Gateway
Administrator's Guide
3.0

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1 Introduction

Gateway is Vizrt's implementation of the Media Object Server (MOS) Protocol. It enables users of a Newsroom Computer System (NCS) to perform instant updates on running orders (rundown/playlist) in Vizrt's content control applications such as Viz Trio and Viz Pilot.

As Gateway supports multiple NCS connections, it allows content control applications to request and monitor multiple running orders from multiple newsroom systems. By supporting the MOS protocol, Vizrt is able to integrate a wide range of its products with Newsroom Computer Systems that supports the MOS Protocol.

This guide is based on the functionality of Gateway 3.0. The Gateway Controller Client's graphical interface is browser-based.

> **IMPORTANT!** Gateway 3.0 is available in both 32-bit and 64-bit versions. It is recommended to use the 64-bit version unless there is a specific reason to stay with 32-bit. Future releases will only be available as 64-bit.

Gateway has previously been known as Vizrt Viz Gateway, Viz Gateway or Viz MOS Gateway. As of version 2.0 the preferred name is simply **Gateway**.

This chapter contains the following topics:

- About this Document
- Document Structure
- Related Documents
- Customer Feedback and Suggestions
- Customer Support Request

1.1 About this Document

The most efficient way to learn our systems is to go through our systems adaptive documentation. This *Gateway Administrator's Guide* is designed to fit people with little experience in installing and configuring Gateway with a Newsroom Computer System.

1.2 Document Structure

This chapter and the next, Gateway, introduce the Vizrt Gateway solution; its features and main workflow in a production environment. If you are new to Gateway you should read these chapters to get an overview.

The next chapters details Requirements and Installation, while the Running chapter explains how to start/stop and run the gateway.

Gateway normally run as a continuous service that require no user interaction after initial setup and configuration. But when you need to interact with gateway you use the web-based GUI explained in the User Interface chapter.

Details about various configuration options are explained in the Configuration chapter.

Some advice about testing a Gateway installation is provided in the [Installation Test](#) chapter and the document is ended with [Troubleshooting](#) and [Glossary](#) sections.

1.3 Related Documents

All related documents contain information on how to configure a content control application to request running orders from the newsroom system through the Gateway connection. For complementing information see the following documents:

1. *Viz Pilot User's Guide* - information on how to create content based on templates, and how to playout elements in playlists based on these templates.
2. *Viz Pilot Administrator's Guide* - information on how to install and configure Viz Pilot as a stand-alone product, and with integrated third party systems such as newsroom systems and other Vizrt products.
3. *Viz Trio User's Guide* - information on how to use Vizrt's character generator for real time update of scenes from the operator desk.

You can find updated documentation for Viz software in the Documentation portal docs.vizrt.com.

1.4 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.

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

A Vizrt representative will contact you as soon as possible.

1.5 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

1.5.1 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.

1.5.2 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 Gateway

The Gateway is a framework built to help in newsroom integration tasks. Currently Gateway support Newsroom Computer Systems (NCSs) based on the Media Object Server (MOS) Protocol that is supported by the leading NCS vendors.

This section describes the supported features of Gateway, and the basic workflow from design to playout.

This chapter contains the following topics:

- Features
- Workflow

2.1 Features

Gateway's main features are:

- Allow for connections to multiple NCSs.
- Allow monitored running orders to be automatically updated by the newsroom system.
- All media objects fetched from Vizrt systems are editable in Vizrt's content control applications to allow last minute edits.
- Last minute edits can also be done in Vizrt's Newsroom Component.
- Allow content control applications to monitor multiple running orders.
- Allow Vizrt's content control applications to take ownership of a running order from another studio in case of a fail situation.
- Easy to use graphical user interface for configuring and monitoring all connections to the NCSs and the content control applications.
- Failover support to enable transparent operation, in case the main NCS server has to be maintained or fails.
- Control Station Backup automatically updates backup clients, ensuring that both the backup client and main system have the same MOS playlists.
- Sobey Failover System allows the Viz Gateway server to send its messages to more than one NCS system.

2.2 Workflow

The basic workflow is as follows:

- A journalist adds a story to the newsroom system using a newsroom client.
- In the NCS client, a Newsroom Component from Vizrt can be used to fill templates with different media objects containing character generated text, maps, stills or videos.
- Templates are based on 2D/3D graphics scenes, pre-made to fit a specific concept or style, for example the Nine O'clock News.
- The Newsroom Connect Component allow the user to select a template related to a concept, fill it, and store it as a new media object with a describing name.

- All external media objects, as those created by the Newsroom Connect Component, can be added to a story. When media objects are added to a story, the NCS creates unique placeholders for each media object, called items.

- When the story is saved, it is populated to a story pool. From the story pool the story is typically added to a running order (also known as a rundown or playlist).

- A running order can contain more than one story, and one story can contain more than one item. Each item keeps track of one media object that is stored on external servers.

- A running order can be requested from a content control application or conversely.

- As stories with new items (data elements) are added to the running orders), the Gateway is notified.

- Gateway passes on running order messages to the content control applications holding the running order for playout, and updates the newsroom system of changes to a data element by the journalist.

Gateway Workflow: Connecting Newsroom Systems to Content Control systems.
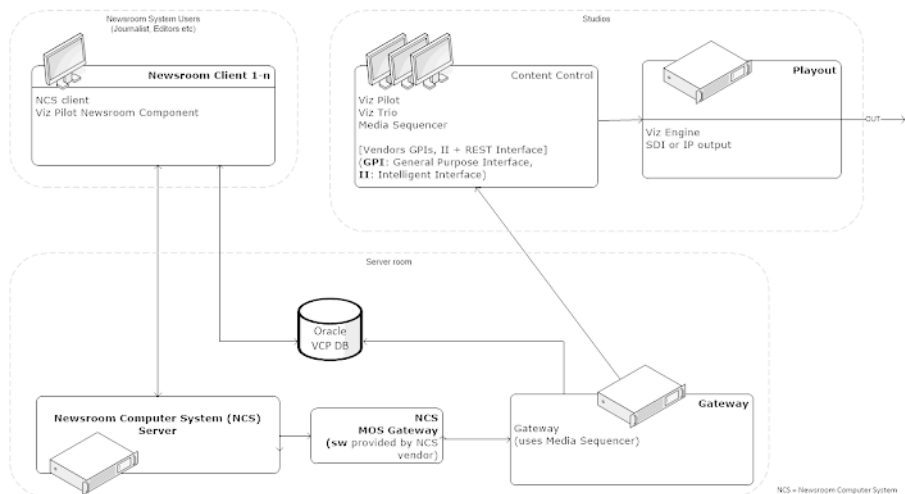
3 Requirements

This section describes the prerequisites such as software and hardware requirements in order to install and run the Gateway server and Gateway Controller Client. It is also recommended to check the Release Notes distributed with the Media Sequencer installer for any late-minute updates.

This chapter contains the following topics:

- Minimum Software Requirements
- Minimum Hardware Requirements

3.1 Minimum Software Requirements

The following software is required to complete a Gateway installation:

- Media Sequencer installer
  - The Gateway installer is bundled as an component in the Media Sequencer installer. Refer to the installation chapter in this guide for detailed instructions. Basically you select the Gateway Component while installing Media Sequencer to enable the gateway functionality.
  - The Gateway Controller Client User Interface is browser-based and can run on most PCs with a modern web-browser. Has been tested with Internet Explorer 11 and recent versions of and Opera, Chrome and Firefox web browsers.
  - The .msi installer Gateway requires Microsoft .Net framework 3.5 and 4.0 (full) to be installed on the machine. The installer notifies the user if .Net 4.0 is not found.
  - Media Sequencer can be installed **either** as a **32**-bit or **64**-bit application. On a server with a 64-bit version of Windows the 64-bit Media Sequencer is strongly suggested. If required, the 32-bit version of Media Sequencer can be run on a 64-bit version of Windows. If you use a server with 32-bit Windows, the 32-bit Media Sequencer must be used.
- Operating System
  - Server: Windows Server 2008 and newer versions.
  - Workstation: Windows Vista and newer versions.

IMPORTANT! Operating systems that have reached their end of life cycle and are no longer officially supported by their manufacturers, are not supported for use with Gateway. Current installations on Windows XP are strongly recommended to upgrade to a newer Windows version.

- Oracle Database 10g or 11g Client
  - The Oracle Client **must match** the Media Sequencer installed. If using the 64-bit Media Sequencer, the Oracle client must be the 64-bit client. And similarly, if using the 32-bit Media Sequencer the 32-bit Oracle database client must be used.
  - Either the Full Oracle Client or Oracle Basic Instant client can be used. Oracle XE client is *not* supported.

- It is recommended that the Oracle Client used is the **same version**/release as the Oracle Database itself. Having different Oracle Database and Client versions can lead to subtle errors and are not supported.

- Notice that there may be different supported versions for the Oracle 10g and 11g clients. Please refer to separate release notes from Oracle on these program packages. For Windows 7, Oracle 11g should be used.

- On 64 bits platforms, the version of Oracle client must not be lower than 10.2.0.3. Otherwise, it will run into the connection problem ORA-12560 which was fixed after that version.

IMPORTANT! Gateway uses the Media Sequencer in an **exclusive** configuration to operate as a gateway. Hence the server that runs the Gateway can not operate as a "normal" (non-exclusive) Media Sequencer while functioning as a Gateway.

Note: For Viz Pilot 5.1 - 5.6 an Extra Stored Procedure is needed for installation.

3.2 Minimum Hardware Requirements

The following hardware components are required for the Gateway and Oracle Database Client. The requirements are separate, and only depicts the actual requirements needed to run each of the software installations.

- Gateway
  - There are no specific hardware requirements for Gateway. The hardware required and network interface is depending on how many Newsroom Systems and clients that use the gateway. However, it is strongly recommended that Gateway is installed on its own computer or server. Sharing space with other resource-intensive systems, for example a database, is not recommended.

- Oracle Database Client
  - Currently (for Oracle 11g) the requirements are listed as:

Oracle hardware requirements (11g)

Requirement	Minimum Value
Physical memory (RAM)	1 GB minimum
Virtual memory	Double the amount of RAM
Disk space	Total: 5.22 GB
Processor	AMD64, or Intel Extended memory (EM64T)
Video adapter	256 colors

IMPORTANT! The values above are correct as of March 2014 and should be read as minimum required, please refer to the official Oracle Documentation at docs.oracle.com for updated information.

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4 Installation

This section describes how to install the Gateway system. The installation has the following steps:

1. Install the Gateway software. The Gateway is bundled as an optional component in the Media Sequencer installer.

2. If there is an existing Oracle Database installed, configure the new Gateway installation to use the existing Oracle Database. Otherwise, a new Oracle Database must be installed and configured.

3. Install the Oracle Client on the Gateway server.

4. Use the browser-based Gateway Controller application to configure and start the Gateway.

This section contains information on the following topics:

- Installing Gateway
- Install Database Client
- To repair or remove the Gateway

4.1 Installing Gateway

1. The Gateway can be installed either as a 64-bit or 32-bit application. The 64-bit version is recommended. Gateway is distributed as an optional component in the Media Sequencer installer, so you first need to download the Media Sequencer installer.

2. Fetch the Gateway / Media Sequencer installer from **download.vizrt.com**. All customers with a valid support contract has access to this area. Please contact your Vizrt Customer Support if you need credentials/password. Either use your preferred ftp Client or the web-based interface at https://download.vizrt.com/ThinClient/Login.aspx When you have logged in to the ftp server, navigate to: */products/VizMediaSequencer/LatestVersion Note: It is recommended to check the MD5 checksum of the downloaded installer before attempting to install.*

3. If there is an existing Media Sequencer installed at the server, uninstall the existing Media Sequencer using *Windows > Control Panel > Uninstall a Program.* It is recommended to take a copy of the existing Media Sequencer current state before uninstalling: Backup the current state by copying *%PROGRAMDATA%\Vizrt\Media Sequencer\default.xml* to a safe location.

4. Start the installation by double-clicking the MSI installer fetched in Step 1. The installer will typically be named *MediaSequencer-amd64-<VERSION>.msi (64-bit version) or MediaSequencer-x86-<VERSION>.msi (32-bit version).* Follow

the installation setup instructions. Make sure to **include** the optional **Gateway Component** while installing as illustrated in the following figure:
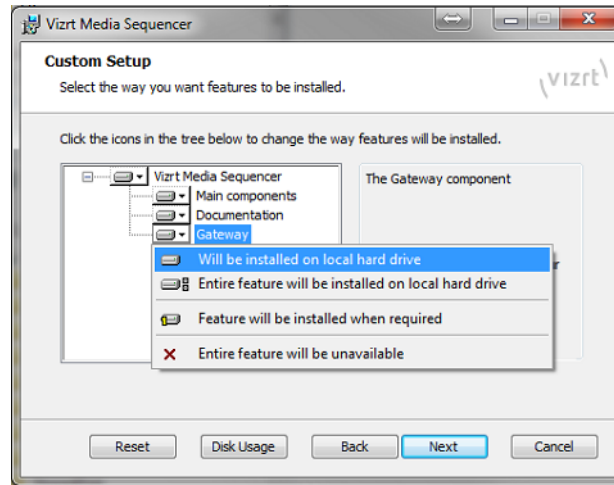
5. It is recommended to make sure that the Media Sequencer service is launched and started automatically at system start. After you have installed Media Sequencer, Double-Click the Media Sequencer icon at the Windows Desktop or go to *Windows > Programs > Vizrt > Media Sequencer > Media Sequencer*. In the Media Sequencer Launcher Panel make sure that the option "Launch on system restart" is ticked **on**.

6. You can make sure that the Media Sequencer is correctly installed and working by connecting to the Media Sequencer REST interface: Open your web-browser and connect to port 8580, example: *http://localhost:8580*

4.2 Install Database Client

This section describes how to install and test the Oracle Database 11g Client. For further documentation, please see the Oracle Documentation website:

*   http://www.oracle.com/technology/software/products/database/
*   http://www.oracle.com/technetwork/indexes/documentation/index.html

IMPORTANT! As Gateway is released in both 64-bit and 32-bit versions, administrators must take care to install the corresponding version of the Oracle client: 64-bit Oracle Client for 64-bit Gateway, and similarly 32-bit Oracle Client for the 32-bit version of Gateway.

Note: For Viz Pilot 5.1 to 5.6 Gateway needs to use an extra stored procedure in order to use Viz Pilot's Oracle database. The script is available on the customer FTP under Gateway's scripts folder. The file is named @GET_ALL_ELEMENTS.sql.

Before installing Gateway, check the language settings for the Oracle client. The National Language Support (NLS_LANG) parameter must be the same as on the Vizrt database.

This section has more information about these topics:

*   Pre-installation

- [To install the Oracle client](#)
- [To set the language setting for the Oracle client](#)
- [To test the installation](#)
- [To install the extra stored procedure (only for Viz Pilot 5.1 - 5.6)](#)

Also, refer to Oracle software and documentation:

Pre-installation

- If there is an existing Oracle Client installed, create a backup of the *tnsnames.ora* file
- Remove any previous or older versions of the client
- Download the client from Oracle's web site
- Click Downloads, and follow the instructions to make sure that the correct Oracle Database Client installation executable is selected.

To install the Oracle client

Note: The installation procedure below is according to Oracle Client version 10.2.0.1.0. For a reference on other version, see the Oracle web site.

1. Log on as a member of the Administrators group to the computer on which to install Oracle components. For installations on a Primary Domain Controller (PDC) or a Backup Domain Controller (BDC), log on as a member of the Domain Administrators group.
2. Double-click the installer (setup.exe).
3. In the Welcome screen, click Next.
4. In the Select Installation Type screen, select type Runtime.
5. In the Specify Home Details screen, click Next
6. In the Product-Specific Prerequisite Checks screen, click Next.
7. In the Summary screen, click Next to start the actual installation and configuration.

Note: Do not use the Oracle Net Configuration Assistant (NetCA) unless there are specific client connection configuration needs. Using the NetCA is beyond the scope of this guide.

8. Click Next.
9. In the End of Installation screen, click Exit, then click Yes to exit from Oracle Universal Installer.
   - Optionally, delete the *\temp\OraInstalldate_time* directory to remove the temporary files that were created during the installation process. The *OraInstalldate_time* directory holds about 45 MB of files.
   - Restarting the computer also removes the *OraInstalldate_time* directory.

See also section [4 Installation](#), and how [To test the installation](#).

To set the language setting for the Oracle client

1. Start the Registry Editor (*regedit*) on the Start menu

- Click the Run menu option, enter *regedit*, and click OK
2. Open the path *HKEY_LOCAL_MACHINE\\SOFTWARE\\ORACLE\\KEY_...<version>*\\
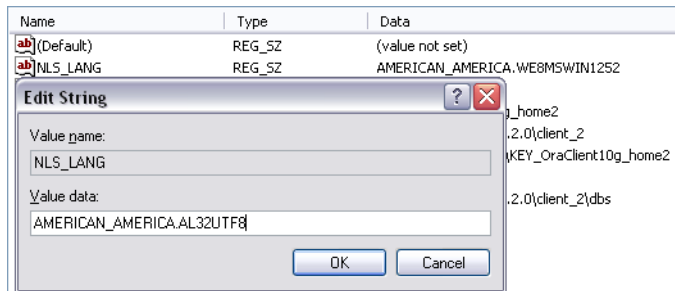
3. Double-click the registry setting for NLS_LANG.
4. Edit the string and change it to *AMERICAN_AMERICA.AL32UTF8*, and click OK

Note: To help give Vizrt's customers the best possible support, American English is chosen as the default language for log messages.

See also section 4 Installation.

To test the installation

1. Start a command-line tool, and type the following:

```
sqlplus userid/password@tnsname
```

2. It is also possible, if a TNS name alias is not configured, to use an easyconnect string:

```
sqlplus userid/password@hostname/SID
```

3. Check that the output is something like the example output below:

```
C:>sqlplus pilot/pilot@VIZRTDB
SQL*Plus: Release 10.2.0.1.0 - Production on Thu Mar 24 12:17:19 2014
Copyright (c) 1982, 2010, Oracle.  All rights reserved.
Connected to:
Oracle Database 10g Release 10.2.0.1.0 - Production
SQL>
```

See also section 4 Installation.

To install the extra stored procedure (only for Viz Pilot 5.1 - 5.6)

1. Start a command-line tool.
2. Make sure the command-prompt is placed in the directory where the sql file was saved.
3. Connect to the database using SQL*Plus.
4. Enter the following command:

```
@get_all_elements.sql;
```

5. SQL*Plus should respond with *Function Created*, and return to the command-prompt.

Note: The above procedure is not required from Viz Pilot version 5.7 and newer.

See also section 4 Installation, and how To test the installation.

4.3 To repair or remove the Gateway

1. Open the Add or Remove Programs tool, and click the **Change** button to the right for the *Viz Media Sequencer* program entry.

2. Select **Repair** to repair the installed version, or

3. Select **Remove** to remove the installed version.

4. Click **Next**.

5. When done, click **Close**.

5   Running

This section describes how to start the Gateway server and the Gateway Controller Client.

This chapter contains the following topics:

To start the Gateway controller client

- Select the program from the Start menu: *All Programs > Vizrt > Media Sequencer> Gateway Controller*

> **IMPORTANT!** This shortcut will start the Gateway Controller as an web-application in the users default web-browser. The Media Sequencer must be running before starting the Gateway Controller.

It is also possible to launch the Gateway Controller by browsing to the following web address:

`http://<ADDRESS>:8580/app/gatewaycontroller/gatewaycontroller.html`

Substitute <ADDRESS> above by the actual IP or hostname of the Gateway server.

> **Note:** It is possible to use one instance of the client to connect to multiple Gateway servers. To do this, simply connect to one server at a time and enter the appropriate connection parameters.

To start the Gateway server

Use the Gateway Controller Client application to enable the gateway functionality of the Media Sequencer, including starting, stopping and restarting the Gateway:
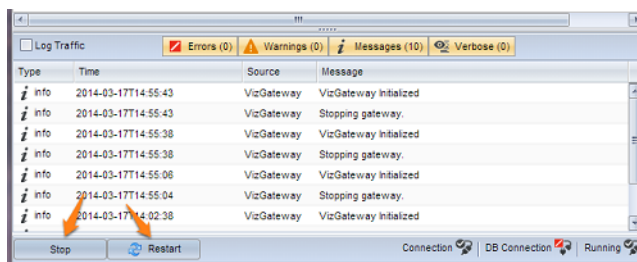
> **Note:** The client will enable the Media Sequencer to run as a Gateway server. While running as an MOS Gateway, the Media Sequencer will run exclusively as an gateway and should not be used for any other purpose. It is recommended to enable the automatic launch at system restart option of the Media Sequencer to make sure the Media Sequencer is kept running.

To start the Media Sequencer

1. Select Media Sequencer under the Vizrt program menu, or
2. Double-click the desktop shortcut icon:

To configure the Media Sequencer start-mode

Double-click the Media Sequencer desktop icon to access the Media Sequencer Launcher panel (see figure below). From the Launcher panel click the appropriate Launch Options button to select how the Media Sequencer should start:

- **Service -** Runs the Media Sequencer as a service. This enables the Manual operation of the Media Sequencer as a service. Check the "*Launch on system startup*" switch to **on** if the Media Sequencer should start automatically when the system is (re-)started. This automatic mode (i.e. to launch Media Sequencer automatic on system start) is the recommended mode.
- **Console Application -** The service is disabled. The Media Sequencer will run as long as the console is open. If the console is closed the Media Sequencer will stop. This mode is normally only used for testing or debug.

Note: It is recommended to run the Media Sequencer as an Automatic service.
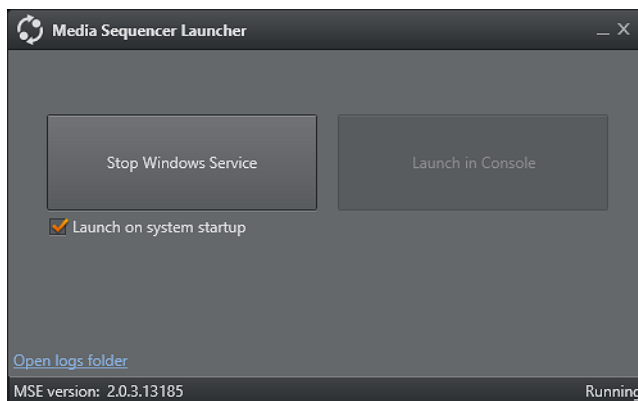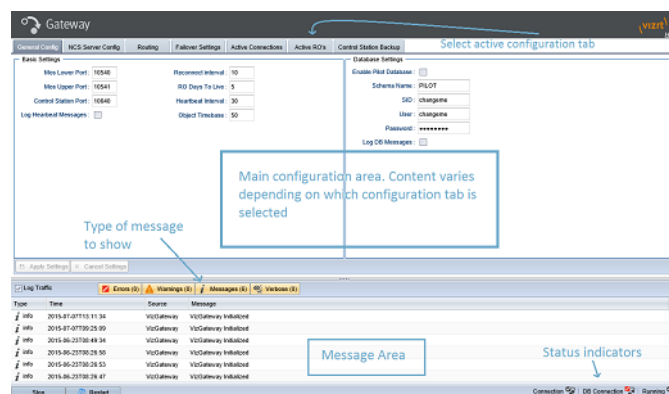
6 User Interface

This section describes the user interface for the Gateway Controller Client. The client is a configuration and status information tool that enables the user to configure and monitor the traffic on the Gateway server.

This chapter contains the following topics:

- User Interface Overview
- To Start, Stop and Restart Gateway
- General Configuration
- NCS Server Configuration
- Routing
- Failover Settings
- Active Connections
- Active Running Orders

6.1 User Interface Overview

6.2 To Start, Stop and Restart Gateway

Depending on the current run status you can use the buttons on the lower left to **Start**, **Restart** or **Stop** the Gateway. Please keep in mind that changing the configuration of the Gateway in the User Interface requires a restart for the changes to be applied.

6.2.1 Status Indicators
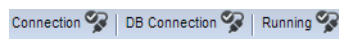
The client has three status indicators with visual indicators:

- **Connection -** Indicates if the Gateway Controller Client has a connection to the Gateway server.
- **DB Connection -** Indicates if the Gateway server has a connection to the database.

- **Running -** Indicates if the appointed Media Sequencer is configured and running as a Gateway server.

6.2.2 Logging

Enable the *Log Traffic* option to log the traffic between the newsroom systems, control stations and the Viz Pilot database. By default all messages are logged.

- **Log Traffic -** Check this option to log all MOS messages received, sent and forwarded by Gateway.

The log message window is divided in different columns, containing pieces of information about the message:

- **Time -** Shows a message time stamp (*year-month-day-hour-minute-second*).
- **Type -** Shows the type of log message received.
- **Source -** Shows which system that issued the error, warning, info or notice message.
- **Message -** The content of the message.

Note: Hover the mouse over an message to see the full content of the message.

6.2.3 Control Station Backup

Control Station Backup automatically updates backup clients, ensuring that both the backup client and main system have the same MOS playlists.

With Control Station Backup, updates sent from a NCS in response to a request from the main Control Station will be automatically routed to the backup Viz Gateway. This means that changes made to, for example, a MOS playlist will be automatically reflected in the backup client, and that any changes made during a live show will be reflected in the backup client. Users can manually configure a backup Control Station for a given Control Station.

Note: When adding or removing a single or several new backup Control Stations, the Viz Gateway server must be restarted in order for the settings to take effect.

6.3 General Configuration

The General configuration tab is divided in two: Basic- and Database settings. Whenever a setting is changed, remember click the Apply Settings button to enable the new settings which will require the Gateway to be restarted.

General configuration

6.3.1 Basic Settings

The following settings are global settings used by the Gateway.

- **MOS Lower Port -** A listener port used by Gateway which is configured as a transmitter port by the NCS.
- **MOS Upper Port -** A listener port used by Gateway which is configured as a transmitter port by the NCS.
- **Control Station Port -** Default port set by Vizrt to allow connections to the control station's content control applications.
- **Log Heartbeat Messages -** Adds the heartbeat messages to the log file. For details, see section 6.2.2 Logging.
- **Reconnect interval (sec) -** Specifies the number of seconds that Gateway should wait, when the connection is lost, before trying to reconnect to the newsroom system(s).
- **RO days to live -** Sets the number of days the routing between a running order ID and control station IP should live. Gateway clears out all running orders that have not been updated for a given number of days. For details, see section 6.8 Active Running Orders on active running order routing.
- **Heartbeat Interval -** Sets the interval for how often heartbeat messages are sent to the NCS. 30 seconds is recommended.
- **Object Time Base -** Sets the sampling rate of the object in samples per second. For PAL Video this would be 50. For NTSC it would be 60.

6.3.2 Database Settings

Enable the Viz Pilot database to allow for MOS object messages to be sent to the newsroom system. A MOS object message contains information about a data element.

- **Enable Pilot Database -** Check this option to enable the Viz Pilot database.
- **SID -** Either enter a TNS name alias, or a connection string. For the TNS name alias to work, Oracle's *tnsnames.ora* file must be edited.

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Example: Alternative connection strings are <hostname>/<SID> or <IP address>/<SID>.

··

- **User -** Enter the database username. Username is not case sensitive.
- **Password -** Enter the database password. Password is not case sensitive.

- **Schema Name -** Enter the database schema name. Schema name *IS* case sensitive. The default schema name is PILOT, and must be upper case.

....

Note: Default username, password and schema name for Viz Pilot is PILOT. For security reasons, the default password should be changed.

..

- **Log DB Messages -** Check this option to turn on DB message Logging.

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Note: Use of **Extended Advanced Queuing (AQ)** is automatically checked by Gateway.

....

6.4 NCS Server Configuration

The NCS Server configuration tab is divided in three: An NCS server list, and a Basic- and Advanced settings frame. Whenever a setting is changed, click the Apply Settings button to enable the new settings. This also requires the Gateway server to be restarted. All settings are individual settings for each Newsroom Computer System.

NCS Server Config
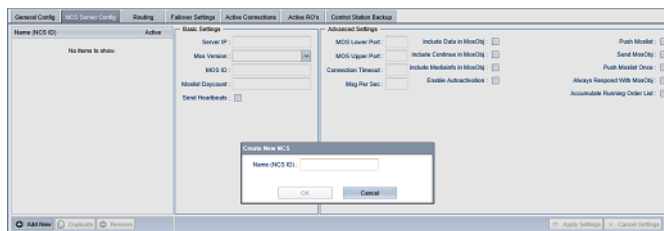
6.4.1 NCS Server List

The NCS Server list contains all NCSs that are configured to be handled by Gateway. Gateway is able to connect to multiple NCSs from different vendors.

- **Add New -** Click the button to open the Create New NCS window.
  - Name - Enter the newsroom system's ID (NCS ID).
- **Duplicate -** Creates a new entry based on the settings of an existing entry.
- **Remove -** Select an item from the NCS Server list, and click the Remove button. Confirm the removal of the NCS.

....

Note: All changes to the NCS Server list require that the Gateway server is restarted.

....

6.4.2 Basic Settings

- **Server IP -** NCS IP address.
- **MOS Version**
  - 2.6.0 - Gateway supports the MOS Protocol version 2.6.
  - 2.8.0 - Gateway supports the MOS Protocol version 2.8 (not 2.8.1, or newer).
- **MOS ID -** Identifier for the gateway

- **Moslist Days Count -** Specifies how old a data element can be in order to be forwarded to the newsroom system and shown in the newsroom client.
- **Send Heartbeats -** Check this option to enable Gateway to send heartbeat messages to the NCS. If a response to the heartbeat message is not received within a timeout period, an error is logged.

6.4.3 Advanced Settings

- **MOS Lower Port -** A transmitter port for MOS object messages, used by Gateway, is configured as a listener port by the NCS.
- **MOS Upper Port -** A transmitter port for RO messages used by Gateway which is configured as a listener port by the NCS.
- **Connection Timeout -** Sets the number of seconds Gateway should wait for a response to a request. If a response message is not received within a given time, the next message will be sent. This prevents messages from *clogging* the system.
- **Msg. Per. Sec -** How many messages per second the Gateway will send to the NCS. Value 0 = free flow of messages.
- **Include data in mosObj -** Check this option to include data field information in a MOS external meta block inside all MOS object messages sent to the NCS.
  - This information is typically used by NCSs, either to present this information in their end-user interface, or to deduce key information that may be used for archiving purposes.
- **Include continue in mosObj -** Check this option to include continue count information in a MOS external meta block as part of the MOS Object messages sent to the NCS.
  - This information is typically used by automation systems to trigger graphics. A continue count tells the graphics operator how many times to press continue to play graphics scenes from start to finish.
- **Include mediainfo in mosObj -** Sends meta data related to data elements containing video clips.
- **Enable AutoActivation -** For Routing to have an effect the Enable AutoActivation option for the newsroom system must be enabled. This will enable the control station to activate a running order without an initial request.

6.5 Routing

The Routing configuration enables the user to manually configure Gateway to route messages to a specific control station. Whenever one or several new routings are added, or removed, the Gateway server must be restarted for the settings to take effect.

For routing to have an effect, **Enable AutoActivation** must be enabled as part of the NCS Server Configuration (6.4.3 Advanced Settings).

Gateway does a lookup in the mapping table to match the running order channel (roChannel) used by the newsroom system. If the channel name is found, it uses the IP address to forward the message, and subsequent messages from the newsroom system to the control station.

Routing

- **roChannel name -** The roChannel name identifies the control station. The roChannel name is set on the NCS server, often through an NCS client.
- **Control Station IP** - IP address of the control station.
- **Add Route -** Fill the text fields, and click the button to add a new route.
- **Remove Route -** Select a route from the list, and click the button to remove the route.
- **Default Control Station IP -** If no roChannel is specified, and the default control station IP is configured, this IP is used.

Note: All changes to the Routing table require that the Gateway is restarted.

6.6 Failover Settings

Failover Settings enable the user to manually configure a failover setup between two NCSs. This means that Viz Gateway will route messages to both NCSs. Whenever one or several new failover pairs are added, or removed, the Viz Gateway server must be restarted for the settings to take effect.

Note: Gateway's failover setting is only supported by Associated Press's Electronic News Production System (ENPS).

6.7 Active Connections

There are primarily three kinds of connections. These are connections from an NCS to Gateway, from the control station to Gateway and from Gateway to an NCS.

Active connections

General Config	NCS Server Config	Routing	Failover Settings	Active Connections	Active RO's	Control Station Backup	

Name	Type	Port	Remote IP	Last incoming msg	Last incoming time	Last Outgoing msg	Last outgoing time
TENPS	NCS-MOS-client	1476	10.211.112.38	mosAck	2015-07-09T13:28:57	mosObj	2015-07-09T13:28:57
TENPS	NCS-RO-client	1512	10.211.112.38	roListAll	2015-07-09T13:33:32	roReqAll	2015-07-09T13:33:32
BGOQAENPS7	NCS-MOS-client	1552	192.168.110.106	mosAck	2015-07-09T13:28:57	mosObj	2015-07-09T13:28:57
BGOQAENPS7	NCS-RO-client	1632	192.168.110.106	roListAll	2015-07-09T13:33:32	roReqAll	2015-07-09T13:33:32
	MSE-client	1708	192.168.110.131	roReqAll	2015-07-09T11:24:03	mosGateway	2015-07-09T13:33:32
IN3PSVVM	NCS-MOS-client	1732	10.211.112.154	mosAck	2015-07-09T13:28:57	mosObj	2015-07-09T13:28:57
IN3PSVVM	NCS-RO-client	1768	10.211.112.154	roListAll	2015-07-09T13:33:32	roReqAll	2015-07-09T13:33:32
	MSE-client	1852	10.211.111.187	roReqAll	2015-07-09T11:24:03	mosGateway	2015-07-09T13:33:32
	MSE-client	1928	10.211.111.11	roReqAll	2015-07-09T11:24:03	mosGateway	2015-07-09T13:33:32
	MSE-client	1956	10.211.112.116	roReqAll	2015-07-09T11:24:03	mosGateway	2015-07-09T13:33:32
	MSE-client	2132	10.211.111.146	roReqAll	2015-07-09T11:24:03	mosGateway	2015-07-09T13:33:32
	MSE-client	2188	10.211.1.161	roReqAll	2015-07-09T11:24:03	mosGateway	2015-07-09T13:33:32
	MSE-client	2244	10.211.112.110	roReqAll	2015-07-09T11:24:03	mosGateway	2015-07-09T13:33:32
	MSE-client	2264	10.211.110.83	roReqAll	2015-07-09T11:24:03	mosGateway	2015-07-09T13:33:32

- **Connections from an NCS to Gateway -** Connections that are established by the NCS as a connection to Gateway.
  - Only one active connection per type can be made per NCS. Connection types are identified as NCS-RO-server and NCS-MOS-server in the Active Connections window.
  - Most NCSs do not have a permanent or fixed connection to Gateway. Therefore, the connection information is only visible when the NCS sends messages to Gateway, for example when a running order is activated or updated.
- **Connection from a Control Station to Gateway -** Connections to Vizrt's content control applications.
  - Only one active connection per Media Sequencer is connected to a control station. Connection types are identified as MSE-client.
  - The Host IP is the property of the Media Sequencer that the control station is using.
- **Connection from Gateway to an NCS -** Connections that are established by Gateway as a connection to an NCS.
  - Only one active connection per type can be made per NCS. Connection types are identified as NCS-RO-client and NCS-MOS-client.

The columns:

- **Name -** Shows the name of the entity that holds the connection.
- **Type -** Type of connection. For details, see the type definitions above.
- **Port -** Port used for an active TCP connection.
- **Remote IP -** IP address identifying the remote system.
- **Last incoming msg. -** Type information for the last incoming message.
- **Last incoming time -** Timestamp for the last incoming message.
- **Last outgoing msg. -** Type information for the last outgoing message.
- **Last outgoing time -** Timestamp for the last outgoing message.

6.8   Active Running Orders

Active running orders

Shows which running orders the gateway knows about, sorted under each NCS. Shows the running order name (also known as a Running Order (RO) slug). It also shows the time when the RO was last modified. The timestamp is related to the running order days to live setting under General Configuration.

7   Configuration

This section describes how to configure the Gateway server, and the control stations. Before any configuration can be done, information about the NCS servers and database must be obtained.

> **IMPORTANT!** Before installing the Gateway Controller Client, make sure an Oracle Database Client is installed and working. The Oracle Client version should match the Oracle Database in use. If using a 64-bit Gateway the Oracle Client must be 64-bit, and similarly for 32-bits. Oracle uses the Windows PATH environment variable to select which Client to use if there are several Oracle Clients installed.

This section contains information on the following topics:

- Pre-Configuration
- Gateway Server
- Pilot and Trio Gateway Configuration
- NCS Specific Considerations

7.1   Pre-Configuration

From the NCS, obtain the following information:

- NCS ID, NCS server IP, MOS version, and MOS ID.

From the Oracle database, obtain the following information:

- Oracle System Identifier (SID), username, password, and UTF-8 character encoding.

If the Gateway Controller Client is installed on another host than the Oracle database, the hostname of the database must be used in addition to the SID (<hostname>/<SID>). To test the database connection, try typing *tnsping hostname/SID* on the command-line.

Port numbers used in screen-shots in this document are standard port numbers used in the MOS Protocol. Other port numbers may be used.
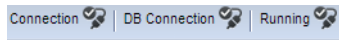
7.2   Gateway Server

Configuring the Gateway server can be done locally on the server host, where the Media Sequencer with the MOS gateway functionality is installed, or remotely from a client machine using the Gateway Controller web-application. In both cases the web interface application will be used.

7.2.1   Activate the Gateway Server

Connect to the Gateway at host <ADDRESS> (substitute <ADDRESS> with the actual hostname or ip-address) by browsing to the following web address:

```
http://<ADDRESS>:8580/app/gatewaycontroller/gatewaycontroller.html
```

The first time the Gateway server is used, it needs to be initialized. Click the *Start* button, and the Media Sequencer will be enabled as a Gateway server. When the Gateway server is enabled the *Running* indicator will indicate connection.

7.2.2   Database

The Viz Pilot database is a key part for any Gateway server installation. The Viz Pilot database triggers MOS messages through the advanced queuing messaging system. The Gateway server forwards the MOS messages to the newsroom system.

1.   Check the Enable Pilot Database option.

2.   Enter the SID, Username, Password and Schema Name for the database. Note: The database Schema-name is case-sensitive.

3.   Check the Log DB Messages (optional).

4.   Click Apply Settings Button.

5.   Click the Restart button for changes to take effect on the Gateway server.

The procedure above should connect the Gateway server to the Viz Pilot database, switch the DB connected indicator to green, and enable the Gateway server to receive messages from the database.

7.2.3   Newsroom Servers

Click the NCS Server Config tab to configure the newsroom servers. Configuration is done per newsroom system.
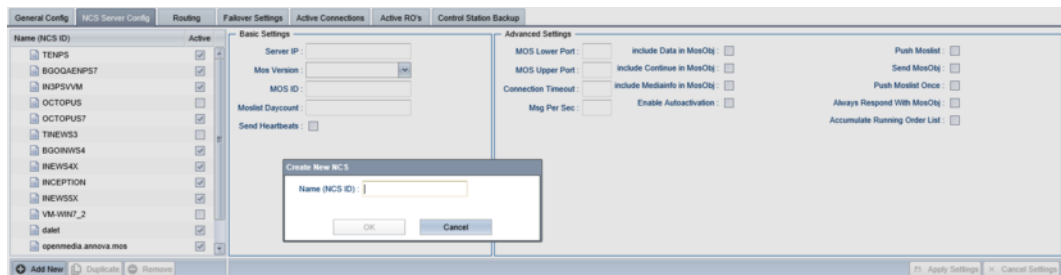
If no newsroom system is added to the Gateway server, do the following:

1.   Click the *Add New* button, and the Create New NCS dialog appears.
   •   Enter the NCS ID, and click OK

2.   Select the newly added entry from the listbox.

3.   In the Basic Settings frame, change the following:
   •   Enter the server IP and MOS ID. The rest are optional settings.

4. In the Advanced Settings frame different settings can be enabled or disabled depending on the newsroom system in use.

5. When done click *Apply Settings button*.

6. Click the Restart button for changes to take effect on the Gateway server.

Repeat the steps above, and add all the needed newsroom systems. If newsroom systems have the same setup, select a newsroom system from the list and click the *Duplicate* button.

7.2.4 Routing

Click the Routing tab to manually configure routing of running orders, also known as rundowns and playlists, to the control station.

1. Add the roChannel name and control station IP, and click the Add Route button.

2. For the routing to take effect, click the NCS Server Config, and check the *Enable Autoactivation* for the newsroom system that the running orders are automatically routed from.

3. When done, click the Apply Settings button.

4. Click the Restart button for changes to take effect on the Gateway server.

7.2.5 Failover

The failover setting allows the Viz Gateway server to send its messages to more than one NCS system. For failover to work, the newsroom system must be setup with a *main* and *backup* server accordingly.

1. Add a main and a backup NCS from the drop-lists and click the *Add Failover Pair* button.

2. The setting is set to Active after adding a pair.

3. The Always use Main NCS ID setting should be left inactive unless using the Sobey NSC system.

4. Click the Restart button for changes to take effect on the Viz Gateway server.

Note: Currently, this feature is only supported by ENPS and Sobey.

7.2.6 Control Station Backup
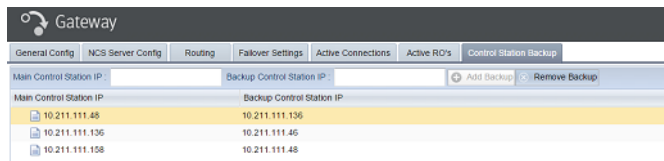
The Control Station Backup setting allows Gateway to send each message that has been targeted to both a specific control station and a backup control station simultaneously.

To configure:

1. Add the IP address for the main and Backup Control Station and click the Add Backup button.
2. Click the Restart button for changes to take effect on the Gateway server

Note that a Backup control station also can be set as a Main control station providing redundancy and security. As an example, let's say we have two Media Sequencers as control stations: servers **A** and **B**. Now we take the actions in the table below:

| Action	Result
Set server **A** as *Main*, **B** as *Backup* using the "Add Backup" button.	A is now Main, B is Backup.
Keep the definitions from the step above, and now add *B as Main* and *A as Backup*.	Both control stations A and B are updated with MOS messages, both are running.
From a Viz client, such as Trio or Pilot, connect to B and request a MOS playlist.	Control station B becomes Main control station now. Whichever control station requests MOS playlist first, becomes Main control station. The MOS playlist becomes available to both of the control stations.
Shut down control station **B.**	Control station **A** becomes **Main** and start receiving and sending all the updates. Gateway does not receive any message from Control station B.

7.3 Pilot and Trio Gateway Configuration

All content control applications use the same settings to connect to the database. To access these settings use the following menu options:

- Viz Pilot: from the main menu select *Tools > External Interfaces*, and the Viz Pilot Database and MOS tabs.
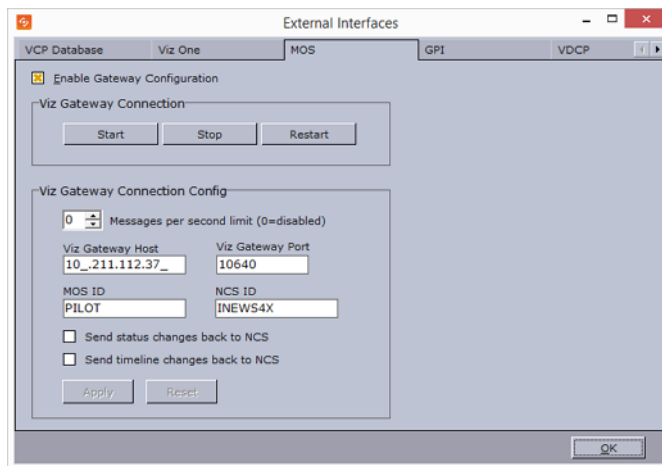
- Viz Trio: from the main menu select *Config > Connectivity > MOS*

Gateway Configuration Trio
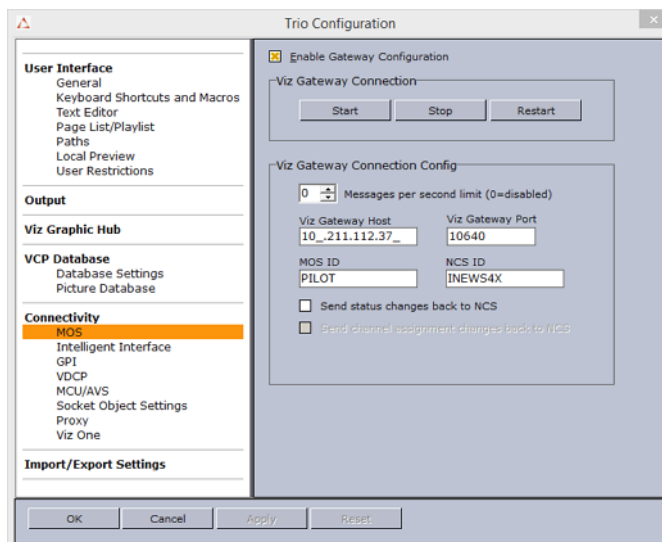
Database Settings

For Viz Pilot and Viz Trio these settings are available under the VCP Database tab.

- **Connection string** - Sets the connection to the database.

....

Note: Use the following string format: user-name/password@database.

....

- **Schema** - Shows the name of the Oracle schema.

```
Viz|Media Sequencer Connection String:
pilot/pilot@<IP address>/<SID>

Schema
PILOT

    Apply
```

Gateway Connection

For Viz Pilot and Viz Trio, these buttons are available under the MOS tab.

- **Start -** Starts a connection to Gateway server.
- **Stop -** Close a connection to Gateway server.
- **Restart -** Restarts a connection to Gateway server.

Gateway Connection Configuration

For Viz Pilot and Viz Trio, these settings are available under the MOS tab.

- **Automatic reconnect -** Starts the Gateway connection automatically when starting or resetting the Media Sequencer.
- **Reconnect interval (sec) -** Specifies the number of seconds that the Media Sequencer should wait, when the connection is lost, before trying to reconnect to Gateway.
- **Gateway Host -** Shows the IP address of the Gateway host.
- **Gateway Port -** Shows the port number on the Gateway host.

Note: *MOS ID and NCS ID should be left empty for Gateway 2.0 setups.*

- **Send item stat -** Sends feedback to the NCS via MOS, for example information about the transfer status of elements.

7.4 NCS Specific Considerations

This section describes some NCS specific considerations that must be taken into account when configuring Gateway with an NCS. For other NCSs, than the ones mentioned below, a generic configuration should be sufficient, see the Configuration Section.

7.4.1   ENPS

Gateway supports an ENPS Buddy setup. Use the Failover settings to add a main and backup server.

Buddy Support

The ENPS NCS can be configured to run with an identical mirror server (called a "buddy") at all times, as a failover. Gateway supports this setup, and offers a failover configuration in the Gateway Controller Client. This enables Gateway to send messages to more than one NCS.

If the primary server fails or is down for maintenance, all messages are sent to the buddy server until the primary comes back on-line. All changes received from the Gateway are queued on the ENPS buddy server, and copied back to the main server automatically when it returns to production.

For details, see the Failover Sections Settings section.

7.4.2   Avid iNews

Note that Avid iNews version 2.6, and newer, can be used with Gateway. Older versions are not compatible.

There is no need to enable the DB connection for iNews. It does not need metadata about Vizrt's MOS objects as it only refers to the MOS object ID and not the entire MOS object.

8 MOS protocol support

Gateway supports the following MOS profiles:

Profile	Definition	Supported	Vizrt comment
0	Basic Communications	yes	
1	Basic Object Based Workflow	yes	
2	Basic Running Order/Content List Workflow	yes	
3	Advanced Object Based Workflow	partly	only mosItemReplace is used
4	Advanced RO/Content List Workflow	yes	
5	Item Control	partly	only roCtrl is supported
6	MOS Redirection	yes	

Gateway supports these MOS protocol versions:

Protocol version	Supported
2.6	yes
2.8.0	yes

For more information about the MOS protocol, see mosprotocol.com

9 Installation Test

This section describes how to test the installation of Gateway with Vizrt's content control applications such as Viz Pilot and Viz Trio.

Content control applications usually do not edit playlists because a content control application is unable to update the NCS. Changes on the control station could cause undesired effects in the playlist when a story is updated from by newsroom system. However, Vizrt's content control applications are capable of editing its own MOS Objects, also known as data elements, if needed.

This section contains information on the following topics:
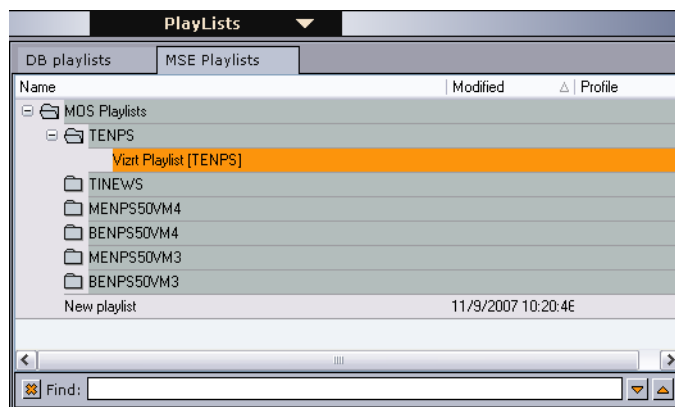
- [Viz Pilot](#)
- [Viz Trio](#)

9.1 Viz Pilot
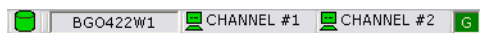
Before running an installation test, check that all settings and see that the connection status in the content control application is good.

⬛ Connection to the database is good

⬛ Connection to the Viz Engine renderer is good (program or preview)

⬛ Connection to the Gateway is good

9.1.1 Request Running Order

....
Note: In Viz Pilot a running order is called a playlist.
...

1. Click the Playlists button on the control panel to the left.
2. Select the MSE Playlists tab.

All newsroom systems, represented by the NCS ID, that are connected to Gateway can be seen in the list.

3. Select the newsroom system, and then select one of its running orders. Double-click the running order to open and monitor it.
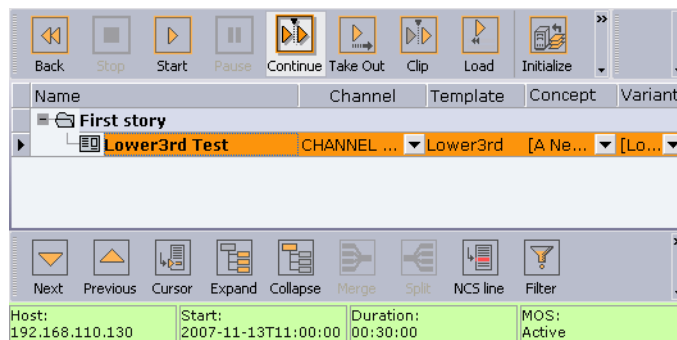
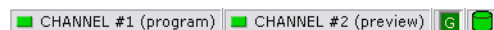4. Check that the playlist has the same story and items as the one created in the NCS.
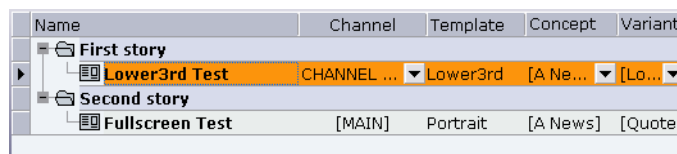
5. Add a new story and see that Viz Pilot receives the update.

Note: All items in a running order needs a MOS Object, created in the NCS client, in order to be visible in the Viz Pilot playlist.

This concludes the installation test for Viz Pilot. For more information on how to use Viz Pilot with newsroom systems and Gateway, see the Viz Pilot documentation.
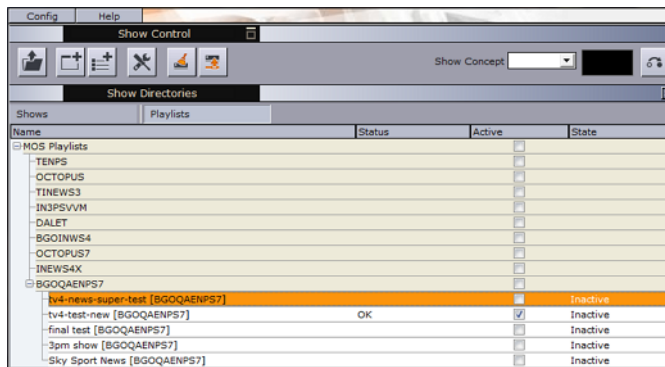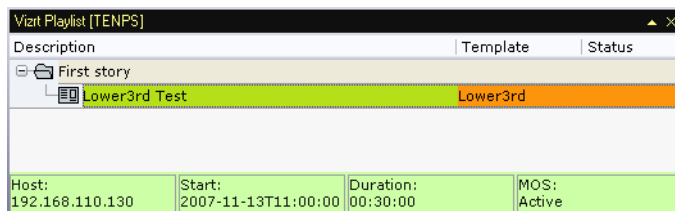
9.2 Viz Trio

Before running an installation test, check that all settings and see that the connection status in the content control application is good.

 Connection to the Viz Engine renderer is good (program or preview)

 Connection to the Gateway is good (third rectangle from the left)
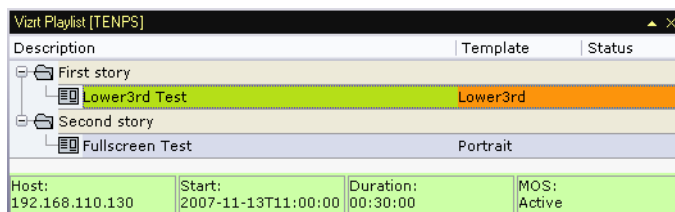
 Connection to the database is good

9.2.1   Request Running Order

1.   Click the Change Show button (depicted as a folder)

2.   Click the MOS Playlists tab

- If all settings are correct the running order from the NCS should be visible

3.   Select the playlist and click OK

4.   Add a new story and see that Viz Trio receives the update.

....

Note: All items in a running order needs a MOS Object, created in the NCS client, in order to be visible in the Viz Trio playlist.

....

This concludes the installation test for Viz Trio. For more information on how to use Viz Trio with newsroom systems and Gateway, see the Viz Trio documentation.

10 Troubleshooting

This section explains some common challenges users have when configuring and running the Gateway server with connections to newsroom systems, Viz Pilot databases and content control applications like Viz Pilot and Viz Trio.

This section contains information about:

- Common sources of error
- The running orders from the newsroom system are not visible in Pilot or Trio.
- Auto activation (routing) is enabled for running orders, but they are not automatically enabled or forwarded to the control station.
- Gateway server is not running (Running status is red).
- Ports and connections are irregularly opened and closed.
- Advanced Queuing (AQ) is not working properly.
- Changes are not taking effect.

Common sources of error

- NCS and MOS ID's are case-sensitive (check the newsroom system and Gateway).
- Gateway must be restarted after configuration changes.
- Software or hardware firewalls are blocking connections. Verify that the gateway has connections to all newsroom systems and control stations.

The running orders from the newsroom system are not visible in Pilot or Trio.

- Check the configuration on the newsroom system. Is the Gateway configured with the correct IP and MOS/NCD-id? Remember that these ID's are case-sensitive.
- Check the logs on the newsroom system. Is the system sending anything to the Gateway when a new running order is created? If not, make sure that no firewall (software or hardware) is blocking the connections, and that the configurations are correct.
- In the Gateway Controller Client, check that there are at least two connections to the newsroom system. If no connections are shown, verify that the IP address entered for the system is correct, and that no firewall (software or hardware) is blocking the connections. Check the log-window for errors and warnings.
- In the viz Gateway Controller client, check that there is exactly one connection to each control station (media sequencer) that you wish to use.
- Enable logging of traffic, and set the log level to "notice" in the controller client:
  - Is the gateway receiving any traffic from the newsroom system? If not, the source of the problem is likely to be the communication between the newsroom system and the gateway.
  - If the gateway is receiving traffic (like a "roCreate" when creating a rundown and MOS activating it), is the gateway sending any traffic to the control stations after receiving such a message?
  - If messages are sent to the correct IP (control station), check the media sequencer logs on this computer for errors.

Auto activation (routing) is enabled for running orders, but they are not automatically enabled or forwarded to the control station.

- If routing is used, either based on roChannel or "default routing", make sure that every newsroom system the control stations should receive running orders from, have the "enable autoactivation" checkbox checked in the advanced settings.

Data elements (MOS objects) are not showing up in the newsroom system

- The Gateway will push a list of MOS objects to each connected newsroom system, only if the checkbox "push moslist" is checked.
- The Gateway will send MOS object messages each time a Viz Pilot data element is created, modified or deleted, only if the checkbox "send mosObj" is checked.
- The Viz Pilot Database section of the Gateway must be enabled in order to send MOS objects, and the "DB connected" indicator must be green. If the indicator is red, and the "enable Pilot Database" is checked, check for errors and warnings in the log window.
- Some common errors:
  - Is an Oracle 10g client installed on the computer running Gateway?
  - Is it possible to log onto the Oracle server using the same credentials as entered in Gateway Controller Client, using the SQL Plus interface?
- Check Gateway's log messages to see if MOS messages are sent to the newsroom system.
- Database schema names are case sensitive. The default Viz Pilot database schema name is PILOT (all upper case). Check the database installation to see if this is correct, or if another schema name is used.
- Check that the database is running by logging onto the database using SQL Plus.
- Check that the Oracle client's environment path is correctly set. Run the Media Sequencer in console mode and check the console's output for problems related to the Oracle Call Interface (OCI) library.
- See also Advanced Queuing (AQ) is not working properly.

Gateway server is not running (Running status is red).

- Check for error and warning messages in the log window.
- Gateway will fail to start if another Gateway is running on the same computer, for example an old Gateway version 1.x.

Note: A Gateway server must not be used by control stations as a regular Media Sequencer. If so the Media Sequencer will not run as a Gateway server. If this has been done, re-activate the Media Sequencer to run as a Gateway by clicking the "start" button.

Ports and connections are irregularly opened and closed.

- Check firewall settings for ports that need to be open.
- Check typical router and routing issues.

Advanced Queuing (AQ) is not working properly.

- An XML parser failure may be an indicator that the wrong AQ protocol is in use on the database.

- Check if the Extended AQ is in use on the database. Gateway should detect if AQ is in use or not and set the correct parameters.

Changes are not taking effect.

Most changes on the Gateway server require a restart of the server. Use the Gateway Controller Client to check the settings again, and restart the Gateway server by clicking the Restart button.

11 Glossary

This section explains some of the expressions and acronyms used in this manual.

- **MOS -** Media Object Server
  - MOS is an evolving protocol for communications between Newsroom Computer Systems (NCS) and Media Object Servers (MOS) such as Video Servers, Audio Servers, Still Stores, and Character Generators. For more information, please see the MOS Protocol website: http://www.mosprotocol.com

- **MOS Lower Port**
  - MOS Lower Port (10540) is defined as the default TCP/IP port on which the NCS will accept connections from MOS devices. Multiple simultaneous connections are supported. This socket is referred to as "Media Object Metadata" port in the Message Types section.

- **MOS Upper Port**
  - MOS Upper Port (10541) is defined as the default TCP/IP port on which the MOS will accept connections from the NCS. Multiple simultaneous connections are supported. This socket is referred to as "Running Order" port in the Message Types section.

- **RO -** Running Order
  - To Viz Pilot and Viz Trio, a running order is the same as a playlist. It contains objects that reference the information about graphics elements created by the journalist using the Newsroom Connect Component. A Running Order consists of zero or multiple stories, which again contains one or multiple items. Objects can appear multiple times in a story, but only once in an item.

- **VCP**
  - VCP is short for "Viz Content Pilot". This product is now re-named Viz Pilot, but you can still find references to it's old name.

- **Accumulate Running Order List**
  - When this setting is enabled, Gateway will keep an internal list of available rundowns. Less traffic is generated to and from the NCS when the list is accumulated internally.