



# Viz Engine Release Notes

Version 3.12



Viz Engine



**Copyright © 2019 Vizrt.** All rights reserved.

No part of this software, documentation or publication may be reproduced, transcribed, stored in a retrieval system, translated into any language, computer language, or transmitted in any form or by any means, electronically, mechanically, magnetically, optically, chemically, photocopied, manually, or otherwise, without prior written permission from Vizrt. Vizrt specifically retains title to all Vizrt software. This software is supplied under a license agreement and may only be installed, used or copied in accordance to that agreement.

### **Disclaimer**

Vizrt provides this publication “as is” without warranty of any kind, either expressed or implied. This publication may contain technical inaccuracies or typographical errors. While every precaution has been taken in the preparation of this document to ensure that it contains accurate and up-to-date information, the publisher and author assume no responsibility for errors or omissions. Nor is any liability assumed for damages resulting from the use of the information contained in this document. Vizrt’s policy is one of continual development, so the content of this document is periodically subject to be modified without notice. These changes will be incorporated in new editions of the publication. Vizrt may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time. Vizrt may have patents or pending patent applications covering subject matters in this document. The furnishing of this document does not give you any license to these patents.

### **Technical Support**

For technical support and the latest news of upgrades, documentation, and related products, visit the Vizrt web site at [www.vizrt.com](http://www.vizrt.com).

### **Created on**

2019/10/17

# Contents

<b>1</b>	<b>Viz Engine 3.12.2</b> .....	<b>7</b>
1.1	New Features .....	7
1.2	Bug Fixes .....	7
<b>2</b>	<b>Viz Engine 3.12.1</b> .....	<b>8</b>
2.1	New Features .....	8
2.1.1	Key Features .....	8
2.1.2	Changes .....	8
2.1.3	Changes: Renderer .....	8
2.1.4	Changes: Plug-ins .....	8
2.2	Bug Fixes .....	9
2.2.1	Bug Fixes: Renderer .....	9
2.2.2	Bug Fixes: Video IO .....	9
2.2.3	Bug Fixes: plug-ins .....	9
<b>3</b>	<b>Viz Engine 3.12.0</b> .....	<b>10</b>
3.1	Installer Notes .....	10
3.1.1	General .....	10
3.1.2	Windows .....	11
3.1.3	Windows 10 .....	11
3.1.4	UAC .....	11
3.1.5	Cinema 4D .....	12
3.2	Driver Versions .....	12
3.2.1	Nvidia Drivers .....	13
3.2.2	Matrox Drivers .....	13
3.2.3	Other Drivers .....	14
3.3	64-bit Notes .....	14
3.4	Upgrading Notes .....	14
3.4.1	New Licensing Model .....	14
3.4.2	Other Upgrading Notes .....	15
3.5	Upcoming Changes .....	16
3.6	Virtual Environments .....	16
3.7	New Features .....	17
3.7.1	Key Features .....	17
3.7.2	New Features: Renderer .....	17
3.7.3	New Features: Plug-ins .....	17

3.8	Changes .....	17
3.8.1	Changes: Renderer .....	17
3.8.2	Changes: Video IO .....	17
3.9	Bug Fixes .....	18
3.9.1	Bug Fixes: Renderer .....	18
3.9.2	Bug Fixes: Video IO .....	18
3.9.3	Bug Fixes: Plug-ins .....	18
3.10	Known Issues .....	19
3.10.1	Installation .....	19
3.10.2	Hardlock dongles (legacy) .....	19
3.10.3	Windows 10 .....	20
3.10.4	Videowall .....	20
3.10.5	Configuration .....	20
3.10.6	Renderer .....	20
3.10.7	Post Renderer .....	22
3.10.8	Matrox .....	22
3.10.9	X.mio3 Boards .....	23
3.10.10	Other Video Boards .....	23
3.10.11	MPEG IP Streaming (Legacy) .....	24
3.10.12	Nvidia .....	24
3.10.13	Graphic Hub .....	24
3.10.14	Plug-ins .....	24
3.11	Supported Hardware and Software .....	24
3.11.1	Supported Systems .....	24
3.11.2	Supported GPUs .....	25
3.11.3	Supported Video Boards .....	25
3.12	Documentation .....	27
3.13	Installation and Support .....	27
3.13.1	Installation .....	27
3.13.2	Support .....	27

- Viz Engine 3.12.2
  - New Features
  - Bug Fixes
- Viz Engine 3.12.1
  - New Features
    - Key Features
    - Changes
    - Changes: Renderer
    - Changes: Plug-ins
  - Bug Fixes
    - Bug Fixes: Renderer
    - Bug Fixes: Video IO
    - Bug Fixes: plug-ins
- Viz Engine 3.12.0
  - Installer Notes
    - General
    - Windows
    - Windows 10
    - UAC
    - Cinema 4D
  - Driver Versions
    - Nvidia Drivers
    - Matrox Drivers
    - Other Drivers
  - 64-bit Notes
  - Upgrading Notes
    - New Licensing Model
    - Other Upgrading Notes
  - Upcoming Changes
  - Virtual Environments
  - New Features
    - Key Features
    - New Features: Renderer
    - New Features: Plug-ins
  - Changes
    - Changes: Renderer
    - Changes: Video IO
  - Bug Fixes
    - Bug Fixes: Renderer
    - Bug Fixes: Video IO
    - Bug Fixes: Plug-ins
  - Known Issues
    - Installation
    - Hardlock dongles (legacy)
    - Windows 10


- Videowall
- Configuration
- Renderer
- Post Renderer
- Matrox
- X.mio3 Boards
- Other Video Boards
- MPEG IP Streaming (Legacy)
- Nvidia
- Graphic Hub
- Plug-ins
- Supported Hardware and Software
  - Supported Systems
  - Supported GPUs
  - Supported Video Boards
- Documentation
- Installation and Support
  - Installation
  - Support

---

# 1 Viz Engine 3.12.2

**Release Date:** 2019-10-17

These are the release notes for Viz Engine version 3.12.2. This document describes the user-visible changes that have been done to the software since release 3.12.1. For any upgrade information, please carefully read the Upgrade Notes section first.

 **Note:** Viz Artist maintains its release notes in a separate document starting from version 3.12.1.

---

## 1.1 New Features

- Log license errors to Graphic Hub journal and increase license grace period to 72 hours. (VIZENG-22295)

---

## 1.2 Bug Fixes


- SDC01: Viz Engine reports wrong IP in IpDeviceList messages. (VIZENG-19999)
- SDC01: Switching 2022-6 inputs via SDC-01 doesn't work. (VIZENG-20499)
- Wrong text bounding box with carriage returns. (VIZENG-20560)
- Leading space when writing direction is right to left is not working for Font File. (VIZENG-20714)
- Leading space when direction is vertical is not calculated in bounding box. (VIZENG-20715)
- Softclip plug-in performance in 3.12.x. (VIZPL-1083)
- AJA input drops frames. (VIZENG-21151)
- High CPU usage with new Softclip plug-in. (VIZPL-1096)
- Viz crash in SoftClip plug-in. (VIZPL-1125)
- NLE frame server crash caused by resource leak. (VIZENG-21959)
- Texture memory increases when Viz is running in console mode. (VIZENG-22030)
- Using Softclip plug-in with repeating still frames in Lagarith. (VIZPL-987)
- Improved warning reporting for 64-bit Softclip plug-in. (VIZPL-1241)

---

## 2 Viz Engine 3.12.1

**Release Date:** 2019-02-28

These are the release notes for Viz Engine version 3.12.1. This document describes the user-visible changes that have been done to the software since release 3.12.0. For any upgrade information, please carefully read the Upgrade Notes section first.

 **Note:** Viz Artist maintains its release notes in a separate document starting from version 3.12.1.

---

### 2.1 New Features

#### 2.1.1 Key Features

- OEM licensing for Viz Engine (VIZENG-18714)

#### 2.1.2 Changes

- Viz Engine can now be started in config mode even if no license is available or has been configured.
- Licenses features which are not available do not prevent Viz Engine from being started anymore, except core licenses.
- Viz Engine upgrades the current Codemeter version to CodeMeter Runtime 6.80.

#### 2.1.3 Changes: Renderer

- Reduced GPU memory consumption for Engine and Artist mode (VIZENG-20450)

#### 2.1.4 Changes: Plug-ins

- Viz 3.12.x comes with a native 64-bit codec Softclip plug-in. Both versions will be installed, 32-bit is being used by default for compatibility issues. To exchange the 32-bit version with the new 64-bit one, please copy the file *Softclip.x64.vip* from the folder *Viz3\Plugin\disabled* to *Viz3\Plugin* and rename it to *Softclip.vip*. To switch back to the 32-bit version, please copy the file *Softclip.win32.vip* from the folder *Viz3\Plugin\disabled* to *Viz3\Plugin* and rename it to *Softclip.vip*.\*



## 2.2 Bug Fixes

### 2.2.1 Bug Fixes: Renderer

- Fixed loading and saving times on local WIBU containers. (VIZENG-20079, VIZENG-20079)
- Fixed a memory leak in the TCP shared memory interface. (VIZENG-20253)
- Fixed wrong ordering of MediaAssets. (VIZENG-20121)
- Fixed broken clock limits. (VIZENG-20404)
- Fixed missing value assignment for multiple control channels with identical IDs. (VIZENG-20279)
- Fixed Trio OneBox shutdown delay/freezes on Windows 10. (VIZENG-20262)
- Prevent artifacts in the render output caused by *GetScreenPointToGeomSurface()* operations. (VIZENG-20259)
- Fixed video output freeze when switching to the view tab. (VIZENG-19343)
- Fixed polygon plug-in cleanup crash. (VIZENG-20412)

### 2.2.2 Bug Fixes: Video IO

- Correct feedback of Clipchannel status for Viz Multiplay. (VIZENG-20185)
- Added support for NDI Audio for progressive formats. Audio on interlaced formats is still known to be instable. (VIZENG-20134)
- NDI Streams will now show the last surface if a network stream is interrupted instead of a white surface. (VIZENG-20311)

### 2.2.3 Bug Fixes: plug-ins

Please refer to the release notes of 3.12.0 for additional information about installation, drivers, known issues, etc.

---

## 3 Viz Engine 3.12.0

**Release Date:** 2018-12-12

These are the release notes for Viz Engine version 3.12.0. This document describes the user-visible changes that have been done to the software since release 3.11.0. For any upgrade information, please carefully read the Upgrade Notes section first.

---

### 3.1 Installer Notes

#### 3.1.1 General

The Software ships with a bundle installer containing all necessary components. It is recommended to use the bundle installer when setup needs to be done manually.

- SNMP support comes as an optional software component within the bundle installer. (VIZENG-18652)
- To run Viz Engine in a virtual hosted environment, the Codemeter Runtime library must be installed. The Bundle installer will automatically install all necessary libraries.
- The Setup application (both MSI and Bundle installer) must be run in Administrator mode.
- Visual C++ Redistributable files and the Hardlock Dongle driver are not part of the msi-setup file anymore. These files are now installed with the bundle setup application. (VIZENG-13210, VIZENG-12629, VIZENG-12701)
- The new bundle setup application installs or upgrades Viz Artist together with its required Visual C++ Redistributable files. (VIZENG-12936, VIZENG-13804)
- All files contained in the bundle setup application can be extracted using the /dump commandline option. This creates a sub-folder where the files are extracted. (VIZENG-13020)
- Matrox drivers are only supported on 64-bit Windows systems.
- Multiple installations of Viz Engine are not supported.
- The installer automatically upgrades (replaces) any existing Viz Artist/Viz Engine™ 3.6.x/3.7.x installation. However, downgrading is currently not supported. (VIZENG-7098)
- FsMon version 1.1-B53 and MediaFtp version 2.8-B22 are installed to the Viz Engine install folder. (VIZENG-11166)
- If AfterEffects is installed after Viz Engine, then the Viz installer needs to be executed again to install the AE plug-in. (VIZENG-7876)
- The installer package is digitally signed. (VIZENG-7378)
- The user account must have `SeCreateGlobalPrivilege (SE_CREATE_GLOBAL_NAME)` enabled.
- The configuration profiles shipped with Viz Engine guarantee a correct Audio/Video delay to have a proper lip-sync setup or a correct videowall installation. A manual configuration (e.g. number of inputs, clips etc) is still necessary after applying these profiles. (VIZENG-18861)
- To use Global Illumination in Viz Artist/Viz Engine Direct X 9 is required at least. An installer can be found here: <https://www.microsoft.com/en-us/download/details.aspx?id=8109> (VIZENG-19983)

### 3.1.2 Windows

- This software has been tested to run on Windows 7, Server 2012 R2, Windows 10 and Server 2016 (64-bit only).
- Aero should be turned off.
- Power management and hibernation-mode must be turned off under Windows. You can execute `powercfg -h off` to remove `hiberfil.sys` from the hard disk.
- It is recommended to install the latest Windows Security Updates and Patches, except Nvidia and Hardlock updates.
- Windows 7/10/Server 2016 or Windows Server 2012 R2/SP1 is required, Windows XP is no longer supported.
- NET framework 4.5 or higher is required. (VIZENG-6036)
- Minimum Windows Installer version is now 5.0.0 (released with Windows Server 2008 R2 and later and Windows 7 and later.) (VIZENG-10146)
- In case of error `0xc000007b` on a Windows 7 system, the update [KB2999226](#) must be installed.
- To run Viz Engine™ without Administrator privileges you need to grant the following permissions:
  - `SeIncreaseBasePriorityPrivilege`
  - `SeCreateGlobalPrivilege`
  - `SeCreatePagefilePrivilege`
  - `SeIncreaseWorkingSetPrivilege`

### 3.1.3 Windows 10

- Viz Engine 3.12.0 is shipped as "Windows 10 ready". At the time Viz Engine is being released, certain drivers have not yet been certified by their vendors.
- Installations on Windows 10 are only supported on their respective supported hardware (Z8, Z4, Z840, Z440, Dell 7910, ML360).

### 3.1.4 UAC

- Viz Engine version 3.12.0 is UAC aware. Configuration-files, profiles, log-files and additional files are stored in `%VIZ_PROGRAMDATA%`, which defaults to `%ProgramData%\vizrt\viz3`. Temporary data is stored in `%VIZ_TEMPDATA%` which defaults to `%TMP%\vizrt\Viz3`. The default value can be changed in `viz.cmd` or on the command line of `viz.exe`.
- Existing Lens files are copied from `%ProgramFiles%` install folder to the new UAC aware `%ProgramData%` folder during installation. (VIZENG-8757)
- Existing Viz configuration files are copied from `%ProgramFiles%` install folder to the new UAC aware ProgramData folder during installation. (VIZENG-7472)
- Allow starting of `viz.exe` with UAC turned off as temporary workaround upon a customer demand. It works only on Windows 7 and is not recommended. (VIZENG-12882)

List of file location changes due to UAC awareness:

Old location	New location
<code>./VIZ-&lt;Computername&gt;-x-0.cfg</code>	<code>%VIZ_PROGRAMDATA%/VIZ-&lt;Computername&gt;-x-0.cfg</code> (VIZENG-7651)

Old location	New location
<i>./KeyerData.txt</i>	<i>%VIZ_PROGRAMDATA%/KeyerData.txt</i> (VIZENG-7778)
<i>./FontNameReplace.txt</i>	<i>%VIZ_PROGRAMDATA%/FontNameReplace.txt</i> (VIZENG-7746)
<i>./ignoreOpenGLErrors.txt</i>	<i>%VIZ_PROGRAMDATA%/ignoreOpenGLErrors.txt</i> (VIZENG-7775)
<i>./Camera%d.lcb</i>	<i>%VIZ_PROGRAMDATA%/Camera%d.lcb</i> (VIZENG-7833)
<i>./SceneList.txt</i>	<i>%VIZ_PROGRAMDATA%/SceneList.txt</i> (VIZENG-8303)
<i>./ScriptPlugins/</i>	<i>%VIZ_PROGRAMDATA%/ScriptPlugins/</i> (VIZENG-7806)
<i>./plugin/Data/Topography/</i>	<i>%VIZ_PROGRAMDATA%/Plugin/Topography/</i> (VIZENG-7875)
<i>./plugin/data/BrowserCef</i>	<i>%VIZ_PROGRAMDATA%/Plugin/Topography/</i> (VIZENG-7875)
<i>./plugin/Data/Topography/</i>	<i>%VIZ_PROGRAMDATA%/Plugin/BrowserCEF/</i> <i>BrowserCef.cfg</i> (VIZENG-7653)
<i>./plugin/data/BrowserCef/cache</i>	<i>%VIZ_TEMPDATA%/Plugin/BrowserCEF/cache</i> (VIZENG-7653)

### 3.1.5 Cinema 4D

- Cinema 4D LiveLink Installation: the installer searches the following location first:  
*%ProgramFiles%\MAXON\CINEMA 4D R16\plugins.* (VIZENG-7965)
- Cinema 4D LiveLink package can be installed any time later by using Viz Artist™ Installer in Repair mode. Its installation folder is not selectable any more. (VIZENG-8996)

## 3.2 Driver Versions

These are the recommended driver versions for various hardware components:

Vendor	Driver Version
Nvidia Kepler & Maxwell Pascal GPU	<a href="#">385.41</a>
Nvidia Quadro GPUs	<a href="#">311.51</a>
Matrox xMio, DSXLE, xOpen	<a href="#">9.9.1.23136</a>

Vendor	Driver Version
Bluefish	5.11.0.45
Bluefish Supernova Firmware	145
AJA	14.0.1.40
SafeNet Hardlock Key	7.53
Codemeter Runtime Kit	6.60a
AV PCL/PCI Plura Timecode Reader	5.34

### 3.2.1 Nvidia Drivers

- Nvidia driver 385.41 is recommended for Quadro GPUs with Pascal, Kepler or Maxwell Technology cards.
- Due driver issues with videowall setups, Volta GPUs are currently not supported.
- For older Quadro Nvidia GPUs driver version 361.91 is recommended. Please check the [Viz Engine Administrator Guide](#) for details.

Nvidia driver configuration (Manage 3D settings):

Setting	VGA Version	Video Version
Vertical sync	Use the 3D Application Setting	Force Off (except Videowall)
Unified Back Buffer	off	off
Power management mode	Prefer maximum performance	Prefer maximum performance
Antialiasing mode	Enhance the application setting	Enhance the application setting
Antialiasing setting	4x (4xMS)	4x (4xMS)
Profile	3D Application - Video Editing	Workstation App - Dynamic Streaming profile

### 3.2.2 Matrox Drivers

- For Matrox video cards, driver version 9.9.1.23136 is required. **This version is mandatory.** Pre-Release versions are not supported.
- Matrox drivers with an `_EV.exe` extension are suitable for Windows 10/Server 2016 systems with secure boot.
- Uninstall previous versions of Matrox DSXUtils prior installing this driver.
- Install drivers only from a local drive.
- Reboot between uninstall and install of drivers, and another time after installation has finished.

- The VfW codecs are included in this driver, so uninstall previous versions of the Matrox VfW codecs and do not install any Matrox VfW codecs over the regular driver installation.

### 3.2.3 Other Drivers

- The latest firmware for Supernova and Supernova S+ is 145.
- The latest firmware for Neutron is BlueFirmwareUpdate\_Neutron\_1i2o\_V027, there is no 1in1out firmware any longer.
- The recommended driver version for Plura AV timecodereader cards is 5.34.

Please refer to the [Viz Engine Administrator Guide](#) for which drivers and driver settings to use.

---

## 3.3 64-Bit Notes

- Apple QuickTime support is limited and according to [CERT](#) it is recommended to do not use Quicktime on Windows any more.

Given that a supported Matrox device is installed, the following codecs are supported for post-rendering with MatroxFileWriter and the ClipOut channels:

- RLE (animation), playback only
  - H.264
  - Apple ProRes
  - HDV
  - XDCam
  - DVCPro
  - DNxHD (4849)
  - Use MCS3U (USB cased) instead of an MCS3 device when using the 64-bit version of Viz Engine. (VIZENG-4852)
  - Substance feature is only available in 64-bit version.
  - AfterEffects Import is only available in 64-bit version.
  - The clog command now includes all child processes. Upon abnormal end all child processes are terminated before a restart is tried. (VIZENG-11361)
- 

## 3.4 Upgrading Notes

### 3.4.1 New Licensing Model

Viz Engine 3.10 introduced a new licensing model based on WIBU Codemeter technology. If you upgrade your existing installation, the old licensing model (hardlock) is taken into account. On a fresh installation, the new licensing model is being used. This is being configured in the viz config file:

Section: **LOCAL\_DATA**

Legacy\_Licensing = 0

License\_Location = VL\_L\_NETWORK or VL\_L\_LOCAL

License\_Core = ENG\_ENG\_CORE, ENG\_PRV\_CORE or ART\_ARTIST\_FREE

The location of your license can either be a local dongle, a file based license or it can be a license server hosting your licenses. To add a license server, the WIBU Codemeter Web Configuration tool is being used. (Usually accessible via <http://localhost:22352/>). Add the desired server in **Configuration > Basic > Server Search List**.

You can choose between different cores, by default ENG\_ENG\_CORE is being used. ENG\_PRV\_CORE is being used for preview purposes only and ART\_ARTIST\_FREE is being used for the free version of Viz Engine.

Once you have switched to the new licensing model, you need to restart viz engine to fetch all available licenses from your license location. After that, the viz config tool presents a list of licenses that might be activated. Once you have configured a license, it will be acquired, no matter if you use it or not.

- The Codemeter Runtime License System is required to use the WIBU license model. Please refer to the [documentation](#) how to apply a license container.
- Cloud based installations require a license server, standalone cloud installations are not supported.
- The Viz Engine preview license server is no longer taken into account and hardlock dongles were never supported in a VM environment. (VIZENG-16760)
- Hardlock dongles should only be renewed by starting Viz Config.

### 3.4.2 Other Upgrading Notes

- Viz Engine is not forward compatible! A scene saved with this version might look different if you open it in a previous version. This affects scenes containing more than four streaming channels.
- Viz Engine does not support half height rendering anymore.
- Viz 3.12.0 comes with a native 64-bit codec Softclip plug-in. Both versions will be installed, 32-bit is being used by default for compatibility issues. To exchange the 32-bit version with the new 64-bit one, please run *Active\_SoftClip\_x64.ps1* or *Active\_SoftClip\_win32.ps1* to switch back.

The batchfiles are located in *\plugins\disabled*.

- The execution of these scripts need administrator privileges.
- A 64-bit version of each codec must be installed to work with Softclip64.

Most codecs come with an installation manual on how to correctly install it.

Softclip64 has been tested to work with the following 64-bit codecs:

- HuvYuff Version 2.1.1
- Lagarith Version 1.3.27
- Newtek SpeedHQ
- Lens distortion uses a slightly different norm since revision 54263. If you need older lens files, please should use `use_lens_compatibility_mode = 1` in the config file.

- Viz Artist is now being started by the Engine process and not by command file anymore. If you start *viz.exe* and *VizGui.exe* independently, the **Restart Current** fails.

## 3.5 Upcoming Changes

- Future version of Viz Engine (4.x) will be 64-bit only. Native Apple Quicktime will be no longer supported. Certain codecs will still be supported by Matrox Devices. See [3.12.0 64-bit Notes](#).
- With upcoming support for new Nvidia GPUs, Quadro Generation GPUs will be set to legacy and 32-bit will be dropped.
- Old hardlock licensing will not be available anymore in Viz Engine 4.x.


## 3.6 Virtual Environments

Viz Engine is designed to start up within a virtual hosted environment if the new licensing is activated. Hardlock based VM installations are not supported. - A virtual GPU is required. The following GPUs are currently supported:

Physical GPUs
Nvidia M40
Nvidia M60
Nvidia K2 (K280Q,K260Q)
Nvidia K520

Viz 3.12.0 has been tested to run in the following virtual environments:

- Amazon Cloud (AWS)
- Microsoft Azure
- fra.me
- VMWare ESXi (6.0, 6.50)
- AliBaba Cloud

 **Note:** Backup and Restore on Azure systems is currently not supported.

- The Codemeter Runtime License System is needed to run a virtual Viz Engine. Please refer to the documentation how to apply a license container.



---

## 3.7 New Features

### 3.7.1 Key Features

- Full Viz Eclipse support. (VIZENG-18897)
- HLG HDR support for Video input and output, full support for EXR files. (VIZENG-19678)
- Physical input resources can be shared across several engine instances. (VIZENG-19134)
- Dynamic Channel Allocation; input channels can be turned on/configured during run-time, no restart is necessary. (VIZENG-19131)
- Two UHD inputs are supported on X.mio3 and DSX LE4 cards. (VIZENG-18790)

### 3.7.2 New Features: Renderer

- Maya 2018 FBX export / reimport support. (VIZENG-19878)
- Improved motion blur for Viz Eclipse. (VIZENG-19758)
- Support activation of video input channels without Viz Engine restart. (VIZENG-19555)
- Added support for Nvidia P1000, P2000, P3200, P4200, P5200. (VIZENG-19470)
- Allow DOF effect in back layer scenes. (VIZENG-19202)
- Chroma keying for Live Virtual Presenter in Libero AR. (VIZENG-19074)

### 3.7.3 New Features: Plug-ins

- Data Import plug-in support for Office 2016 or newer. (VIZPL-688)
- Constant horizontal data point distances in Area- and LineChart plug-in if no X positions were specified. (VIZPL-743)

---

## 3.8 Changes

### 3.8.1 Changes: Renderer

- HD halfheight has been removed from render settings. It is still active for performance reasons on low end system, but shall not be used anymore. (VIZART-824)
- Starting Viz Artist on an expired hardlock dongle switches Viz Artist into config mode, to show the license dialog. (VIZENG-19954)

### 3.8.2 Changes: Video IO

- Restore 3.11.0 behavior of Tricaster macros. (VIZENG-19763)
- The "Low latency mode" for x.Mio3 boards (to run as xMio2+) has been removed. (VIZENG-19774)

- Added several commands to control NDI Inputs. (VIZENG-19739)
  - Remove IP Settings from Stream Input and Video Output Configuration Tab as they were outdated. Change the setting in the *ipconfig.xml* file. (VIZENG-19844)
- 

## 3.9 Bug Fixes

### 3.9.1 Bug Fixes: Renderer

- Image editor failed to open EXR images. (VIZENG-19863)
- Fixed lag time in text clock. (VIZENG-19714)
- Fixed stuck text highlighting in Trio local preview. (VIZENG-19695)
- Fixed a complex script related crash during sceneload. (VIZENG-19679)
- Stoppoints were not selectable when scene contains Glow plug-in. (VIZENG-19557)
- ExecAction callback was executed with invalid action IDs > 0. (VIZENG-19545)
- Read Nodalshift from trackinghub if lens distortion parameter mode is set to external. (VIZENG-19533)
- 6DOF events returned wrong value in On Air mode with active *hd\_halfheight* mode. (VIZENG-19473)
- Multiple color model look-up-table transfers resulted in unexpected connection termination. (VIZENG-19219)
- Fixed a chroma key related crash for front- and back-layer scenes. (VIZENG-20005)

### 3.9.2 Bug Fixes: Video IO

- Engine doesn't hang on exiting anymore, after running a 25p clip to it's end in a 50p clip channel. (VIZENG-19568)
- Fixed an issue where AJA IO 4K+ begins to fail after a while. (VIZENG-19372)
- Fixed an issue where mixing HD and SD clips causes clip to get stuck in player. (VIZENG-19095)
- Fixed an issue where certain clips with incomplete headers could not be played. (VIZENG-19474)

### 3.9.3 Bug Fixes: Plug-ins

- Fixed text flashes in Dexter plug-in. (VIZPL-922)
- Fixed a RFXSmoke plug-in crash which occurred in combination with path rendering. (VIZPL-897)
- Fixed an issue with unsaved Window Mask tracking containers. (VIZPL-888)
- Control Text returned empty rich text. (VIZPL-825)
- Resolved Material update issues with ControlMaterial. (VIZPL-788)
- Formatted text ON caused slow text editing in Trio. (VIZPL-752)
- Formatted text caused wrong TL animation. (VIZPL-745)

- Control audio didn't set clip path in keyframe. (VIZPL-740)
  - Windflow plug-in became invisible in On Air mode. (VIZPL-703)
- 

## 3.10 Known Issues

- Error message Windows Media Player Rich Preview Handler has stopped working while opening specific clips with Softclip x64. To fix, open **Windows Explorer > Tools > Folder options > View tab**, and deselect **Show preview handlers in preview pane**.
- Error message The Program Can't Start Because Api-Ms-Win-Crt-Runtime-L1-1-0.Dll Is Missing. The problem is that the KB2999226 (Universal CRT) which is part of the Visual C++ Redistributable for Visual Studio 2015 failed to install. Please make sure your Windows has all latest updates installed.
- Transition Logic scenes require to have `GeomAutoFree = 1` set in the Viz Config file. With inactive `GeomAutoFree`, system stability is not guaranteed.
- Bones and Skin live motion data tracking requires Tracking Hub 1.1.2 (Released together with Viz Engine 3.11).

### 3.10.1 Installation

- Do not use the C4D Version 15R2 patch file(s) unless you are using this version. Otherwise it will prevent Cinema 4D R16 to start up.
- When downgrading the engine to an older version that comes with an older dongle driver, the installation may fail. The dongle driver installer does not allow driver downgrades, so please uncheck the dongle feature in the Engine installer.
- When uninstalling Viz Engine™ the installer might report that links could not be removed. Please check that none of the *desktop.ini* files of Windows have write protection. For example, Skype seems to change the permissions of some *desktop.ini* files with every update.

### 3.10.2 Hardlock dongles (legacy)

- If a license dongle reports license ID 0, or you have a parallel port dongle, or the engine reports a license error and hangs during initialization of the dongle, then uninstall and reinstall the driver: Download and extract [Sentinel hardlock driver 6.50](#), close all Viz applications, manually uninstall the dongle driver via Windows device manager, run `haspdinst.exe -fremove -purge`. Afterwards you can manually install the Dongle driver from the viz installation directory.
- Error message Unable to start hardlock service with parameters 1119 1058 1. Error code: 48 5 595 1058 during hardlock dongle driver installation. Reboot and try to install Viz Engine™ again.

### 3.10.3 Windows 10

- If the Windows render scaling factor is set to be higher than 100% (for UHD monitor resolutions) it might happen that the render window is not shown. Setting back the scaling factor to 100% resolves this issue.
- Right clicking on the Taskbar icon of Viz Engine starts a new instance. Starting an additional VizGui process is being prevented on Windows 10.

### 3.10.4 Videowall

- Bezelcorrection in combination with colorcorrection can lead to offsets. This affects Windows 7 only. (VIZENG-11847)
- GFX channels with Alpha != 100% decrease render performance. On videowall setup `gfx_channels_antialiased = 0` should be turned off in section **RENDER\_OPTIONS**.
- Using GPU Direct can cause performance impacts. It is recommended to use `use_threaded_IO = 1` on videowall setups, however, some systems like older Supermicro installations require `use_threaded_IO` to be turned off. We recommend running some performance tests with this flag turned on or off.
- Windows scaling can lead to unwanted side effects.
- The maximum resolution on videowall setups with multiple GPUs is limited to 16392px \* 16392px.
- The video cutout option for videowall setups is not supported any longer because of technical limitations.
- Enabling video output for audio setups is not recommended for performance reasons. It is recommended to grab the audio from one of the HDMI/DP outputs of the Nvidia GPU and use an Audio embedder instead.

### 3.10.5 Configuration

- Specifying a path in the config file including the # character is not supported. Such paths will be cut before the # character.

### 3.10.6 Renderer

- Scene Transitions within GFX channels are not supported.
- Using Transition Logic inside GFX Channels is not supported.
- Soft Shadow intensity is currently not working together with Global Illumination.
- We recommend to use a warmup scene showing all needed assets once. Under certain circumstances, video and clip surfaces can show up red at the first time being used.
- Playing Audio clips on systems with no physical audio hardware available will stop the renderer. You need to turn off audio in the config file.
- On some systems with hybrid graphics, like laptops, the dynamic swapping must be disabled in the BIOS and the stronger GPU must be assigned as default.
- Stencil based shadows (Caster/Receiver) do not work on rotated geometry.
- When changing `UrlAuthUnsafe` to 1, VizOne Browser will not work anymore.

- VGA Fullscreen Output is only active if offscreen rendering is turned off for VGA versions. Set `offscreen=0` in section **RENDER\_OPTIONS**.
- Blending cubemapped images are not supported.
- Cubemapping with WebBrowser plug-in is not supported.
- Fonts need to be reimported to use new Pathrendering or Razor fonts technology.
- Do not send other commands than `IS_RENDERER_READY` and database connection commands before this command returns 1, otherwise the renderer and video output might not be initialized.
- If you encounter stability issues with a Nvidia driver or issues during driver installation, uninstall the old Nvidia driver completely, delete the folder `C:\Program Files\Nvidia Corporation\Installer2`, install the new driver and select Custom installation, then check-mark the perform clean installation option and finish the installation.
- Enabling background loading might decrease the render performance by up to 15 frames per second. This is due to OpenGL requirements.
- M-Zone keyer only works with HD when rendering with full frames.
- Decreased render performance in HD since engine 3.5.0 when the ringing filter is activated. Before engine version 3.5.1 there was no ringing filter for HD. Turn off the ringing filter via configuration or scene setting to get the same performance.
- Sporadic Nvidia driver error The Nvidia OpenGL driver lost connection with the display driver and is unable to continue. which in turn causes the engine to freeze. Make sure that the driver profile Workstation App - Dynamic Streaming is selected. Please always use the recommend Nvidia driver for your GPU.
- Possible performance problems with scenes imported from Viz Engine™ 2.x. Check the following settings (applies to old 2.x scenes only):
  - Image Combining should be set to Multi Texturing in the Render options in the configuration (or flag `combine_with_multitex` set to 1 in the configuration file) to avoid inefficient image combining.
  - Set Key Render Mode to Single Pass in the rendering options in the configuration. The Key Render Mode can also be set on scene level. Key rendering results differ between these options for compatibility reasons. Use Single Pass scenes imported from Viz Engine™ 2.x, and Double Pass for Viz Engine™ 3.x scenes. Available options are :
    - Config (inherit the setting from the configuration).
    - Single Pass (fill and key are rendered in a single pass).
    - Double Pass (fill and key are rendered in separate rendering passes).
  - The configuration flag `exec_all_animations` in the section **RENDER\_OPTIONS** should be set to 0 if it is not necessary to execute hidden animations.
  - Turn off the VGA preview in On Air mode to avoid performance drops due to multiple rendering of the scene (applies only to video version of Viz Engine).
  - Hide containers that are not required for the current animation.
  - Re-import fonts directly with the Viz Engine™ 3.x.
- Grid picking currently only works for Cube and Cylinder geometry.
- Irregular render performance with the Standard PC version of the engine: Turn off Force Sleep in the rendering options in the configuration. This option only needs to be active on slow systems to keep the engine responsive.
- The behavior of scripts with cyclic dependencies to other scripts is undefined. Avoid cyclic dependencies.
- Bad performance when using multiple dynamic scenes, even if they are set inactive. In order to avoid unnecessary updates change the Update mode in dynamic Scenes to **Auto** instead of **Always**.
- CLR LOAD command can crash Viz if not used in a correct way. Required function signature: `static int pwzMethodName(String pwzArgument)`.

- Alpha setting for DVEs is not correctly supported when a scene is used nested using a GFX channel (VIZENG-10212).
- Glow plug-in drops performance when used on multiple containers and rendered within a GFX channel or viewport tile. (VIZENG-11342)
- Scene transitions do not work when dynamic images from different folders are involved. Dynamic images always need to be stored directly in the root folder "dynamic" and references must point there. Dynamic images in a subfolder of the dynamic folder, or any other folder will not be found.

### 3.10.7 Post Renderer

- Cause of performance issues rendering fullscreen sequences in UHD is not supported (32-bit only).
- Ghosting effect in post-rendered interlaced video: Make sure that the Flicker Filter is set to 0 in the post-rendering options of the Video Render plug-in.
- Quicktime post renderer might fail when Quicktime and Quicktime Alternative are installed at the same time. Uninstall Quicktime Alternative to avoid this.
- For post rendering in 1080i, set hd\_halfheight to 0 in order to make full size clips. This setting is especially required when using Matrox codecs.
- Post-rendering does not work properly if On Air\_no\_videoout flag is set to 1. (Videowall mode)
- Post-rendering does not work properly if TriCaster integration is active and output format is set to User Defined or Fullscreen.
- DVCPRO expects 720x480 in NTSC resolution. Please set the correct output width in AVIRenderer.
- The alpha channel cannot be rendered with Intel Indeo 5.10 codec. This codec is not supported.

### 3.10.8 Matrox

- HDR output on UHD 2SI requires at least a Quadro P6000 GPU.
- HDR support is currently for HLG only.
- Only 2 DVE UHD inputs are supported at 50Hz. For 60M formats, only 2 texture inputs are supported.
- Mixing different frame rates with clips processed by a M264 board is not supported and causes jittering.
- Upgrading the FPGA can cause a PCI error during the boot process on certain systems. Unattended upgrading of the FPGA is not recommended.
- Watchdog is only supported in 50/60M and 60Hz frequencies.
- Clip play back without Ringbuffer is not supported when using an X.open only. (VIZENG-10271)
- When using 3G formats (1080p/UHD) or the Zero-Frame-Delay Mixer, autosensing of the sync signal is not supported due to incompatible H-/V-phases, that are set in the process.
- Instead either Tri-Level or Blackburst must be used together with correct H-/V-Phase. This might result in a missing key signal. (VIZENG-11708)

- For dualchannel systems, please perform the following steps after enabling the watchdog to ensure the correct state is written to the Matrox Board:
  - Start Channel 1.
  - Wait until channel has started up and topology has been written.
  - Start Channel 2.
  - Wait until channel has started up and topology has been written.
  - Exit channel 2.
  - Exit channel 1.
  - Start channel 1.
  - Wait until channel has started up and topology has been written.
  - Start channel 2.
- ClipOut channel does not work when `Matrox0.VideoOut1.FrameBufferDelay` is set to zero. (VIZENG-16373)

### 3.10.9 X.mio3 Boards

- If the Viz Engine instance is closed unexpected, the X.mio3 topology might become unusable. To reset the topology, enable **ResetTopology** in the config file, restart Viz Engine, close it and start again.
- X.mio3 IP boards should have an active signal connected to SFP A prior to booting the system.
- Turning on the Cleanfeed Feature increases the delay by 1 frame.
- It is not recommended to change the framegroup of any input signal while Viz Engine is running.
- Texture delay with PAL/NTSC, GPUDirect and Fast Texture Mode is 5 instead of 4 fields. Turn off GPUDirect for 4 fields delay. (VIZENG-16955)
- When using watchdog together with a clean feed, the watchdog triggers on the clean feed connector rather than the program output. (VIZENG-16589)

### 3.10.10 Other Video Boards

- When Viz Engine is in On Air mode, there might be audio distortions using Bluefish cards. (VIZENG-8853)
- Using GPUDirect together with a Bluefish Supernova S+ might freeze the system due to a low level driver error.
- Bluefish Supernova S+ cards can only be used in a Virtual Set Environment if GPUDirect is disabled and the board is synced to Blackburst/Trilevel.
- Bluefish Supernova S+ stop during exit on 1080p systems when GPUDirect is turned on, due to an error in the driver in combination with GPUDirect. (VIZENG-16618)
- GPUDirect is currently not supported in combination with AJA boards. (VIZENG-15532)
- GPUDirect is currently not supported in combination with DVS boards. (VIZENG-18190)
- Clips played with the DirectShow Clip Player might stutter with AJA boards on Windows 10 systems. (VIZENG-10279)

### 3.10.11 MPEG IP Streaming (Legacy)

- IP Streaming MPEG services are 32-bit only. For 64-bit installations, install the corresponding 32-bit version of MPEG Streaming Services and 64-bit flavor of Viz Engine.

### 3.10.12 Nvidia

- When the computer is running out of virtual page size and the user keeps ignoring the low memory warnings in the console, the Nvidia driver may cause Viz Engine™ to crash. Install an Nvidia driver later than 182.67. Please also check the console for low memory conditions and adapt your scenes accordingly if necessary.
- The Nvidia driver doesn't recognize other GPUs under certain circumstances in combination with video wall mosaic installations. Remove and reinstall the driver.

### 3.10.13 Graphic Hub

- Communication with the Graphic Hub Server might fail if virtual network adapters are active. Please disable all virtual adapters or increase the timeout.
- If connection to the namingserver fails, please verify the communication port in the config file (Port 19396).

### 3.10.14 Plug-ins

- RTT Shaders consume about 300-400 MB of RAM once they are initialized. If you do not use them or if you don't own a license it is recommended to disable the plug-ins in the configuration panel in section **Plugins**. (VIZENG-10224)
- Lagarith Codecs are playing slower on Windows Server Operating Systems. This issue can be solved by enabling **Use Multithreading** option in Lagarith codec configuration.

## 3.11 Supported Hardware And Software

This software has been tested to run on:

- Windows Server 2008 R2/SP1 (64-bit), Server 2016, Server 2012 R2
- Windows 7 (64-bit), Windows 10 (Fall Creators Update) (64-bit)

Only English Operating System(s) are supported.

### 3.11.1 Supported Systems

System
DELL Precision R3930



System
DELL Precision R7920
DELL Precision R7910
HP Z8
HP Z4
HP Z840
HP Z820
HP Z800
HP Z440
HP Z420
HP Z400
HP ZBook 17,15 G3, G4,G5
HPE DL360 Gen9
HPE DL380 Gen9

### 3.11.2 Supported GPUs

Pascal GPUs	Maxwell GPUs	Kepler GPUs
Nvidia Quadro P6000	Nvidia Quadro M6000	Nvidia Quadro K6000
Nvidia Quadro P5200	Nvidia Quadro M4000	Nvidia Quadro K5000
Nvidia Quadro P4200	Nvidia Quadro M2000	Nvidia Quadro K5200
Nvidia Quadro P4000	Nvidia M40	Nvidia Quadro K4000
Nvidia Quadro P3200	Nvidia M60	Nvidia Quadro K4200
Nvidia Quadro P2000		Nvidia Quadro K2000
Nvidia Quadro P1000		Nvidia Quadro K2200

### 3.11.3 Supported Video Boards

Video Board	Configuration
Matrox X.mio3 Full Height	Various input/output configurations from 48 to 84

Video Board	Configuration
Matrox X.mio3 IP	Two IP Streams in, two IP Streams out
Matrox X.mio3 12G	Two 12G inputs, two 12G outputs
Matrox M.264 S1/S2/S3	H.264 Encoder/Decoder board
Matrox DSX.LE4 /8	Various input/output configurations from 08 to 80
Matrox DSX.LE4 /4	Various input/output configurations from 04 to 40
Matrox DSX.LE4 IP	Various input/output configurations from 04 to 40
Matrox X.mio2+ 44	Four video inputs, four video outputs, new fail-safe operation
Matrox X.mio2+ 24	Two video inputs, four video outputs, new fail-safe operation
Matrox X.mio2 44	Four video inputs, four video outputs
Matrox X.mio2 24	Two video inputs, four video outputs
Matrox DSX.LE3/22/C	Two video inputs, two video outputs (fill & key) with onboard compositor
Matrox DSX.LE3/04	No video input, four video outputs
Matrox DSX.LE3/12	One video input, two video outputs (fill & key)
Matrox DSX.LE3/40	Four video inputs, no video output
Matrox X.open Dongle (USB and PCIe)	Software based codecs
Bluefish Epoch Neutron	Two video inputs, two video outputs (fill & key)
Bluefish Epoch 4K Supernova	Two video inputs, two video outputs (fill & key)
Bluefish Epoch Supernova S+	Two video inputs, two video outputs (fill & key)
AJA IO4K	Two video inputs, two video outputs (fill & key)
AJA Kona IO4K Plus	Two video inputs, two video outputs (fill & key)
AJA Kona 4	Two video inputs, two video outputs (fill & key)
AJA Kona 3G	Two video inputs, two video outputs (fill & key)
AJA Kona IP	One IP Stream in, one IP Stream out (J2K only)

Please refer to the [Viz Engine Administrator Guide](#) for which drivers and driver settings to use.

---

## 3.12 Documentation

Documentation for both Viz Engine and Viz Artist™ is available at the Vizrt Documentation Center:

- [Viz Artist™ User Guide](#)
  - [Viz Engine™ Administrator Guide](#)
- 

## 3.13 Installation And Support

### 3.13.1 Installation

The installation wizard guides you through the installation process. Make sure to close any running Viz application, including a local database, prior to the installation.

In order to run Viz Artist™ or Viz Engine™ independently of a database server, you need to install Viz Graphic Hub™ database software locally.

### 3.13.2 Support

Support is available at the [Vizrt Support Portal](#).