Preview Server Administrator Guide

Version 4.3

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Contents

1 Introduction

This Administrator Guide covers the configuration and operation of the Preview Server.

1.1 Related Documents

See the following documents at the Documentation Center:

- *Graphics Plugin Administrator and User Guides*
- *Viz Engine Administrator Guide*
- *Viz Multichannel User Guide*
- *Viz Pilot User Guide*
- *Viz Trio User Guide*

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2 About The Preview Server

The **Preview Server** is a Windows service that manages a pool of **Viz Engine** processes. Client software, such as **Viz Multichannel**, **Viz Pilot**, and **Viz Trio**, send requests to the **Preview Server** for snapshots of **Viz Engine** graphics. The content and animation in and out points of the graphics can be specified in the request.

The **Preview Server** provides snapshots of scenes during the creative preview process. The preview snapshots provide an indication of the look of the graphics that will ultimately be played out in high resolution on a **Viz Engine**.

The **Preview Server** provides load balancing and can be used to create a redundant renderer pool.

The **Preview Server** is a Windows service. Upon installation, the service is started and the startup type is set to *Automatic* by default. The service will then start every time the operating system is started, and will continue to run in the background as long as Windows is running. For more details, see See the Status of the Preview Server Service.

2.1 Basic Workflow

A typical use case is as follows: A Viz Trio user wants to add graphics to a video in Viz Trio's Timeline editor. A video clip and one or more data elements (graphics) are dragged to the timeline. In the Timeline editor, the graphics elements are added as placeholders on the video timeline. Since the user wants to display snapshots of the graphics on these placeholders, a Preview Server connection has been set up (for details, see Configuring Preview Server Settings in Viz Trio). Viz Trio sends a request to the Preview Server, asking for an available Viz Engine to generate the necessary preview snapshots. The Preview Server passes the task to a suitable Viz Engine, which in turn generates the snapshots that were requested by Viz Trio.
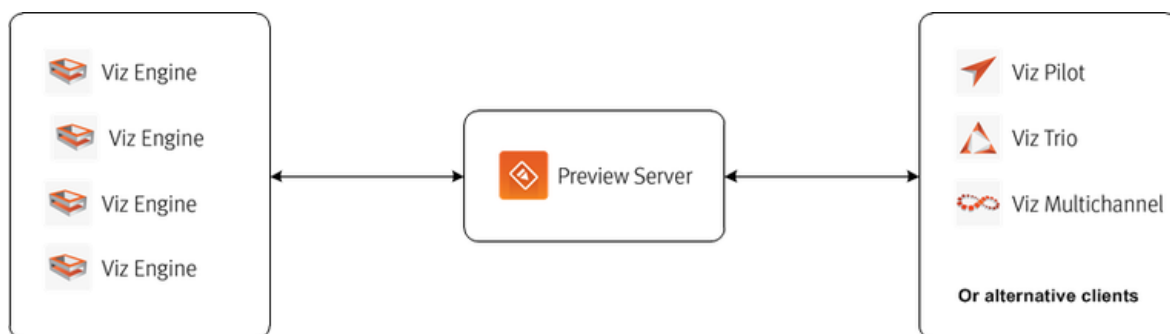
When used together with Vizrt control applications like Viz Multichannel, Viz Pilot, and Viz Trio, the Preview Server is installed from a standalone installer.

Alternatively, when used in a workflow together with the Graphics Plugin for NLE products, the Preview Server is installed from a joint installer package, containing both the Preview Server and the Connection Broker.
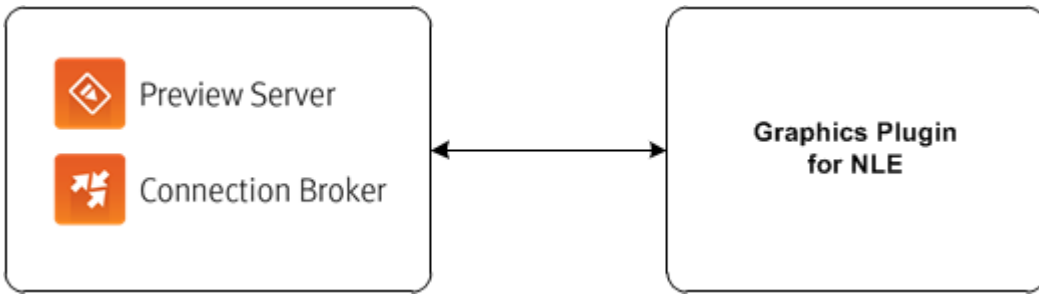
For more details on this joint Preview Server and Connection Broker setup, see the *Graphics Plugin Administrator Guide.*

3   Requirements And Recommendations

3.1   Software Requirements

Microsoft .NET Framework 4.6 or later

3.2   Hardware Requirements

Licensed Viz Engine

> ⚠ **Note:**
> Preview Server can run on the same machine as a Viz Engine, but it is recommended to specify additional Viz Engines in order to spread the load.

3.3   Virtualized Environments

Preview Server can run in a virtual environment, however, if you plan to run Viz Engine on the same virtual machine, make sure that the virtual machine is set up with the requirements to run Viz Engine, see chapter 4 and 5 in the Viz Engine Administrator Guide.

Since Preview Server is configured via a web browser on localhost and the web browser and Preview Server must run on the same machine, you must use remote desktop to configure your system.

> ✅ **Tip:**
> When running in a virtual environment it can be convenient to configure preview server for several Viz Engines.

See Also

· Preview Server Release Notes

4 Installation And Configuration

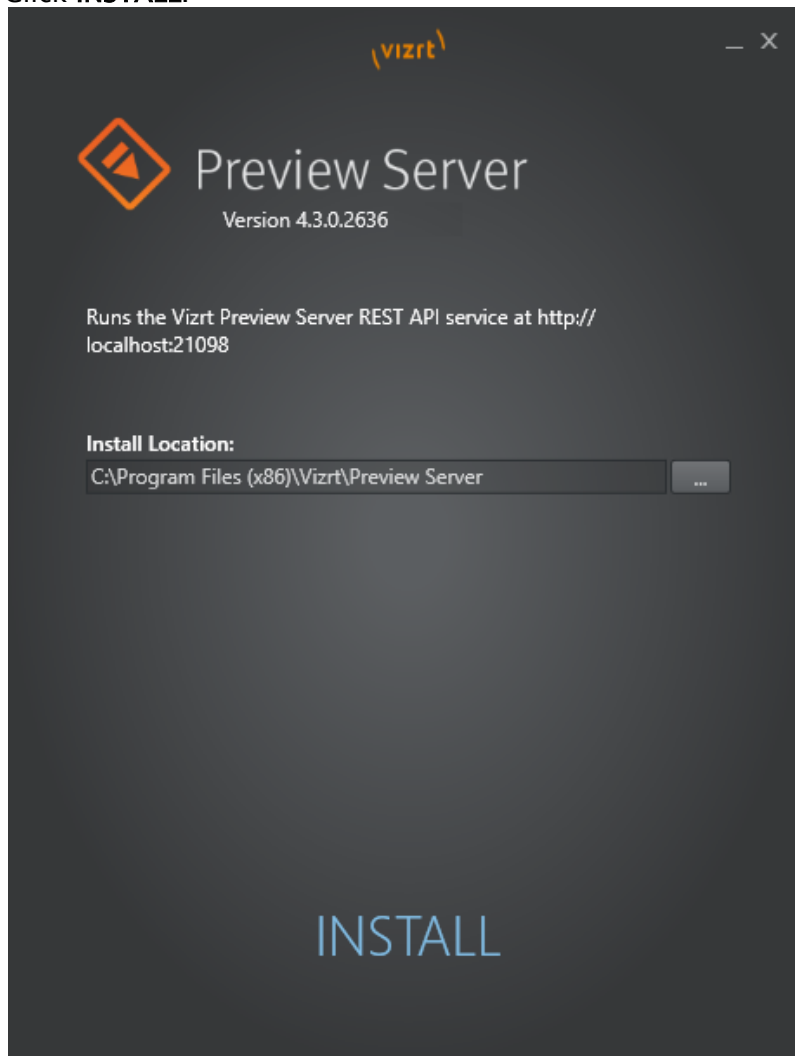This section covers the following topics:

- Installation
- Configuration

4.1 Installation

4.1.1 Installing Preview Server

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

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

> ⚠ **Note:** The Preview Server service is automatically started, and the startup type is set to *Automatic*, meaning that the service will start every time the operating system is started, and then run in the background for as long as Windows is running. For more details, see See the Status of the Preview Server Service.

4.2 Configuration

This section covers the following topics:

- Preview Server Service
- Viz Engines
- Service Configuration
- Viz Pilot Data Server
- Configuring Preview Server Settings in Viz Trio

4.2.1 Preview Server Service

The Preview Server is a Windows Service that sets up an HTTP REST service on port 21098 on the host on which it is running. This service accepts requests for graphical snapshots of playout elements from a Viz Engine.

4.2.2 Viz Engines

Although the Preview Server can run on the same machine as a Viz Engine (also used for the data element preview in Viz Pilot's newsroom client), it is also possible to specify additional Viz Engines in order to spread the load. Frame requests will be balanced across available Viz engines in a way that will minimize the memory load of each engine.

The pool of Viz Engines is configured in the Preview Server Web Interface Home page.

Scaling of the system should be monitored to avoid excessive client waiting time and any potential overload of the Viz Engine(s).

4.2.3 Service Configuration

You can modify the Preview Server service's behavior using the following settings in the `PreviewServer.exe.config` file available in the install location.

`VizEnginePollIntervalMilliSeconds`

This setting determines how often a render engine's availability is checked.

`VizEngineTimeoutMilliSeconds`

After the specified amount of milliseconds, the render engine list stops attempting to obtain the availability status and declare the engine unresponsive.

`CacheMaxAge`

Frames are cached in memory, allowing quicker responses when requesting frames that have been requested previously. By default, frames are cached for a maximum of one day. This can be changed by modifying this setting, which specifies the maximum number of seconds to retain cached results.

`VizEngineCleanupIntervalMilliSeconds`

Once a scene in the Graphic Hub is modified, all cached snapshots using that scene must be evicted from the cache. This interval specifies how often the scene modification dates are checked to detect scene changes.

`UseRunLengthEncoding`

It is recommended to activate run length encoding if relatively high-resolution snapshots are requested.

`CorsAllowedOrigin`

This setting can be used to restrict the allowed cross-origin resource sharing pattern that is utilized by the Preview Server.

`DebugMode`

Debug mode enables extended logging for troubleshooting.

`ServicePort`

The service port setting enables changing the port number for regular HTTP requests of the Preview Server service. The service does not accept any HTTP requests if 0 is specified.

`SecurePort`

The secure port setting allows changing the port number for secure HTTPS requests of the Preview Server service. The service does not accept any HTTPS requests if 0 is specified.

`Redraws`

This number specifies how many redraws a renderer has to perform before taking a snapshot of the graphic. Note that increasing this number slows down the overall performance of snapshot requests but it might be required for some scenes, for example using data pool plugins to render correctly.

`ExternalBaseUrl`

Changes the default URL base for e.g. snapshot requests. This setting will also override possible `Host`, `X-Forwarded-Proto` and `X-Forwarded-Port` headers in requests. An empty string uses the default URL base and enables recognition of such headers in requests.

`AlwaysRunPreviewScript`

If set to `True` it will enable running `OnPreview` script hooks in the scene before taking a snapshot. Note that this might delay snapshot requests for scenes containing such hooks.

`OpenIdConnectServerUrl`

The URL to the OpenId Connect server that is trusted to handle user authentication. When this is set all REST communication with the server must include an Authorization HTTP header value with a valid bearer token signed by this OpenId Connect server.

`ValidAudience`

When OpenIdConnectServerUrl is set the bearer token must contain this value in its list of valid audiences. Leave empty to allow any authenticated audience.

`AdministrationFromLocalhostOnly`

If set to `True` this setting will lock down the administration REST APIs (including documentation and web pages) so that they can only be used from the machine on which this server is running. This is set to true by default.

The following is an example of a Configuration Section:

```xml
<configuration>
    <applicationSettings>
        <Vizrt.Frames.Properties.Settings>
            <setting name="VizEnginePollIntervalMilliSeconds" serializeAs="String">
                <value>5000</value>
            </setting>
            <setting name="VizEngineTimeoutMilliSeconds" serializeAs="String">
                <value>1000</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>
            <setting name="CorsAllowedOrigin" serializeAs="String">
                <value>*</value>
            </setting>
            <setting name="DebugMode" serializeAs="String">
                <value>False</value>
            </setting>
            <setting name="ServicePort" serializeAs="String">
                <value>21098</value>
            </setting>
            <setting name="SecurePort" serializeAs="String">
                <value>4443</value>
            </setting>
        <setting name="Redraws" serializeAs="String">
            <value>0</value>
        </setting>
        <setting name="ExternalBaseUrl" serializeAs="String">
            <value />
        </setting>
        <setting name="AlwaysRunPreviewScript" serializeAs="String">
            <value>False</value>
        </setting>
        <setting name="OpenIdConnectServerUrl" serializeAs="String">
            <value>https://ourstory.vizrt.internal:7500/</value>
        </setting>
        <setting name="ValidAudience" serializeAs="String">
            <value>api.vizrt.com</value>
        </setting>
        <setting name="AdministrationFromLocalhostOnly" serializeAs="String">
            <value>True</value>
        </setting>
        </Vizrt.Frames.Properties.Settings>
    </applicationSettings>
```

```
</configuration>
```

4.2.4   Viz Pilot Data Server

For details on how to grant access to the Preview Server for all applications connected to the Viz Pilot database, see the Pilot Data Server Administrator Guide.

4.2.5   Configuring Preview Server Settings in Viz Trio

If the Preview Server is used together with Viz Trio, some Preview Server settings must be defined in Viz Trio:

1. In **Trio Configuration**, navigate to the **Connectivity > Viz One** panel.
2. Enter the hostname and port number in the **Preview Server Host** box (format `hostname:port`). This enables snapshots of graphics to be displayed as video overlays in Viz Trio's Timeline editor.

To enable the Preview Server to load actual thumbnails in the playlist, rather than displaying the default template thumbnails throughout, perform the following steps:

1. In **Trio Configuration**, navigate to the **User Interface > Page List/Playlist** panel.
2. Enable the **Use Preview Server to load thumbnails** box.
   For more details, see the *Viz Trio User Guide*.
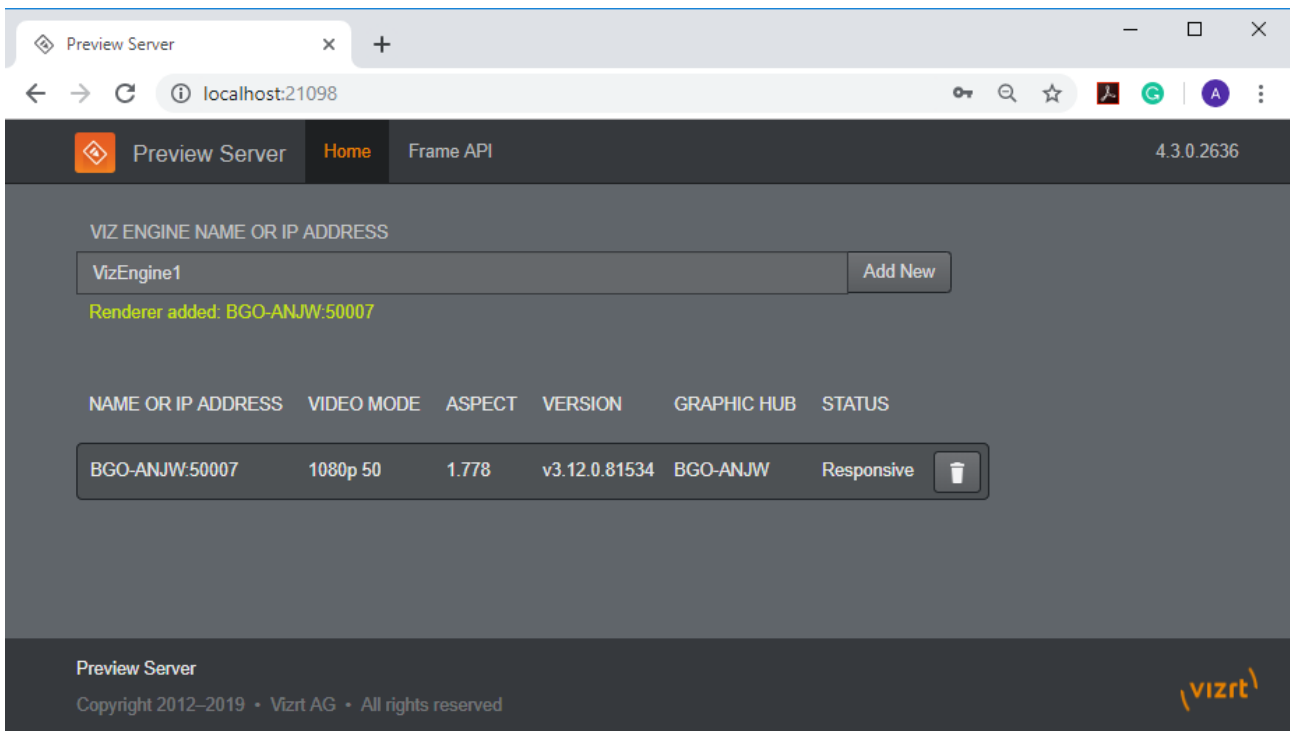
5 Working With Preview Server

This section covers the following topics:

- Preview Server Web Interface
- Common Procedures

5.1 Preview Server Web Interface

The Preview Server has a web interface for accessing features.

For details on how to open this interface, see Accessing the Preview Server Web Interface.

The Preview Server web interface contains a menu with links to the following resources:

- Home
- Frame API
- About

5.1.1 Home

From the **Home** page of the Preview Server web interface, it is possible to add, monitor and remove Viz Engines from a pool of renderers. The Preview Server can interact with one or more Viz Engines.

See Also

- Viz Engine Configuration

5.1.2 Frame API

Clicking the **Frame API** link in the Preview Server web interface opens the **REST Frame API** documentation.

This document describes the REST (Representational State Transfer) API over HTTP, provided by the Preview Server for requesting rendered frames from a Viz Engine.

The document includes information on the *Resources* and *Data Types* that are used in the interface.

> ⚠ **Example:**`http://<hostname>:21098/doc/rest_manual`

5.1.3 About

Clicking the *Preview Server* or *version number* link in the Preview Server web interface opens the **About Preview Server** window.

This window contains information about the installed Preview Server version. A link to the list of *third-party component credits* is also available here.

5.2 Common Procedures

This section contains procedures related to the following topics:

- Startup and Shutdown
- Viz Engine Configuration

5.2.1 Startup and Shutdown

Accessing the Preview Server Web Interface

- In the **Start** menu search for **Preview Server Config**, or
- Double-click the **Preview Server Config** desktop icon (if a shortcut has been created), or
- Navigate to the Preview Server web interface in a browser, using the hostname of the machine running the Preview Server, and port *21098*.

> ⚠ **Example:**
> http://<hostname>:21098/

> ⚠ **Note:**
> The default web browser will be used when opening the Preview Server web interface from the Windows Start menu or desktop.

See the Status of the Preview Server Service

1. In the **Start** menu search for **Services**.
2. Scroll down to the **Vizrt Preview Server** service.
   The status of the Preview Server service is listed in the **Status** column.

Starting the Preview Server Service

1. Perform the steps in See the Status of the Preview Server Service.
2. Make sure that the Preview Server status is empty.
3. Right-click the Preview Server entry in the list.
4. From the menu that appears, click **Start**.

> ⚠ **Note:**
> Upon installation, the Preview Server service is started, and the startup type is set to *Automatic*. This means that the service will start every time the operating system is started, and will continue to run in the background as long as Windows is running. However, if the Preview Server service has been manually stopped, the service can be restarted by following the steps in this procedure.
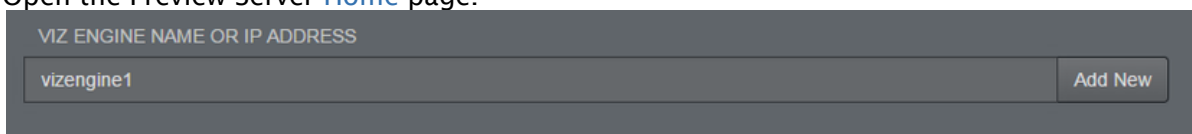
Stopping the Preview Server Service

1. Perform the steps in See the Status of the Preview Server Service.
2. Make sure that the Preview Server status is set to *Started*.
3. Right-click the Preview Server entry in the list.
4. From the menu that appears, click **Stop**.

5.2.2 Viz Engine Configuration

Adding a Viz Engine

1. Open the Preview Server Home page.

2. Enter the Viz Engine hostname or IP address in the text box.
3. Click the **Add New** button.

> ⚠ **Note:**
> If not specified, the Viz Engine will be added with the default port number *50010*.
> When using Viz Engines in a so-called dual channel setup, it is possible to run
> multiple instances of the 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 hostname (for example
> *VizEngine1:51010*).

Removing a Viz Engine

1. Open the Preview Server Home page.

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

2. Click the *trash can* icon next to a Viz Engine entry.

6 Troubleshooting

This section covers issues that may arise while installing, configuring or using the Preview Server.

If you do not find answers to your issues, please contact your local Vizrt representative at https://www.vizrt.com/support.

6.1 Troubleshooting Tips

6.1.1 Services do not start after installing the latest Preview Server

- Machines with Apple's Bonjour installed sometimes refuse to install the Preview Server. Uninstalling Bonjour may resolve this installation issue.

6.2 Known Limitations

- It is possible to add the same renderer multiple times on the Preview Server Home page if using different spellings. For example, a renderer can be added by entering its hostname, and then, if entering the IP address, the renderer will be added again. Adding the same renderer twice will produce incorrect snapshots.
- Snapshots of scenes with no key defined will result in empty images.
- Adding video mode Viz Engines as renderers could produce incorrect results in scenes using ControlVideo.

See Also

- Preview Server Release Notes