Media Service
User's Guide
Product Version 2.0

March 16, 2017

Contents

1 Introduction

This is the User Guide guide for Media Service.

Media Service is a Windows service that generates low-bandwidth preview locally for video clips and images stored on the Clip Folder of the Viz Engine and serves it in an atom feed with the *OpenSearch* standard.

Media Service enables basic search and light-weight preview of clips on the Viz Engine in Vizrt's client products such as:

- Viz Multiplay
- Viz Trio
- Viz Pilot
- Viz Opus
- and more
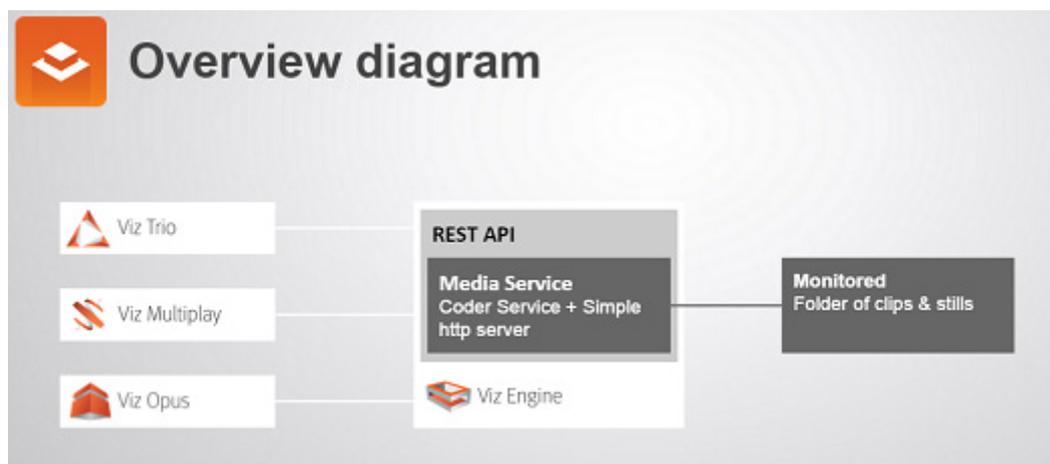
Features:

- Monitor single folder.
- Asset search provider, serve out as Atom Collection, including OpenSearch.
- Provides REST based APIs.
- Run as a Windows service on the Viz Engine.

1.1 Related Documents

- Viz Artist User's Guide: Contains information on how to create graphics scenes in Viz Artist.

- **Viz Engine Administrator's Guide**: Contains information on how to install the Viz Engine software and supported hardware.

- **Viz Trio User's Guide**: How to install, configure and use the Viz Trio client, and configure the output channels.

- **Viz Content Pilot User's Guide**: How to install, configure and use Viz Content Pilot.

- **Viz Multichannel User's Guide**: How to install, configure and use Viz Multichannel.

- **OpenSearch documentation.**

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.

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.

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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.

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A Vizrt representative will contact you as soon as possible.

1.3 Customer Support Request

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**

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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 (see Related Documents).
- 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

When completing a Support Request, add as much information as possible.

This section contains information on the following topics:

- Content of a Support Request
- To submit a Support Request

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. Remember to use simple English.
- **Screen shots and illustrations:** Use to simplify the message.
- **System log files:** Send the system log files.
- **System dump files:** Send the system dump files from the crash (e.g. Viz Artist program folder <Viz install directory>).

    Note: Check: If the operating system is Windows 7 and up, dump files can be stored at: <userdir>\AppData\Local\VirtualStore\<Viz install directory> (check user rights).

- **System Config file:** Send the system config file (e.g. Viz Artist program folder <Viz install directory>).

    Note: If the operating system is Windows 7 and up, the config file can be stored at: <userdir>\AppData\Local\VirtualStore\<install_directory> (check user rights).

- **Software configuration:** Add exact versions of software (-build) used.
- **Hardware configuration:** Add exact versions of hardware used.
- **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 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, etc. (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.

2   Requirements

Media Service is compatible with modern Windows standards and should run on Microsoft Windows version 7 and above. It has been tested on Microsoft Windows versions 7, 8 and 8.1. Media Service is designed to work with Viz Engine but does not require it to run.

The Media Service server requires:

- Microsoft .Net client libraries, version 4.5.1 or above.
- TCP/IP network connectivity to clients. The standard port is **21099** and this port must be open if using a firewall.

Upgrading

If upgrading from a previous version:

1. Un-install the previous installed version and then
2. Install the newer version of Media Service.

- -
WARNING! Upgrading or (installing over) pre-release software is **not** supported. See Upgrading Media Service after using a pre-release version for details.
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3 Installation and Configuration

Media Service is shipped as a single installer:

```
Media_Service_and_Coder-x86-<version>.exe
```

where <version> are numbers indicating version, release and build-number.

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IMPORTANT! Always read the Release Notes for any last-minute information.
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This section contains information on the following topics:

- Installing Media Service
- Configure Media Service

3.1 Installing Media Service

Media Service can be pre-installed with the Viz Engine installation – in which case it does not require any further configuration. If you need to install it yourself or upgrade an existing installation follow these steps to install and configure Media Service:

1. Locate and download Media Service from download.vizrt.com using your customer credentials and password. The installer is named *Media_Service_and_Coder-x86-<VERSION>.exe*

2. If you have a previous installation, un-install the existing Media Service using the standard Windows installation utility before installing a new version. You can install Media Service without un-installing an existing Media Service, but that could mean that you need to restart Windows so it's probably easier to first un-install and then install a new copy. Upgrading or (installing over) pre-release software is **not** supported. See Upgrading Media Service after using a pre-release version for details.

3. Double-click the installer package and follow the instructions. All Components should be selected for installation as is the default settings in the installer. Note: It is possible to install one or all of the three components; *Media Service*, *Coder Master* and *Coder Slave*. This should only be used in support situations and in standard installations all three should be installed together. Media Service requires the other components to function properly and has a dependency on the included versions.
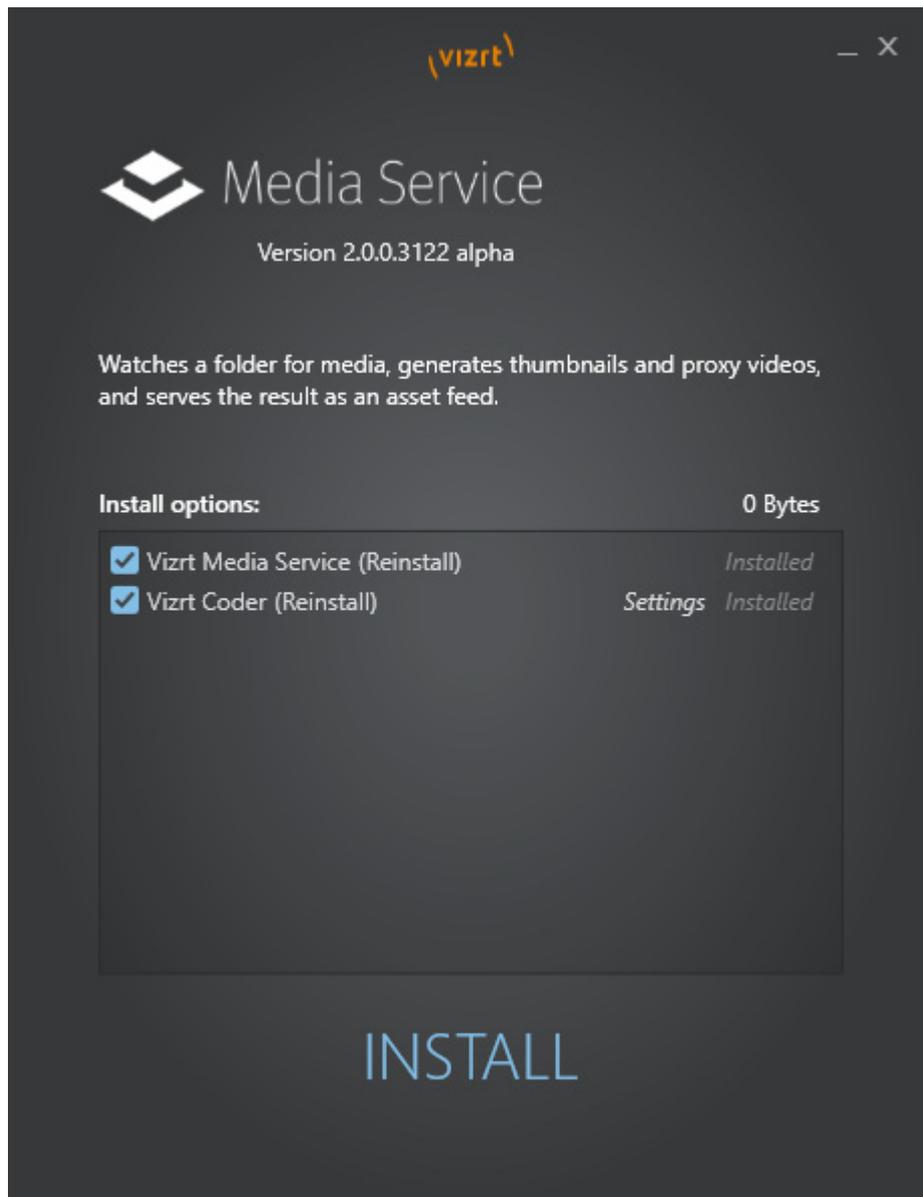
- The installer will install three Windows services: *Media Service*, *Coder Master* and *Coder Slave*. Both Coder services are used as by the main service **Media Service** and require no configuration.

- If the installer detects that Windows firewall is active it will open the required network port. If you are using another firewall (note: using a firewall on a Viz Engine is not recommended) you must make sure the network port is open for traffic.

- The Media Service will be started by the installer and set to autostart upon PC restart. If required you can change this behavior using the standard Windows Service configuration tool. (*Windows button > services.msc*)
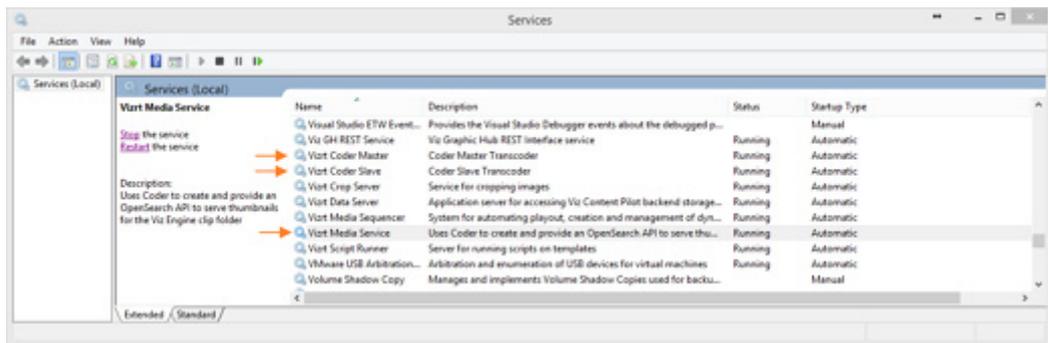
- Assuming the Viz Engine host follows the convention of having clips and images in the **D:** drive no further configuration is required.

Note: Previously the standard drive for the Viz Engine clip directory was **V:** If you are using another directory for clips, you must configure the correct directory in the configuration settings dialog.

When Media Service is running a tray icon will be shown in the Windows taskbar as shown in the screenshot below.

- Click the icon for status check (running status).
- Right-click for menu options.
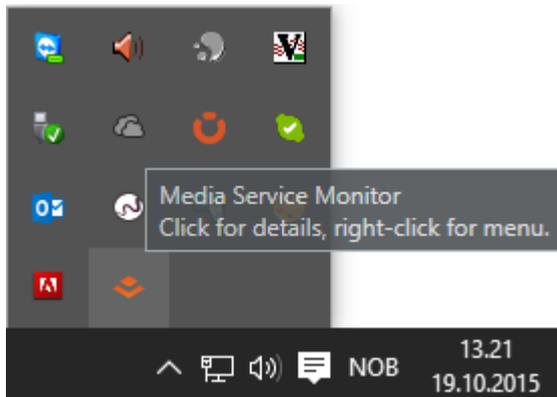
3.2 Configure Media Service

Media Service requires no user configuration to be functional, only if default behavior needs to be changed. You can configure Media Service either by editing a configuration file directly or by using the Configuration tool. It is recommended to use the Configuration tool whenever possible.
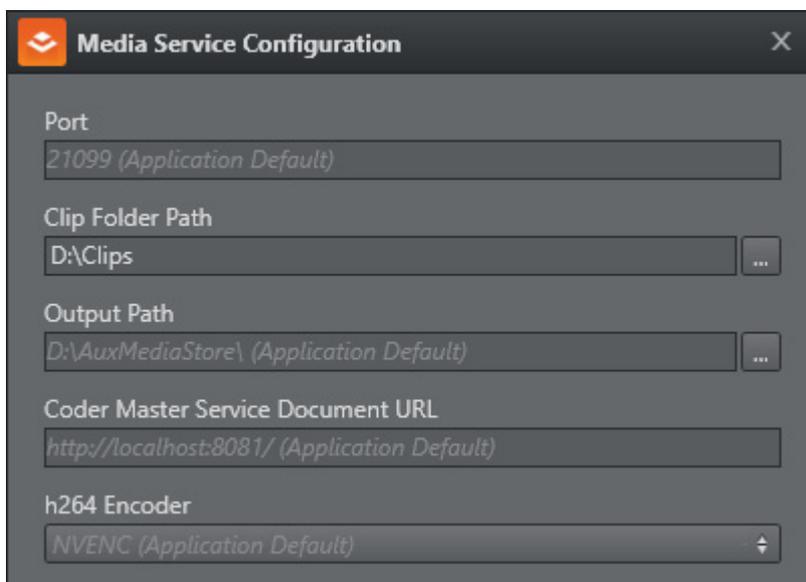

IMPORTANT! Media Service needs to be restarted if the configuration is changed.

This section contains information on the following topics:

Using the Media Service Configuration tool

Open the Configuration tool by right-clicking the Media Service icon (or tray icon) and select the option "Configure Media Service". This will open the configuration panel:

Port: the network port used. Normally no need to change, but if changed then both the server and all clients must agree on the port used.

Clip Folder Path: Where the clips (the media files served) are located. A single directory. If there are sub-folders to this directory then the sub-folders will not be searched/served. This should be set to the same path as the Viz Engine Clip root for playout support.

Output Path: A directory to hold transcoded files. Normally not required to change this.

Coder Master Service Document URL: The network address (URL) for the Coder transcoding service. Normally not required to change this.

Edit the values as required. Make sure to hover the mouse over the options for valuable tool-tips. Note that when you have on of the options selected you can easily revert to default values or copy the value to the Clipboard by clicking the appropriate icon.

To edit the Media Service Configuration file

To change the default values open up the Media Service configuration folder (normally *%PROGRAMDATA%\Vizrt\Media Service*) either by directly navigating to it in Windows Explorer or selecting 'Open Media Service log and config folder' from the System Tray icon menu. To access the menu right-click on the Media Service tray icon:
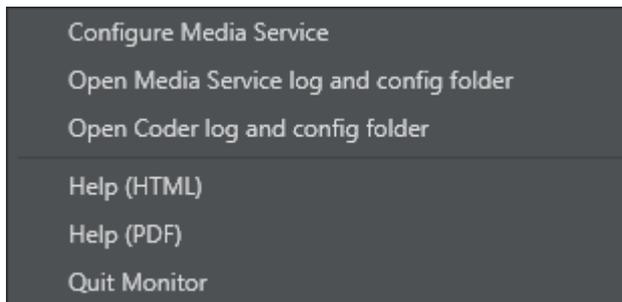
Open the folder by selecting "Open Media Service log and config folder". In this folder there is a file named "*config.sample.json*" which provides an example of all the settings which can be configured. The example file contains comments with instructions for changing values. To create a new configuration:

1. Copy the file config.sample.json to a new file **config.json**

2. Edit the file config.json as required and save the file

3. **Restart** the Media Service process. Depending on your version of Windows the procedure for this can be slightly different. A common way to do this is:

- Press the Windows button and in the search-panel write Services to start the Windows Services component.

- When Services are launched, select the name column and start writing "Vizrt Media Service" to select the correct process.

- Click the "Restart" button to restart the service.

- Alternatively, if you are using Powershell: Start a powershell window and execute the command "*Restart-Service MediaService*".

Some of the common values you can change in *config.json* are:

Table 1:

Keyword	Meaning
Port	The port used to access Media Service using HTTP, defaults to 21099.
ClipFolderPath	The path to monitor for files which need to be transcoded and added to the asset feed. This will normally be the Viz Engine Clip drive or directory: by convention most often *D:* or *V:*.

Table 1:

Keyword	Meaning
OutputPath	Path where generated files will be placed: *OutputPath\meta* , *OutputPath\proxy* and *OutputPath\thumb* for the metadata, proxy videos and thumbnails respectively.
VideoFileTypes	A list of the video file types handled.
ImageFileTypes	A list the image file types handled.
CoderMasterServiceDocumentUrl	Full URL for the Coder Master's Service Document.

- -

Note: Any configurable information not included in the config file will use the default values.

- -

3.2.1   To configure X264 encoding

The Media Service Coder component can encode H.264/MPEG-4 AVC (X264), but as H.264 is a licensed product this capability depends on both hardware and license.

- When using a recent NVIDIA video card (generation Kepler or newer) Coder can use the NVIDIA supplied *NVenc* encoder that is bundled with the video card.

- If you have purchased a software license, you can use X264 *software-only* encoding.

As a rule of thumb: X264 is generally expected to give a higher quality result, while NVenc is generally faster. NVenc is the default profile.

To Configure logging

Media Service will write log statements to log-files in the directory *%PROGRAMDATA%\Vizrt\Media Service*. *%PROGRAMDATA%* is a Windows environment variable, in most cases this path will expand to *C:\ProgramData\vizrt\Media Service*

The current logfile will be *%PROGRAMDATA%\vizrt\Media Service\MediaService.log*, the previous log file *%PROGRAMDATA%\vizrt\Media Service\MediaService.1.log* and so on. The log files have a maximum size restriction and will rotate over time.

If you need to change logging you can do this by editing the file

%PROGRAMDATA%\vizrt\Media Service\NLog.override.config

There's a comment in the file indicating how the file can be changed, if you need more details please consult the documentation available by browsing https://github.com/nlog/nlog/wiki/Configuration-file.

An example addition to the NLog.override.config file:

```
<rules>

    <logger name="*" minlevel="Debug" writeTo="console,file"/>

    <logger name="*" minlevel="Info" writeTo="eventlog"/>

  </rules>
```

To make the log file log more verbose, change the 'minlevel="Debug"' to 'minlevel="Trace"'.

- -
Note: Changing logging levels should be done only as part of support and is normally not required.
- -

Media File-Types handled by Media Service

By default the following Video and Audio types are handled by Media Service. Note that list of media types handled are **additive**, meaning that if you have other media types you want to be served then you must add those new media-types to the configuration file. The default types will always be handled, so you just need to add new types. The Media Service processes needs to be restarted if the media types list is changed.

Table 2:

Type	Media file-types
Video	".mxf", ".avi", ".mov", ".dv"
Image	".png", ".jpg", ".jpeg", ".tif", ".tiff", ".bmp"

4 Working with Media Service

Media Service will function without user input. Files placed in the Viz Engine clip folder will have the auxiliary files created automatically and the asset entry will become available in the asset feed as soon as the last generated file for that media file is complete.

IMPORTANT! Note that none of the files related to a given media resource, including the Hires (high resolution) file itself, will be available in the asset feed until *all* generated files for that input are completed.

This section contains information on the following topics:

- Service Document
- Media Service status check
- Open Search Queries
- Status and Logs
- Using Media Service with Trio
- Using Media Service with Multiplay and Pilot
- Using Media Service with other Vizrt applications

Service Document

The location of the Service Document is by default

```
http://MyMediaServiceHostname:21099/api/service
```

The service document URL needs to be copied to client applications such as Trio, Pilot or Multiplay that will use Media Service as a search provider.

The service document URL can be easily copied from the System Tray icon. Click on the Media Service tray icon. Then select and right-click on the **Service Document** URL entry (Status Check tab must be active). This allows copying the URL to the users clipboard so that it may be pasted into another program, as illustrated in the screenshot below.
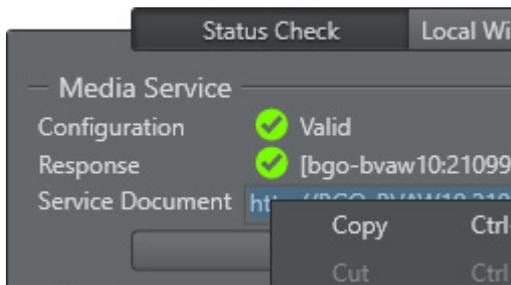
## Media Service status check

Click the Media Service tray icon to check running status. Some corrective actions will also be presented, if required. There are two tabs: *Status Check* and *Local Windows Services:*
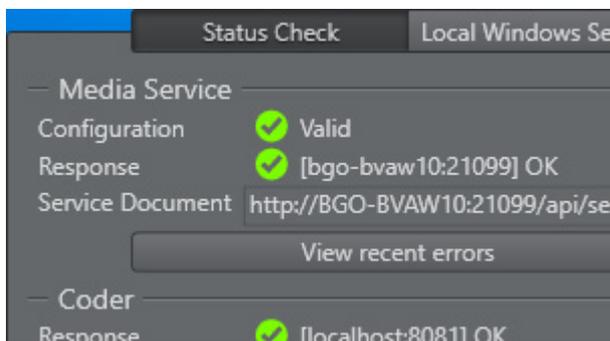


- All status indicators should be marked green. If not, investigate and perform corrective actions.

- Recent errors, if any, can be viewed by clicking "View recent errors".

The *Local Windows Services* tab show the local Windows service processes status:
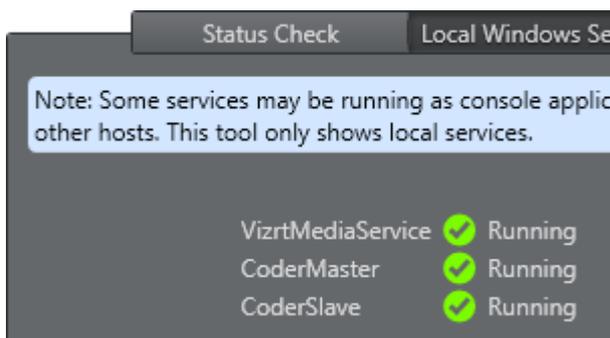


All services should be indicated running. Click *Open Service Manager* to start Windows service manager where services can be configured. Normally it's not required to do any configuration as the installer will install the required services and configure them to autostart.

## Open Search Queries

The OpenSearch description document is available at **/api/search**, and is listed in the Service Document so clients can automatically discover and use it. It describes paging mechanisms, and two search terms:

- The text search term is '**q**'. This is a simple substring search in the file name of all assets. Media Service will silently ignore any asterisk (*) at the beginning or end of the query.
- The media type search term is '**media**', the only supported types is 'image' and 'video'.

An example query:

```
http://localhost:21099/api/asset/?q=seachTerm&media=image&num=20
```

Status and Logs

The log file, *MediaService.log*, can be accessed in the same location as the Media Service configuration files (normally *C:\ProgramData\Vizrt\Media Service*) which is accessible through the System Tray icon menu. The log file(s) will rotate when they grow big, retaining the last 9 log files.

The System Tray Icon will visually indicate the status or diagnostics of the running services.

- The top part of the System Tray Icon represents the state of the Media Service service. Orange means it is running normally, gray means needs attention.
- The lower part indicates the state of Coder and it's helper-processes Coder Master and Coder Slave. Orange means running, gray means needs attention as explained in the table below.

Table 3:

Icon status	Meaning
	All services running. This is the expected and normal status. If any parts of the icon is gray corrective action is recommended.
	No response or error from Media Service.
	No response or error from Coder Master.
	No responsive Coder Slaves reported from Coder Master.

If there is an error in Media Service, click the Tray Icon and consult the resulting pop-up window for more details about status, see also Media Service status check.
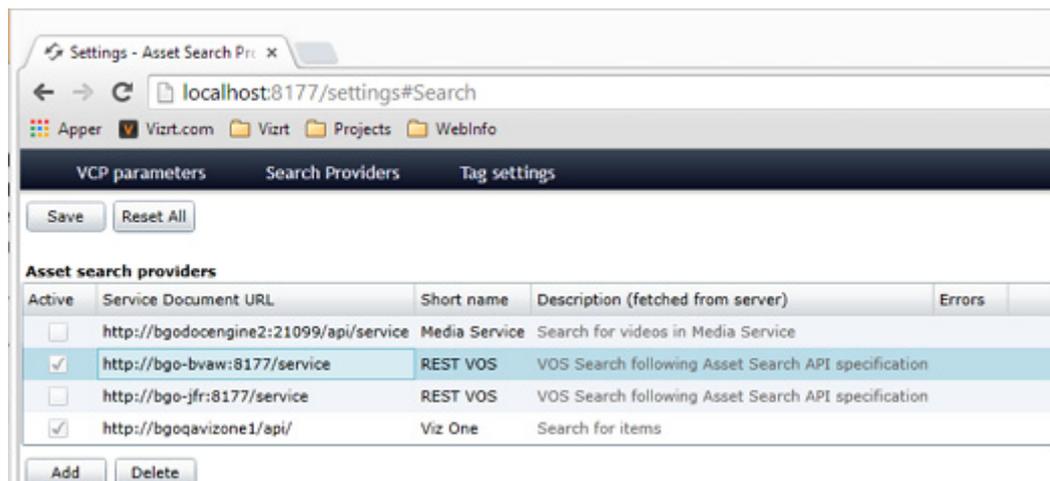
Using Media Service with Trio

In Trio open *File > Configuration*, select *Viz One*, make sure *Enable Viz One* Handler is checked, and paste the Service Document url into the text field:
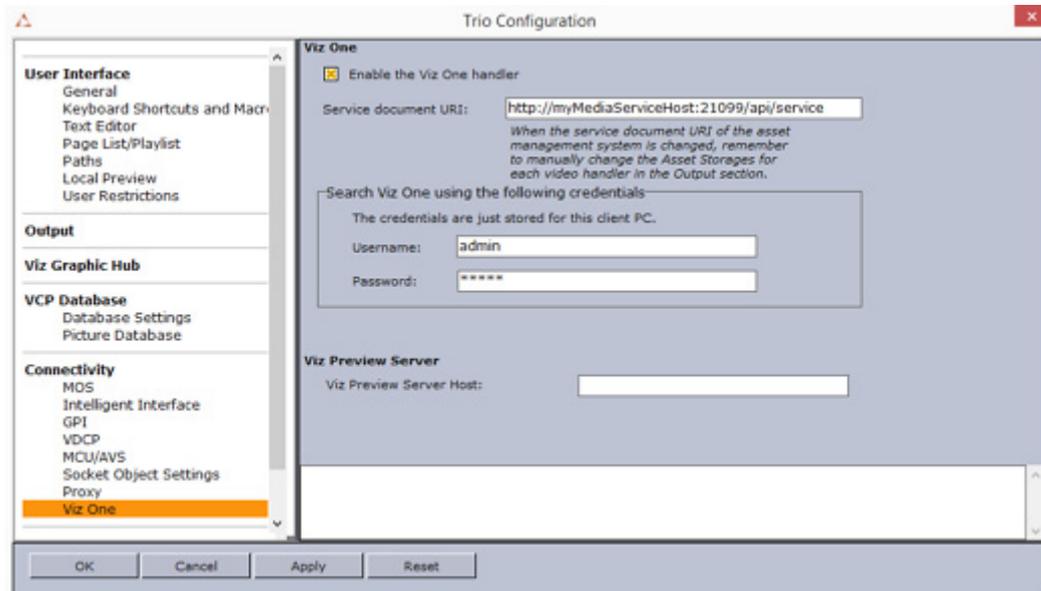
Using Media Service with Multiplay and Pilot

Open Pilot Data Server settings (typically *http://localhost:8177/*), go to `Settings`, then **Search Providers**, and add the Service Document URL under Asset search providers.

Using Media Service with other Vizrt applications

Using Media Service with other Vizrt client programs follows the same pattern that is illustrated in the previous sections:

1. Get the service URL, typically *http://MyHostnameHere:21099/api/service*

2. Copy the Media Service URL to the client applications search service provider configuration settings.

5   Appendix

This section contains typical troubleshooting questions and answers that may arise while installing, configuring or using the Media Service.

If you do not find answers to your issues, please contact your local Vizrt representative and submit a Customer Support Request.

This section contains information on the following topics:

- Troubleshooting Tips
- Known Limitations
- Upgrading Media Service after using a pre-release version

5.1   Troubleshooting Tips

- Make sure that the required services are running. You can view the running services using the standard Windows Services utility. Both *Media Service*, *Coder Master* and *Coder Slave* must be running.

- The easiest way to check the required service processes is to click on the Media Service tray icon. Both *Status Check* and *Local Windows Service* items should be marked with a green checkmark. See Media Service status check.

- Make sure the required *network port* is open and running properly, normally port **21099**. You can check the network ports by opening a command window (Windows Start > cmd.exe) and execute the command **"netstat -an"**. If you have the "grep" utility installed you can filter the output with "*netstat -an | grep 21099*".

- Check that Coder Slave is registered to Coder Master: browse to *http://MyMediaserverHost:8081/static/nodes/index.html*, there should be a green entry in the left column.

- From a browser on the client connect to the Media Service port on the service and check that the service document is served properly and correctly received by the client.

- One way to check the connection is to install the free "curl" utility and send a REST call to the Media Service:
    - Install curl from http://curl.haxx.se/download.html (Note: This is a free opensource utility, not a Vizrt product.)
    - Open a command window and request the service document, like:
    - *curl -X GET http://MyMediaServiceHost:21099/api/service*
    - Expected ouput returned: A html-document similar to:

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

<app:service xmlns:a10="http://www.w3.org/2005/Atom" xmlns:app="http://
www.w3.org/2007/app">

  <app:workspace>
```

```
    <app:collection>

      <app:categories>

        <a10:category term="asset" scheme="http://www.vizrt.com/types" />

        <a10:category term="search" scheme="http://www.vizrt.com/types" />

      </app:categories>

      <a10:link rel="search" type="application/opensearchdescription+xml"
href="http://bgo-bvaw:21099/api/search" />

    </app:collection>

  </app:workspace>

</app:service>
```

- If the Media Service configuration have changed, make sure to restart the service processes for the new config to be active.

5.2 Known Limitations

- If Media Service is not running elevated (i.e. with Windows Admin privileges), it can not write to the event log. This also means the tray icon will not show the "x" on the program icon if errors occur.

5.3 Upgrading Media Service after using a pre-release version

If you are installing (or upgrading to) Media Service on a host where a pre-release version of the software have been installed; before installing the release version, please make sure to:

- Un-install previous versions completely *before* installing the release version of Media Service.
- Delete the output folder (where thumbnails and proxies are stored) before the new version is installed.
- Delete configuration-files (backed up first, if necessary), both for Media Service and Coder. The easiest way is to delete the folder *C:\ProgramData\vizrt\Media Service*
- Any assets that were used in clients (typically in playlists) will be invalid and need to be re-added.