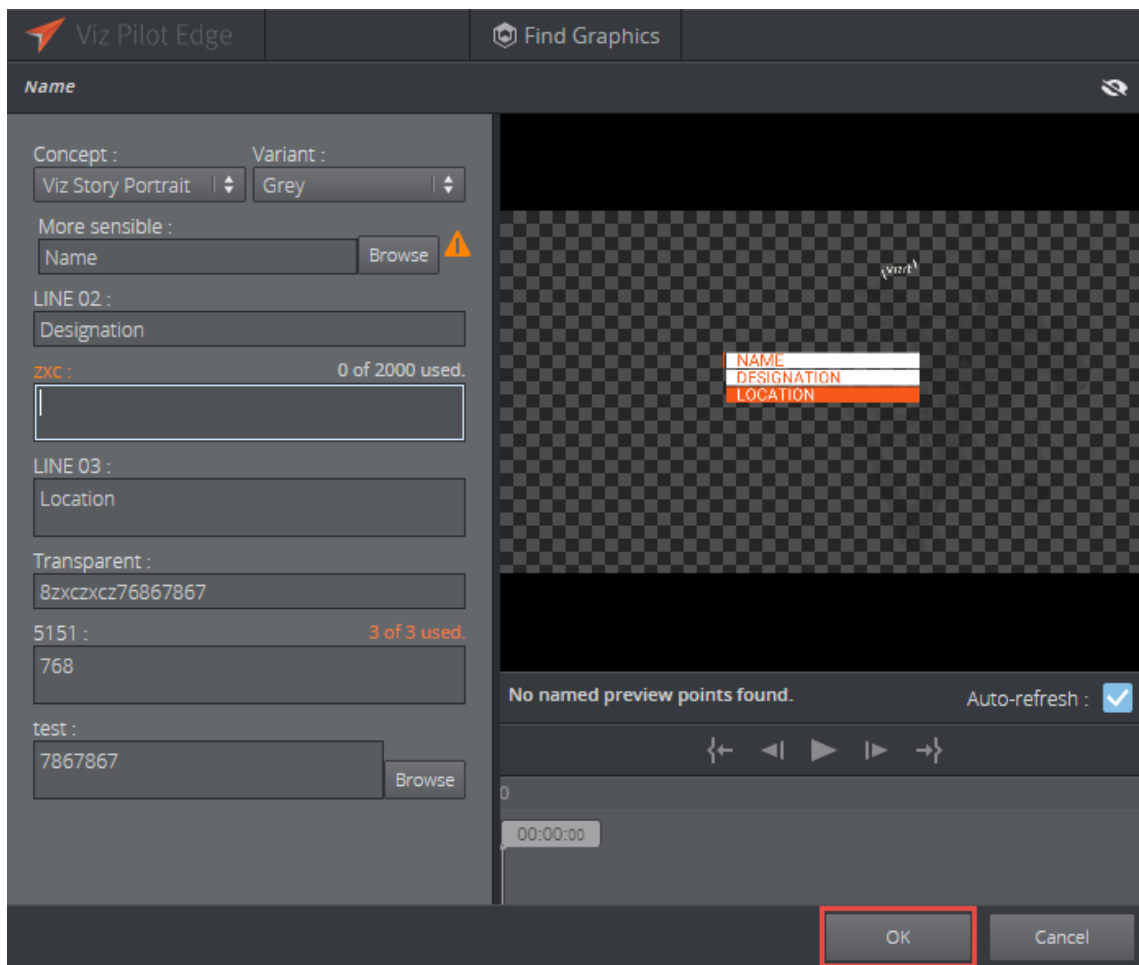
- If Viz Pilot Edge is selected in the Configuration Tool, the following Viz Pilot Edge window opens.



- Click **Find Graphics**. Select a graphics element or a template from the bottom of the dialog, it appears by double-clicking it:



- The graphics open in a new window where you can edit the content in the fill-in form and preview the output, as shown in the image below:



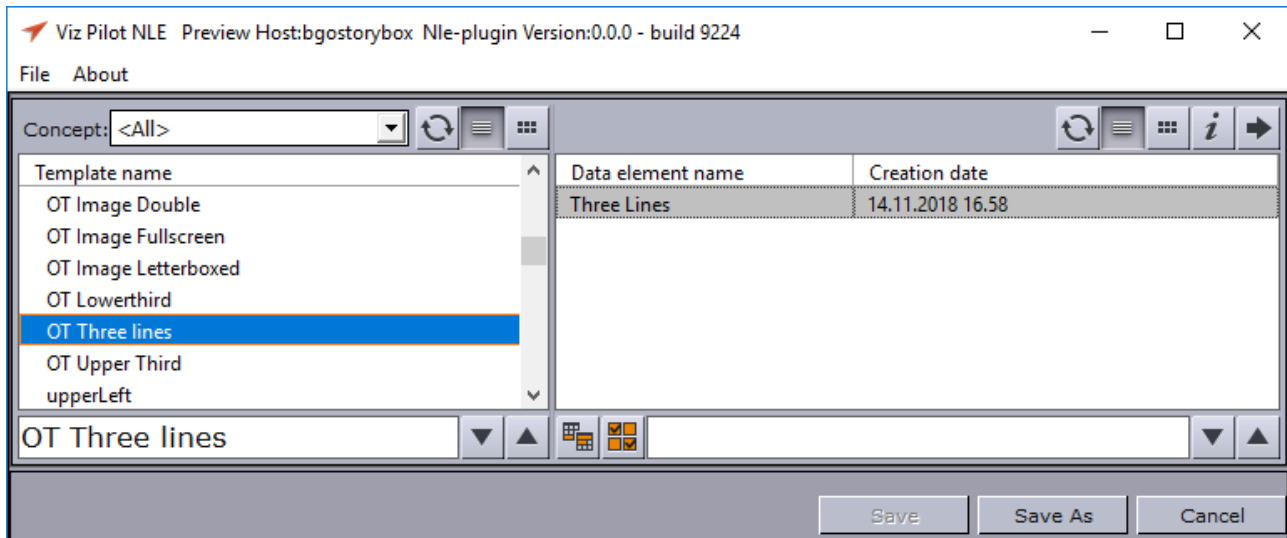
- When your graphics is ready to be used, click **OK**. Viz Pilot Edge closes and the graphics appear in your NLE application.

For more information on how to use Viz Pilot Edge, please see the [Viz Pilot Edge User Guide](#).

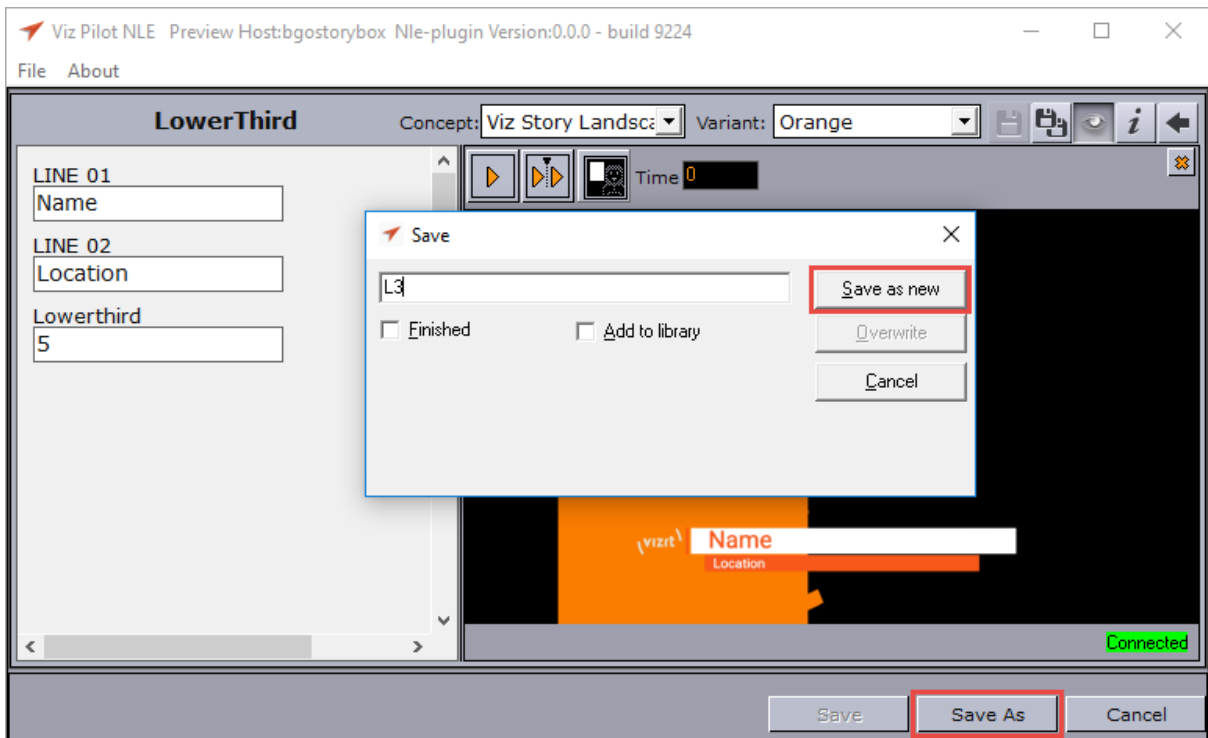
5.3 Viz Pilot

If Viz Pilot NLE has been selected in the Configuration Tool, the following window opens where the user can browse for templates and data elements.

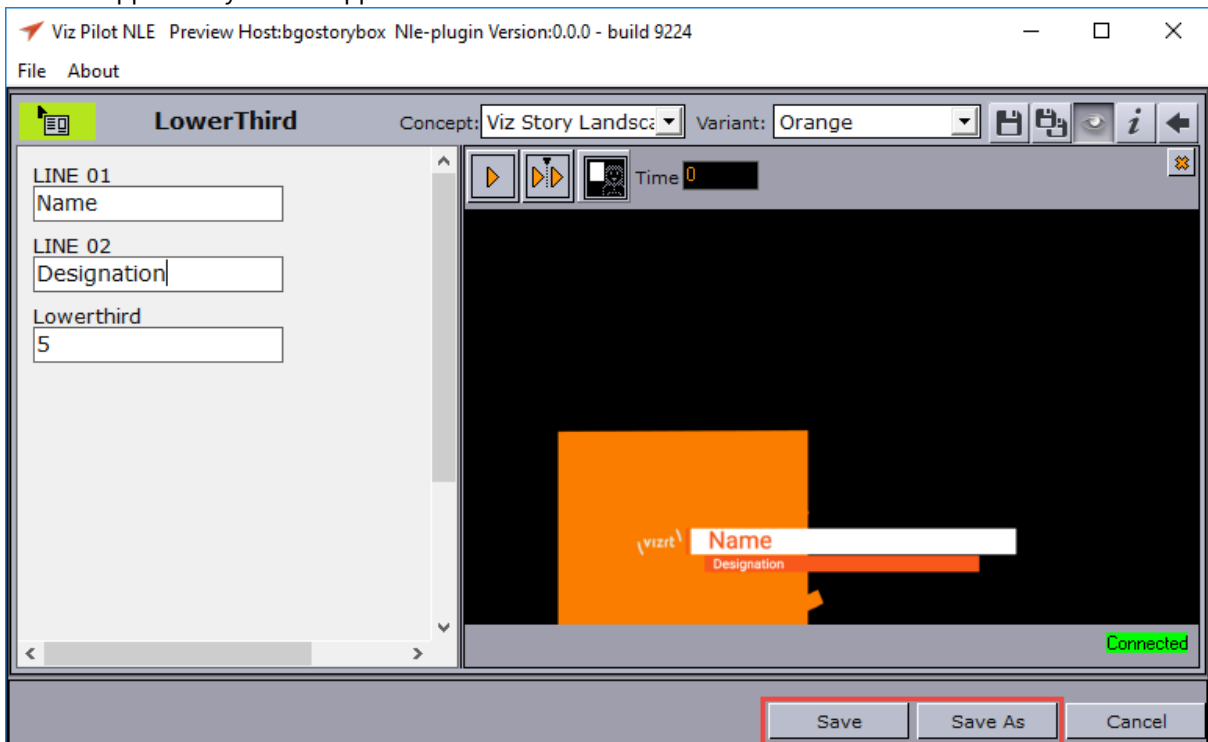
The left side of the window lists available templates in the database while the right side lists available data elements (saved templates).



- Select a template or element by double-clicking it and edit the content of the graphics to the left and preview the output at the right in the application.
- In order to use a template subsequently, you must save it as a data element by clicking **Save As**, giving it a name and clicking **Save as new**. This closes the Viz Pilot NLE application and the graphics element appears in your NLE application.



- If you are using an already existing data element click **Save** to use the data element as is or to overwrite any changes.
- Click **Save As** to create a new data element. In both cases, the Viz NLE application closes and the graphics element appears in your NLE application.



For more information on how to use Viz Pilot, please see the [Viz Pilot User Guide](#).

6 Scene Design

When designing scenes in Viz Artist that are to be used together with Supported NLE Systems, you must follow specific design conventions for the output to render correctly.

Please be aware of the following when designing for the Graphics Plugin workflow:

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

6.1 Key

When designing a scene, a *key* signal must be added to the scene for the graphics to blend correctly with the video.

6.1.1 Adding a Key Signal

- Add the Key plugin to one or more containers in the scene.
 - Enable **Auto Key** under the global scene settings.
-

6.2 Stop Points

If you are using stop points when designing a scene, they must 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 is automatically converted to a pause point, and, if needed, is also stretched to make the entire animation (in, pause, and out) match the length of the graphics element in the NLE timeline.

6.2.1 Stretching Stop Points

The stop points in a scene are automatically stretched so that the animation matches the length of the graphics element in the NLE timeline.

Example 1

If an in-animation of three seconds and an out-animation of four seconds is stretched to ten seconds in the NLE timeline. The in-animation is shown for three seconds, then the stop point between the in and out-animation that's stretched is shown for three seconds, and finally the out-animation is shown for four seconds (totaling ten seconds).

Example 2

If the animation in example 1 above is shortened to five seconds: the in-animation is shown for three seconds, the pause point is skipped, and the out-animation is reduced to two seconds.

Multiple stop points are stretched evenly unless you have a modified stop point. If the animation contains two stop points and is stretched to 17 seconds, then the in-animation is shown for three seconds, the first stop point for five seconds, the second for another five seconds, and the out-animation for is lastly shown for four seconds.

Note: If you modify a stop point, any attempt to resize will only affect the rightmost stop point, if possible.

6.2.2 Directors and Stop Points in Viz Artist

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) are 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 are not stretched, such as looping background animations and similar, should be placed here. These animations are played out continuously, regardless of the stop points in the root containers.

Note: When making a scene for NLE, make sure that no empty directors are left in the scene. The main director that contains the in and out animation must be the very first director on top of the list of all directors. This main director must be on top and contain the stop point *pilot1*. If an empty director is left on top no output will be displayed.

6.2.3 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 to stretch sound.

6.2.4 Video

There is no support for embedded video clips in graphics being used in the Graphics Plugin workflow.

6.3 Effect Plugins

Effect plugins, such as *RFxSmoke*, work in such a way that particles are emitted from a certain point and then moved in a random order in a 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. It's therefore recommended to use such effects with caution when designing for NLE.

6.4 Transition Logic

It's possible to work with Transition Logic scenes with certain limitations. Graphics templates can be modified and sent to air using the normal NLE workflow. 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.

6.4.1 Transition Logic Scene Design Limitations

- 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 shift to the upper part of the screen when a lower third is taken on air. To achieve this type of behavior: use Viz Trio or Viz Pilot's Template Wizard to create a combination template 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 each other on the timeline, it's not possible to keep the backplate from object number one, and simply update the editable variables, such as the name of the interview objects. Instead, the first element must be animated out, and then the second element must be animated in.

6.5 Lift And Extract

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

- **Lift** removes a portion of a clip while leaving the interval duration between the mark-in and mark-out points.
- **Extract** removes 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 entirely separate, and the graphic is also split.

6.5.1 See Also

- [Viz Artist User Guide](#) sections on Transition Logic
- The [Viz Trio User Guide](#) section on Combination Templates

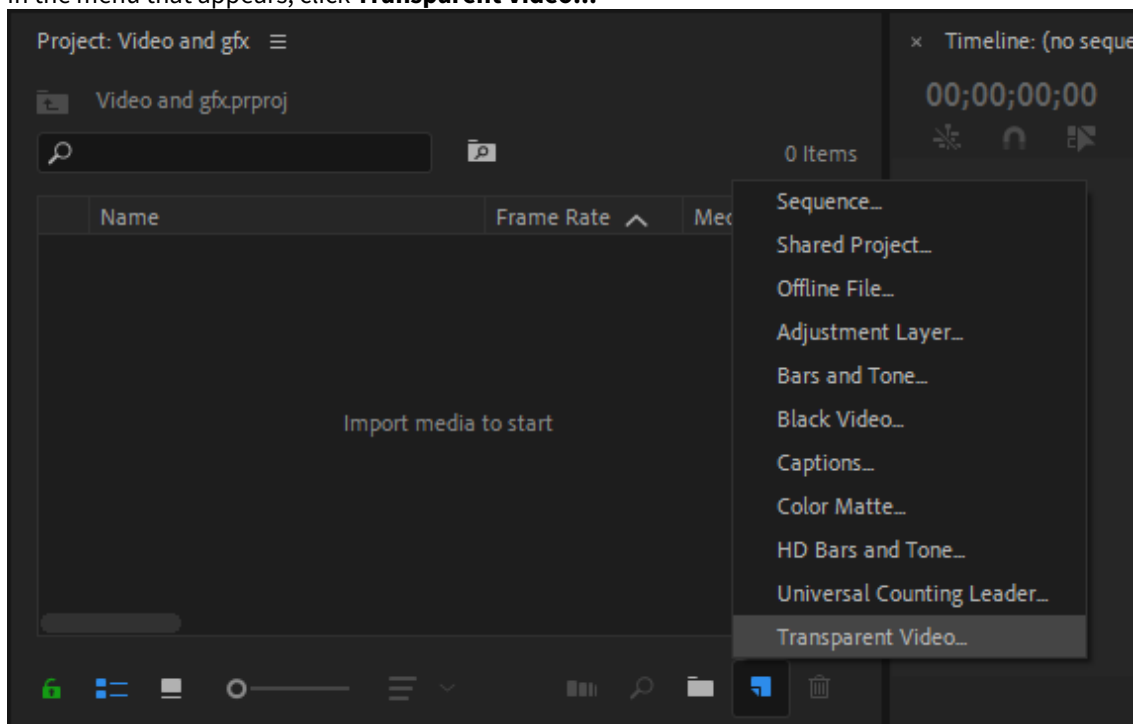
7 Using Graphics Plugin With Adobe Premiere Pro

This section explains the required steps on how to add Vizrt graphics to the timeline in Adobe Premiere Pro, and how to use stop points.

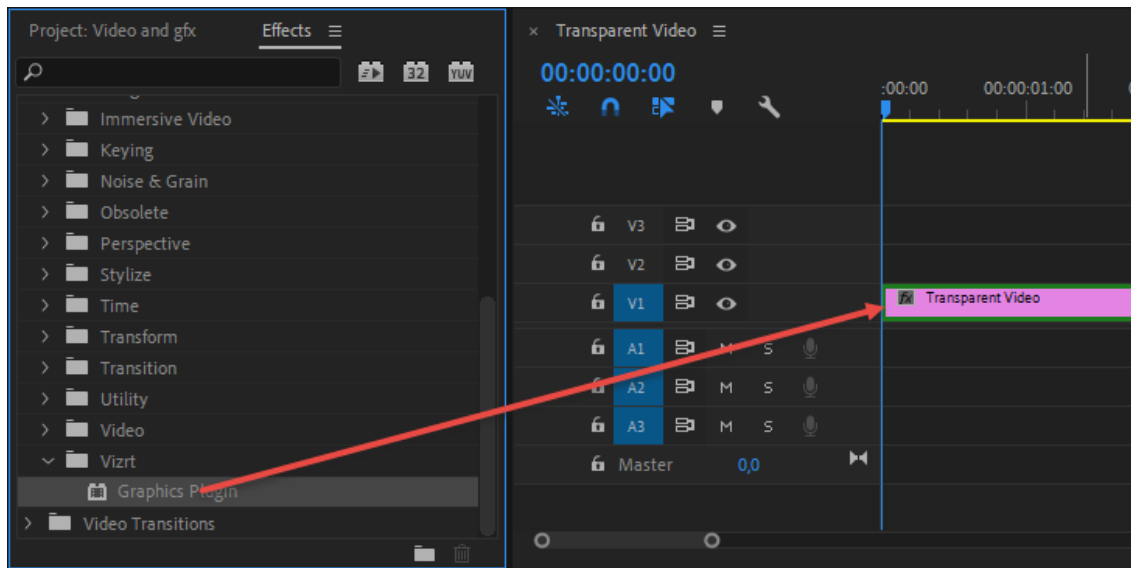
- [Adding Graphics Plugin](#)
- [Stop Points](#)

7.1 Adding Graphics Plugin

1. Create a new project or open an existing project in Adobe Premiere Pro.
2. Add a *Transparent Video* clip to the project:
 - a. In the Project panel, make sure that the Project tab is selected, and click the **New Item** button in the lower right corner.
 - b. In the menu that appears, click **Transparent Video...**

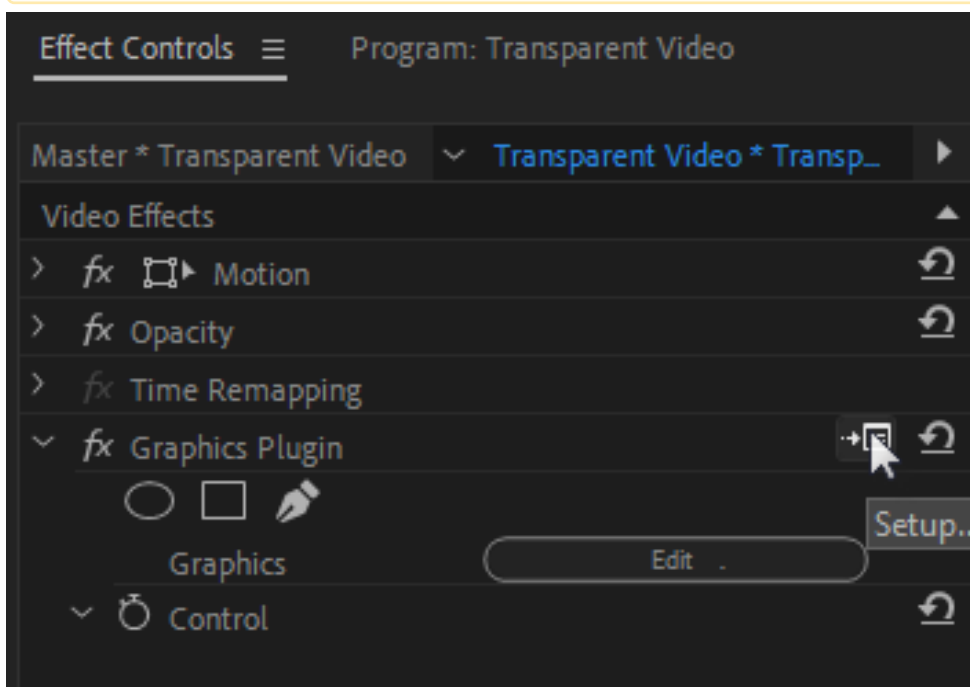


- c. In the New Transparent Video dialog box that opens, select your Video Settings and click **OK**.
 - d. Drag the new transparent video clip to the Timeline.
3. Add Graphics Plugin to the project:
 - a. In the Project panel, click the **Effects** tab. (If the tab is not visible, select it from the **Window** drop-down menu bar).
 - b. Navigate to **Video Effects > Vizrt > Graphics Plugin**.
 - c. Drag the plugin onto the transparent video clip in the Timeline.



4. Select the transparent video clip that holds the plugin.
5. Click the **Effect Controls** tab. (If the tab is not visible, select it from the **Window** drop-down menu bar).
6. Expand the **Graphics Plugin** option in the **Video Effects** list.
7. Click the **Edit** button to access the specified (done in the [Configuration Tool](#)) Graphics Plugin User Interface ([Viz Trio](#), [Viz Pilot Edge](#), [Viz Pilot](#)) and to use Vizrt graphics.
8. Click the **Setup...** button (see image below) to access the Configuration Tool where you can, among many things, select your preferred Graphics Plugin User Interface. Go to the [Configuration Tool](#) section for more details.

Note: The NLE application freezes when the Configuration Tool or the User Interface is open.



9. Back in Adobe Premiere Pro, a graphics element has now been added to the transparent video clip.

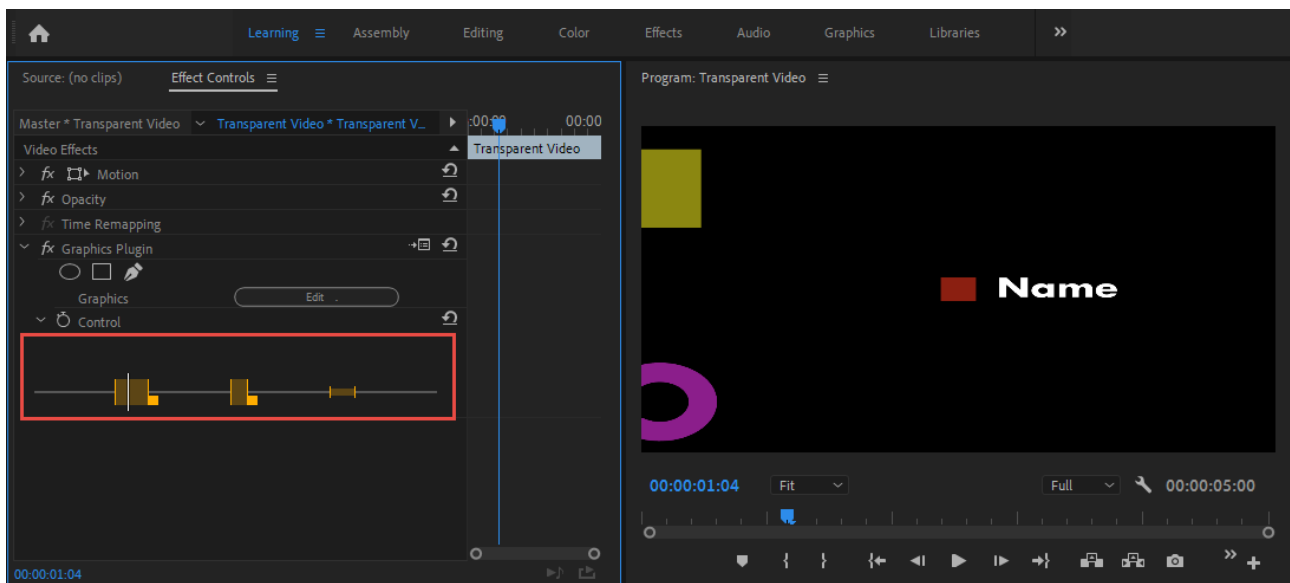
10. Create another Transparent Video with graphics plugin and drag it to the timeline to have multiple graphics.

7.2 Stop Points

Stop points are added to a graphics scene to control the playout of the animation.

Adding a graphic using the Graphics Plugin there is a stop point editor that allows you to adjust the length of the stop points.

The stop point editor is located in the **Effect Controls** tab > **Graphics Plugin** > **Control**:



Click and drag the small square next to the stop point you want to adjust:

