Viz Engine Release Notes

Version 5.3

Viz Engine

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Technical Support

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

Created on

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1 Viz Engine 5.3.2

Release Date: 2025-03-04

These are the release notes for Viz Engine version 5.3.2. This document describes the user-visible changes that have been made to the software since release 5.3.1.

1.1 Improvements

Key	Summary
VIZENG-32733	Support Nvidia driver 553.62
VIZENG-32533	Trash Matte does not affect to the container with Talent Shadows
VIZENG-32407	Viz Multiplay transition not working with VML clip player

3 issues

1.2 Fixed Issues

1.2.1 Fixed Issues: General

Key	Summary
VIZENG-32702	VSL Script Plugin can crash Viz Engine.
VIZENG-32639	Text Kerning can lead to issues in animation
VIZENG-32628	Engine REST - POST commands return "Parse Error: The response has a duplicate "Content-Length" header
VIZENG-32617	Script function OnGeometryChanged doesn't work properly in Viz Engine Renderer
VIZENG-32534	Loading objects from UNC path switches "\" to "/" which causes a failure
VIZENG-32529	Subscene plugins not cloned properly from one container to another
VIZENG-32478	SNMP doesn't show which scene is loaded inside each layer in a dual channel enviroment
VIZENG-31867	Internal image editor wrongly scale RGBA image

8 issues

1.2.2 Fixed Issues: Renderer

Key	Summary
VIZENG-32729	Font flickers if Classic material is on the same container
VIZENG-32662	Layer plugin loses its settings when merge/split into a geometry
VIZENG-32617	Script function OnGeometryChanged doesn't work properly in Viz Engine Renderer
VIZENG-32616	Text overlapping when using Razor text in texture mode

4 issues

1.2.3 Fixed Issues: Video IO

Key	Summary
VIZENG-32578	Clip jumps again to the first frame when played via the stage

1 issue

1.3 Driver Versions

These are the recommended driver versions for various hardware components:

Vendor	Driver Version
NVIDIA Ada Lovelace, Ampere, Turing, Volta, Pascal and Maxwell GPUs	553.62
NVIDIA Kepler GPUs	473.47 (419.17 for older boards)
Matrox Topology based boards	10.4.102.1346
Bluefish	6.5.1.22
Bluefish Supernova Firmware	162
AJA	16.1.0.3 (Firmware 2021/06/23)
Codemeter Runtime Kit	8.20a

Vendor	Driver Version
AV PCL/PCI Plura Timecode Reader	5.34

1.3.1 NVIDIA Drivers

Information: Please refer to https://nvidia.custhelp.com/app/answers/detail/a_id/4777/~/nvidia-dch/standard-display-drivers-for-windows-10-faq for information about the DCH and Standard driver versions and how to install a missing NVIDIA control panel.

NVIDIA driver 553.62 is recommended for all GPUs except old Maxwell Generation. Kepler GPUs are not recommended anymore, however they might still work using older driver version 473.47. Boards that do not support this version of the driver should use rev. 419.17.

Information: It is recommended to use the mentioned driver in the Release Notes. An upgrade is possible in case there are critical security issues reported and a newer driver is available. Viz Engine might report a unsupported driver tough.

1.3.2 Codemeter Runtime Kit

It is recommended to shut down any application on the same host that uses WIBU Licensing before upgrading the Codemeter Runtime Kit.

1.4 Known Issues

Note: Due to changes in vSync handling, Viz Engine version 5.3.2 always reports a maxFPS value of 50 even if the maximum number of frames might be much more higher. This is not to be considered as performance issue.

1.5 Supported Hardware And Software

This software has been tested to run on:

- Windows 11 (LTSC 24H2)
- Windows 10 (LTSC 21H2) & (LTSC 1809)[(1)]
- Windows Server 2022, Windows Server 2019

[(1)] Unreal Engine requires a newer Windows 10 version than 1809. UE Integration was successfully tested with 21H2

Note: Only English language Operating System(s) are supported.

Important: Matrox X.mio3 IP and DSX LE 4 IP are no longer supported starting with Viz Engine version 5.3.2.

2 Viz Engine 5.3.1

Release Date: 2024-12-12

These are the release notes for Viz Engine version 5.3.1. This document describes the user-visible changes that have been made to the software since release 5.3.0.

2.1 Improvements

Key	Summary
VIZENG-32520	Upgrade WIBU Codemeter to 8.20
VIZENG-32401	Implement connector mapping for DSX LE 5L/8
VIZENG-32348	VizEngine Renderer conversion tool is not creating geometry for texture conversion if the include Multitextureing is disabled

3 issues

2.2 Fixed Issues

2.2.1 Fixed Issues: General

Key	Summary
VIZENG-32514	Potential crash when loading specific malformed Classic fonts
VIZENG-32488	Viz Engine issue with a particular config imported - gfx_channel_target
VIZENG-32469	Viz Engine can't load images with special characters
VIZENG-32436	Action commands - value set multiple commands from one action to another not working
VIZENG-32426	Scene.deformScreenPos function in Script does not work
VIZENG-32412	Image Editor moves alpha channel separately from RGB when zoomed
VIZENG-32397	Stop points are no longer visible in NLE Graphics Plugin with Viz Engine 5.3
VIZENG-32386	Semicolon separates commands even if inside a double quotes marked string when inside action keyframes
VIZENG-32322	ReloadChangedDBObjects no longer works for TL

Key	Summary
VIZENG-32285	Control Channel Timecode Loss on scenes in version 5.x
VIZENG-32282	Script command LocalPosToScreenPos provides different results
VIZENG-32279	Multizone chroma key picking
VIZENG-32082	Increased CPU consumption by established shared memory TCP connection even without any traffic
VIZENG-31990	Undo operation does not work correctly when adding keyframes

14 issues

2.2.2 Fixed Issues: Renderer

Key	Summary
VIZENG-32502	Text disappears after reducing then increasing text box size
VIZENG-32462	Viz Engine crash during saving a scene when using AutoExportTransitionLogicGeometries = 1
VIZENG-32437	Viz Engine crashes when adding a texture to the 9th Texture Slot
VIZENG-32430	Engine crashed after click on the container icon and activate the postprocessing effect
VIZENG-32382	Viz Engine crash with lights and MSAA 16x
VIZENG-32379	Viz Engine crashes when editing text with clock activated
VIZENG-32326	Container doesn't show any other geometry if Particle System plugin was used on it before
VIZENG-32279	Multizone chroma key picking

8 issues

2.2.3 Fixed Issues: Video IO

Key	Summary
VIZENG-32455	Shared inputs working only first time as DVE
VIZENG-32408	Stage doesn't show correct length of a Matrox clip when loaded via UNC path
VIZENG-32272	Error messages printed before first scene is loaded when Viz Engine is started in console only

Key	Summary
VIZENG-32248	Viz Engine issue when playing certain non-broadcast format ProRes clip via the Matrox
VIZENG-32083	Clip (25 Fps) plays at double speed in non-broadcast Matrox Clip Player

5 issues

2.3 Driver Versions

These are the recommended driver versions for various hardware components:

Vendor	Driver Version
NVIDIA Ada Lovelace, Ampere, Turing, Volta, Pascal and Maxwell GPUs	553.24
NVIDIA Kepler GPUs	473.47 (419.17 for older boards)
Matrox Topology based boards	10.4.102.1346
Bluefish	6.5.1.22
Bluefish Supernova Firmware	162
AJA	16.1.0.3 (Firmware 2021/06/23)
Codemeter Runtime Kit	8.20
AV PCL/PCI Plura Timecode Reader	5.34

2.3.1 NVIDIA Drivers

Information: Please refer to https://nvidia.custhelp.com/app/answers/detail/a_id/4777/~/nvidia-dch/standard-display-drivers-for-windows-10-faq for information about the DCH and Standard driver versions and how to install a missing NVIDIA control panel.

NVIDIA driver 553.24 is recommended for all GPUs except old Maxwell Generation. Kepler GPUs are not recommended anymore, however they might still work using older driver version 473.47. Boards that do not support this version of the driver should use rev. 419.17.

Information: It is recommended to use the mentioned driver in the Release Notes. An upgrade is possible in case there are critical security issues reported and a newer driver is available. Viz Engine might report a unsupported driver tough.

2.4 Supported Hardware And Software

This software has been tested to run on:

- Windows 11 (LTSC 24H2)
- Windows 10 (LTSC 21H2) & (LTSC 1809)[1]
- Windows Server 2022, Windows Server 2019

[1] Unreal Engine requires a newer Windows 10 version than 1809. UE Integration was successfully tested with 21H2

Note: Only English language Operating System(s) are supported.

Important: Viz Engine 5.3.1 will be the last version supporting Matrox X.mio3 IP and DSX LE 4 IP.

3 Viz Engine 5.3.0

Release Date: 2024-10-17

These are the release notes for Viz Engine version 5.3.0. This document describes the user-visible changes that have been made to the software since release 5.2.1.

Note: Viz Artist maintains its release notes in a separate document starting from version 3.12.0.

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.

- The Setup application (both MSI and Bundle installer) must be run in Administrator mode.
- Visual C++ Redistributable files are no longer part of the *.msi* setup file. These files are now installed with the bundle setup application (VIZENG-13210, VIZENG-12629, VIZENG-12701).
- The 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` command line option. This creates a sub-folder where the files are extracted (VIZENG-13020).
- Multiple installations of Viz Engine are not supported.
- The installer automatically upgrades (replaces) any existing Viz Artist/Viz Engine 3.x installation. However, downgrading is currently not supported (VIZENG-7098).
- If Adobe After Effects is installed after Viz Engine, then the Viz installer needs to be executed again to install the AE plug-in (VIZENG-7876).
- 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 video wall installation. A manual configuration (for example, number of inputs, clips, etc.) is still necessary after applying these profiles (VIZENG-18861).
- To use Global Illumination in Viz Artist/Viz Engine, at least Direct X version 9 is required. An installer can be found here: https://www.microsoft.com/en-us/download/details.aspx?id=8109 (VIZENG-19983).
- The Basic, Viz DataPool, Viz PixelFX, Viz Maps, Viz Extension and Viz Socialize plug-ins are released together with Viz Engine starting with version 4.0.0 and are included in the bundle installer. The basic plug-ins are installed by default.

Note: In case of installing Viz Engine with the individual MSI installer and not the Viz Artist Bundle installer, ensure that all runtime dependencies are up-to-date (for example, Viz Engine won't start with an outdated Microsoft Visual C++ 2015-2022 Redistributable (x64) version). The minimum required version is 14.40.33810 (https://aka.ms/vs/17/release/vc_redist.x64.exe).
If Microsoft Visual C++ 2015-2022 Redistributable (x64) - 14.40.33810 is already installed and Viz Engine is not starting, the runtime installation could be damaged. Reinstall the runtime redistributable in this case. The related installer is part of the Bundle installer.

3.1.2 Windows

- This software has been tested to run on Windows 10 (LTSC 1809, 21H2), Windows 11 and Server 2019 and Server 2022.

> Support for Windows 11 LTSC can not yet be announced officially as long-term stability tests are still ongoing.

- Windows transparency effects should be turned off (former known as Aero). In Windows 10 set **Show transparency in Windows** to `Off` in **Settings > Display** and **Transparency effects** to `Off` in **Settings > Personalization > Colors > More options**.
- 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 updates.
- Installations on Windows 10 are only supported on their respective supported hardware (see Supported Systems).
- .NET framework 4.5 or higher is required (VIZENG-6036).
- The minimum Windows Installer version is now 5.0.0 (VIZENG-10146).
- To run Viz Engine without Administrator privileges, you need to grant the following permissions:
  - *SeIncreaseBasePriorityPrivilege*
  - *SeCreateGlobalPrivilege*
  - *SeCreatePagefilePrivilege*
  - *SeIncreaseWorkingSetPrivilege*

3.1.3 UAC

- Viz Engine is UAC aware. Configuration files, profiles, log files, and additional files are stored in %VIZ_PROGRAMDATA%, which defaults to %ProgramData%\Vizrt\VizEngine. Temporary data is stored in *%VIZ_TEMPDATA%* which defaults to *%TMP%\Vizrt\VizEngine*. The default value can be changed in 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).

3.1.4 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 anymore (VIZENG-8996).
- Cinema 4D R23 or newer: LiveLink plug-in is available at *%ProgramFiles%\Vizrt\VizEngine\CINEMA 4D LiveLink\R23* (VIZENG-25344).

3.2 Driver Versions

These are the recommended driver versions for various hardware components:

Vendor	Driver Version
NVIDIA Ada Lovelace	552.22
NVIDIA Ampere, Turing, Volta, Pascal and Maxwell GPUs	552.22
NVIDIA Kepler GPUs	473.47 (419.17 for older boards)
Matrox Topology based boards	10.4.102.1342
Bluefish	6.5.1.22
Bluefish Supernova Firmware	162
AJA	16.1.0.3 (Firmware 2021/06/23)
Codemeter Runtime Kit	8.10a
AV PCL/PCI Plura Timecode Reader	5.34

3.2.1 NVIDIA Drivers

Information: Please refer to https://nvidia.custhelp.com/app/answers/detail/a_id/4777/~/nvidia-dch/standard-display-drivers-for-windows-10-faq for information about the DCH and Standard driver versions and how to install a missing NVIDIA control panel.

NVIDIA driver 552.22 is recommended for GPUs with Ada Lovelace Technology. Ampere, Turing, Volta, Pascal or Maxwell Technology cards have been tested with 552.22 only. A driver upgrade is not recommended in general. Kepler GPUs are not recommended anymore, however they might still work using older driver version 473.47. Boards that do not support this version of the driver should use rev. 419.17.

NVIDIA Driver Configuration (Manage 3D Settings):

Setting	
Vertical sync	Force Off (except Videowall and systems without video hardware).
Unified Back Buffer	Off

Setting	
Power management mode	Prefer maximum performance
Antialiasing mode	Enhance the application setting
Antialiasing setting	4x (4xMS)
Profile	Workstation App - Dynamic Streaming profile (for systems with video hardware) 3D App - Video Editing (for systems without video hardware)

Important: Viz Engine will not start if an outdated driver is used.

3.2.2 Matrox Drivers

- For Matrox video cards, driver version 10.4.102.1342 is required. This version is mandatory. Pre-release versions are not supported.
- Uninstall previous versions of Matrox DSXUtils prior to installing this driver.
- Install drivers (*DSX-TopologyUtils.exe)* only from a local drive.
- Reboot between uninstall and install of drivers, and another time after the 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 162.
- The latest firmware for Neutron is 1i2o 35. There is no longer 1in1out firmware.
- The recommended firmware for AJA IO4K+ devices is 2021/06/23.
- The recommended driver version for Plura AV timecode reader cards is 5.34.

Please refer to the Viz Engine Administrator Guide for which drivers and driver settings to use.

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)
- XAVC (UHD requires M264 board)

3.3 Upgrade Notes

- All plug-in installers are installed per-machine starting with 5.2.0. Uninstalling all previous per-user plug-in installations before upgrading is recommended to avoid duplicated installer entries.
- The configuration file for Viz Engine has a new naming scheme starting with version 4.0, and can be found at *%ProgramData%\Vizrt\VizEngine\VizEngine-{instance}.cfg.*
- Existing Viz 3 configuration files, Genlock and IP configuration settings are migrated automatically by Viz Engine.
- Viz Engine version 4.x and later no longer support Viz IO.
- GPU Direct is no longer needed.
- The old Shared Memory output is not supported on the Viz Engine Pipeline.
- Scenes using the BrowserCEF plug-in automatically migrate to use the new Browser plug-in.
- The command interface is not locale-aware. Therefore, special regional settings like a semicolon within float numbers will not work. You need to use a regular "."

Information: Viz Engine is not forward-compatible. Opening scenes created in this version of Viz Engine might drop warnings when opening in previous versions. 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.

3.3.1 Licensing Model

- The CodeMeter Runtime (installed with the bundle installer) is required to use the WIBU license system. Details can be found in the manual in section "WIBU-based Licensing System". Please refer to the Vizrt Licensing documentation on how to apply a license container.
- Cloud-based installations require a license server; standalone cloud installations are not supported.

3.3.2 Other Upgrade Notes

- NVIDIA Tesla Grid K2 Support was removed because no up-to-date drivers are available anymore.
- Viz Engine does not support half-height rendering anymore.
- Lens distortion uses a slightly different norm since revision 54263. If you need older lens files, please use `use_lens_compatibility_mode = 1` in the config file.
- Viz Artist is now being started by the Viz Engine process and not by command file anymore. If you start *viz.exe* and *VizGui.exe* independently, the **Restart Current** option fails.

A 64-bit version of each codec must be installed to work with Softclip64. Most codecs come with an installation manual on how to install them correctly.

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

- HuvYuff Version 2.1.1
- Lagarith Version 1.3.27
- Newtek SpeedHQ

3.4 Virtual Environments

The following GPUs have been tested in virtualized environments, the listed driver version is the one being used.
The following GPUs are currently supported (Kepler are only supported in the Classic Render Pipeline):

Model	Driver	Platform
NVIDIA L4	552.55	AWS (g6 instances, gr6 instances)
NVIDIA A10G	552.55	AWS (g5 instances)
NVIDIA A40 (2)	538.95	vSphere 7.0 and 8.0
NVIDIA RTX6000	538.95	vSphere 7.0 and 8.0
NVIDIA T4 Tensor Core	552.55	AWS (g4dn instances)
NVIDIA Tesla V100	431.79 GRID	AWS (p3 instances)
NVIDIA M60	462.96	AWS (g3s instances)

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

	Viz Engine Render Pipeline	Classic Render Pipeline
Amazon Cloud (AWS)		
• Amazon EC2 G5 Instances • Amazon EC2 G4dn Instances • Amazon EC2 G3 Instances	✅	✅
Microsoft Azure (1)		
• Standard_NCv3 Series • Standard NV Series	✅	✅
fra.me/nutanix (1)	not tested	✅
VMWare ESXi (6.0(1), 6.50(1), 7.02, 8.0.2)	✅	✅
Alibaba Cloud (1)	not tested	✅

	Viz Engine Render Pipeline	Classic Render Pipeline
(1) Tested with Engine 5.0.0 only		

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

3.5 New Features

3.5.1 Key Features

Key	Summary
VIZENG-31333	VizEngine-5.3.0 - Container/Scene based Clip Playback - Clip Player Texture Renderer
VIZENG-31324	VizEngine-5.3.0 - HDR Window Support
VIZENG-31253	VizEngine-5.3.0 - Support Matrox DSX LE 5 SDI LP /4
VIZENG-31246	VizEngine-5.3.0 - Unreal Engine 5.4 Support
VIZENG-31218	VizEngine-5.3.0 - Viz Engine Renderer Improvements
VIZENG-31213	VizEngine-5.3.0 - Full Interactivity Support for Viz Engine Renderer
VIZENG-31204	VizEngine-5.3.0 - Enhanced Viz Engine Renderer - Classic Compatibility
VIZENG-31201	VizEngine-5.3.0 - NDI 6 Support
VIZENG-31199	VizEngine-5.3.0 - Viz Engine Renderer Extrusions Preparation - Geometry Base Work
VIZENG-31190	VizEngine-5.3.0 - Graphic Hub Connection Switch
VIZENG-31185	VizEngine-5.3.0 - Particle System for Viz Engine Renderer
VIZENG-31183	VizEngine-5.3.0 - GPU Accelerated Clip Decoding for Clip Player Pro
VIZENG-31182	VizEngine-5.3.0 - Renderer Migration
VIZENG-31168	VizEngine-5.3.0 - Upgrade to C++ 17
VIZENG-30963	VizEngine-5.3.0 - Video I/O Enhancements & Fixes
VIZENG-30873	VizEngine-5.3.0 - VML Clip Player Improvements

Key	Summary
VIZENG-30440	VizEngine-5.3.0 - Viz Engine Renderer Sports Sequences - Stage 2 / Libero
VIZENG-30435	VizEngine-5.3.0 - New Audio Pipeline - Stage 3
VIZENG-30434	VizEngine-5.3.0 - UX Improvements
VIZENG-28979	VizEngine-5.3.0 - Parallel Outputs - Stage 2
VIZENG-28792	VizEngine-5.3.0 - Security: Upgrade Dependencies
VIZENG-27892	VizEngine-5.3.0 - Additional HDR Workflows - S-Log3 Support
VIZENG-26680	VizEngine-5.3.0 - Front- and Backlayer compatibility for Viz Engine Renderer

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3.5.2 New Features: General

Key	Summary
VIZENG-31813	Adaptive Graphics: scene.GetCurrentFormat() for Viz Scripting Language
VIZENG-31803	Add RTX 5000 Ada Support
VIZENG-31267	Add support for configurable shortcuts
VIZENG-31488	Adobe Photoshop Import: disable gamma correction
VIZENG-31469	Batch Commands support (BATCH START, BATCH STOP)
VIZENG-31533	Configurable Shortcut Improvements
VIZENG-31726	Convert animations of Classic Objects
VIZENG-31215	Expand mouse simulation feature over command interface for middle and right mouse button
VIZENG-31155	Expose and serialize "delay after inputgraph" setting
VIZENG-31560	Extend Scenetree Container Search to Support Regular Expressions
VIZENG-31116	External linear keying functionality for Multi-Layer VS sequence
VIZENG-28610	Image Preview Editor improvements
VIZENG-32201	Make old icons still available via config or workspace

Key	Summary
VIZENG-31239	Merged object renderer version attribute information
VIZENG-30832	Mouse callbacks missing/broken in Viz Enginer Renderer
VIZENG-31738	New Frameserver Core License
VIZENG-31302	Parallel Outputs: Send MatteScene signal and/or AUX output to predefined SDI outputs on Matrox
VIZENG-30559	Provide plugin API to replace commands used by Presets plugin
VIZENG-30619	Script Button triggers OnParameterChanged every frame if it has an animation track
VIZENG-30908	Script command to show the exact location/Scene path of a linked Scene
VIZENG-31924	Scripting: Add display name to OnInitPlugin
VIZENG-31999	Set display name for merged geometries
VIZENG-31189	Support RTX 4500 Ada
VIZENG-30935	TransitionShader: Use linear animation for TransitionTime channel by default
VIZENG-27672	Tree search for Material Definition
VIZENG-27772	Treesearch for Viz Engine Renderer Fonts
VIZENG-30470	Undo Redo: Expose UNDO/REDO Stack
VIZENG-30954	Upgrade Nvidia driver version to support vGPU 16.x and ESXI 8.x
VIZENG-31146	Upgrade recommended Nvidia driver versions
VIZENG-31080	Upgraded OpenSSL version
VIZENG-31214	Viz Engine Renderer Multitouch plugins support
VIZENG-31292	Viz Engine Script: new OnScenePreSave, OnScenePostSave & OnSceneClose callback functions
VIZENG-31192	Viz Script: Access to MaterialDefinition Plugin Instance

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3.5.3 New Features: Renderer

Key	Summary
VIZENG-31983	Add command to reset kerning property for geom text
VIZENG-31269	Add getter/setter for draw mode in expert plugin
VIZENG-31488	Adobe Photoshop Import: disable gamma correction
VIZENG-31005	Ambient light intensity for lit Phong Materials
VIZENG-32162	Color LUT support for DVE GFX Channel
VIZENG-31125	Control drawing point size in the Expert plugin
VIZENG-30695	Extend Color Correction and Tonemapping nodes to support LUT textures
VIZENG-31116	External linear keying functionality for Multi-Layer VS sequence
VIZENG-28972	Implement Libero render sequence in new Viz Engine renderer (Stage 1)
VIZENG-20500	Increase Post Render performance
VIZENG-31310	Keyed Preview for Viz Engine Renderer
VIZENG-31119	LUT support for Unreal Engine AR graphics
VIZENG-31072	New geometry type to support Vertex Pulling
VIZENG-31230	Performance table naming and colors
VIZENG-32170	Renderer: add GBuffer option to EXPERT plugin
VIZENG-30069	Renderer: Bilateral Blur for SSAO
VIZENG-31196	Renderer: runtime/plugin material api extension
VIZENG-31203	Scene View: disable self draw
VIZENG-31535	Scenetree performance optimizations
VIZENG-30231	Support .cube as image import
VIZENG-30647	Support creation of a 3D texture for LUT files
VIZENG-31219	Unify DVE and SuperChannel-as-Texture rendering

Key	Summary
VIZENG-31242	Unreal Engine 5.4 Support
VIZENG-27861	Unreal Engine Integration Multi GPU Support
VIZENG-31070	Unreal Engine: Multilayer Sequence rendering
VIZENG-31681	Unreal Engine: Use RGBA texture directly in the Compositor
VIZENG-31137	Update empty geom vertex count via plugin API
VIZENG-31035	Update Material Definition API and plugin API for storage buffer usage
VIZENG-29369	Upgrade LunaSVG for SVG image import
VIZENG-30866	Upgrade to Freetype 2.13.2
VIZENG-26083	Viz Engine Renderer Particle System
VIZENG-31278	Viz Engine Renderer: Antialiasing support in GFX Channel (Classic Scene)
VIZENG-31323	Viz Engine Renderer: Back+Front Layer rendering and composition support
VIZENG-30950	Viz Engine Renderer: check for CUDA availability before DLSS init
VIZENG-31935	Viz Engine Renderer: disallow self-scene rendering because of better alternatives (GFX Channel, Scene View)
VIZENG-31308	Viz Engine Renderer: improved Media Asset Channel compositing with DVE rendering
VIZENG-31872	Viz Engine Renderer: instancing support for runtime and plugin materials
VIZENG-31193	Viz Engine Renderer: Multilayer XR sequence
VIZENG-30867	Viz Engine Renderer: Plugin API for buffer objects
VIZENG-31704	Viz Engine Renderer: Plugin/Material API extensions
VIZENG-31380	Viz Engine Renderer: quality difference when using Front Layer vs DVE GFX Channel
VIZENG-31195	Viz Engine Renderer: Runtime/plugin material picking and shadow
VIZENG-31583	Viz Engine Renderer: Spritesheet support and general improvements in Particle System plugin
VIZENG-30868	Viz Engine Renderer: support compute shader from within plugin/Runtime Shaders
VIZENG-29945	Viz Engine Renderer: Support floating point pixel format on window context creation

Key	Summary
VIZENG-29018	Viz Engine Renderer: support hot-reloading of textures when they change on the Graphic Hub
VIZENG-28010	Viz Engine Renderer: support Shadow Light
VIZENG-29656	WindowMask within nested Scene changes when GFX Channel gets cropped
VIZENG-31270	WindowMask: new function to reference previous / next Container
VIZENG-31171	Workspace: improve texture update handling
VIZENG-31147	XR Draw - 3D Line drawing plugin

51 issues

3.5.4 New Features: Video IO

Key	Summary
VIZENG-32299	Support timed command with ClipPlayerTextureRenderer
VIZENG-32190	Improve fallback behavior of Matrox SDI/IP output
VIZENG-31972	Can't select 2160p as live input when running in Tricaster mode
VIZENG-31967	Matrox: Set default genlock HV phases to 0 0
VIZENG-31824	Detect new audio devices
VIZENG-31440	Add additional output types for Parallel Outputs
VIZENG-31357	Remove configuration setting FrameBufferDelay because DVE effects are in sync with Textures now
VIZENG-31342	Allow alternate mapping of legacy Stream Channels
VIZENG-31338	Implement basic Softclip replacement using TextureRenderer for Viz Engine Renderer workflow
VIZENG-31316	Add connector mapping for DSX LE5 12G LP/4
VIZENG-31315	Integrate NDI 6
VIZENG-31302	Parallel Outputs: Send MatteScene signal and/or AUX output to predefined SDI outputs on Matrox
VIZENG-31288	NDI 6 HDR HLG Output support

Key	Summary
VIZENG-31287	NDI 6 HDR HLG Input support
VIZENG-31282	Add UHD (2160) config profiles for different modes and frame rates for X.mio5
VIZENG-31280	HDR S-Log3 Color Space support
VIZENG-31133	Rework timing of main thread and output with software IO mode NDI
VIZENG-31131	Rework timing of main thread and output with Matrox cards
VIZENG-31126	Use Matrox advanced delay feature for DVE delay
VIZENG-31097	New Audio Backend
VIZENG-31076	Optimized VP8/VP9 decode in VML clip player
VIZENG-30621	ST352 VPID for 1080i
VIZENG-30003	Color labels for Live Media Types
VIZENG-29614	Use time stamp based mechanism for timed commands with Matrox
VIZENG-28545	Improve output delay configuration

25 issues

3.6 Fixed Issues

3.6.1 Fixed Issues: General

Key	Summary
VIZENG-32296	ActiveX preview isn't correct with merged GEOM workflow
VIZENG-32056	IMAGE IMPORT on Photohop file returns wrong result
VIZENG-32006	Abort signal handler does not create a dumpfile anymore
VIZENG-31826	OnTouchTrace script event causes crash
VIZENG-31781	Rectangular Selection in Scene Editor not working
VIZENG-31765	Material Definition Position U and Scale U&V in separate directors do not work

Key	Summary
VIZENG-31755	Difference in Action Keyframes execution with Transition Logic
VIZENG-31751	Setting RightInterpolationMode doesn't work, instead it sets LockMode on a BezierHandle object.
VIZENG-31651	Setting Color Keyframes via Script is broken
VIZENG-31613	OnParameterChange is executed in a loop on Adaptive Scene Design
VIZENG-31587	Unreal Engine: timecode provider time is negative
VIZENG-31578	Viz Engine crashes on invalid JSON access / inconsistent syntax validation
VIZENG-31554	Connection gets closed during initialization (Session Manager: Invalid session requested)
VIZENG-31551	Memory Leak on DSX Core with specific config file
VIZENG-31536	Flash frame of scene visible before playback
VIZENG-31531	Stage isn't rendered when using high resolutions
VIZENG-31471	Undo doesn't work for Keyframe positions
VIZENG-31442	VizScript Json .IsInteger() and .IsDouble() deliver wrong results
VIZENG-31353	Crash when using SCENE RELOAD command without Scene path
VIZENG-31317	"GH Access" message appear everytime when an image loads from disk after preloading to GPU.
VIZENG-31301	Transformations of hidden Containers get changed on Multiselect
VIZENG-31263	Viz Engine crashes when prefiltering DXT compressed images
VIZENG-31198	Scene.Map from subscene are not registered in parent scene
VIZENG-31180	Keep Aspect is not working in GFX channel if camera is orthogonal
VIZENG-31101	Subscene TL containing scripts doesn't work with custom Ticker scene
VIZENG-30951	System.MouseX and System.MouseY are not updated/working in Viz Engine Renderer
VIZENG-30856	Subscene Transition Logic creates duplicate Container
VIZENG-29139	Container selection when using 0, 0, Any Local Container
VIZENG-27832	No cursor shown in Trio local preview for Viz Engine Renderer scene

29 issues

3.6.2 Fixed Issues: Renderer

Key	Summary
VIZENG-32259	GPU memory not fully freed for GFX Channels
VIZENG-32245	Crash when importing specific scenes in Trio
VIZENG-32226	Live Video Color Shifted When Passed Through Viz Engine using V210 input
VIZENG-32221	Engine crash when scaling container to 0.0
VIZENG-32203	Viz Engine Renderer: Scene Editor Zooming in orthogonal mode
VIZENG-32185	Fix BGR image rendering
VIZENG-32183	MERGE: Color LUT support for DVE GFX Channel
VIZENG-32147	GPU memory resource still used after pools cleanup
VIZENG-32143	Dynamic Scene plugin in Classic renderer with HDR causes wrong colors (Alpha not clamped)
VIZENG-32111	Classic HDR Rendering + Background forces drag operation to fail
VIZENG-32076	Geometry creation not happening during scene warm up
VIZENG-32058	Scene editor DVE transformation control shows wrong screen coordinates
VIZENG-32001	Degraded performance of Videowall scene in Viz Engine 5.2.1 as compared to Viz Engine 5.0.1
VIZENG-31976	Shininess and Alpha values are not reflected in real time for Material Previews of classic materials
VIZENG-31945	Engine crash when selecting container which contains Flag plugin
VIZENG-31941	Negative line height should not be allowed
VIZENG-31788	Instance Producer clone shares instancing buffer
VIZENG-31781	Rectangular Selection in Scene Editor not working
VIZENG-31776	Classic: poor interlace quality in NLE compared to progressive formats
VIZENG-31755	Difference in Action Keyframes execution with Transition Logic

Key	Summary
VIZENG-31735	Texture cordinates XY rotation of the Texture Slot plugin has no effect when it's set to TextGen Mode Linear
VIZENG-31703	Viz Engine Renderer: Runtime/Plugin Material slots don't accept TextureRenderers
VIZENG-31697	Switching text render method doesn't work immediately
VIZENG-31695	Viz Engine crashes from invalid character in Classic Text
VIZENG-31667	Unreal Engine: PrecisionKeyer Synchronization issue on some GPUs
VIZENG-31623	Classic Scene playout shows different rendering behavior with transparent clips in 5.x
VIZENG-31621	Ada GPU tessellation with Classic scenes is different
VIZENG-31609	Lens distortion has the wrong distortion in GFX channel in comparison with the Main Layer
VIZENG-31608	Lens distortions disables the key signal of the Main Layer
VIZENG-31605	Area Lights with light texture flicker when playing Trio pages with Texture Slots
VIZENG-31599	Scenetree performance counters not working in Viz Engine Renderer
VIZENG-31587	Unreal Engine: timecode provider time is negative
VIZENG-31586	Gamma Correction is applied even though it's disabled in the Scene Settings
VIZENG-31545	Viz Engine Renderer: Disabling font backface via Visualize Backface option is not saved/restored properly
VIZENG-31485	Viz Engine Renderer: advanced blendmodes issue with key mode
VIZENG-31473	Fix geometry vertex/index update with an offset
VIZENG-31461	External images in TextureRenderer can lead to Viz Engine crash
VIZENG-31450	Viz Engine crash with specific Complex Script Font
VIZENG-31406	Moving multi selection group in Classic Scene Editor not working
VIZENG-31390	Jitter during Camera zoom animation
VIZENG-31341	Texture update issues with certain scene constructs
VIZENG-31340	Unreal Engine: camera data incomplete, creates NaN in virtual window if Unreal Projection Source is used

Key	Summary
VIZENG-31312	Invisible Material Shadow Issue
VIZENG-31258	CreateGeometryBGL breaks post rendering in Viz Engine Renderer
VIZENG-31247	Classic Text Rendering performance impact with TextFX Write
VIZENG-30951	System.MouseX and System.MouseY are not updated/working in Viz Engine Renderer
VIZENG-30944	Viz Engine Renderer: crash with nested GFX Channels
VIZENG-30504	LookAt Container ignores axis center
VIZENG-27952	SHOW_BOUNDINGBOX does not work with Viz Engine Renderer scenes

49 issues

3.6.3 Fixed Issues: Video IO

Key	Summary
VIZENG-32165	When changing flows using NMOS warnings about not matching streams are printed.
VIZENG-32164	Wrong error message for input stream creation
VIZENG-32123	Cannot re-enable DVE if DVE delay is greater than 1 - Integrate Matrox SDK 10.4.102.1342
VIZENG-31816	Crash after playing audio file twice in 59.94
VIZENG-31776	Classic: poor interlace quality in NLE compared to progressive formats
VIZENG-31752	VML clip player crashes when trying to load a non clip file
VIZENG-31734	1080p 29.97 clips don't play audio in 5.2.1 release version
VIZENG-31653	Clip playback freezes after cleanup
VIZENG-31618	DNxHD .mov clip causes memory leak
VIZENG-31587	Unreal Engine: timecode provider time is negative
VIZENG-31543	DNxHD clips played via VML player can cause a crash
VIZENG-31542	Bluefish video boards log errors if used without output license
VIZENG-31534	All-in_0-Out mapping in Matrox not working

Key	Summary
VIZENG-31321	Clip does not autorun when in GFX Channel after second Scene load (fallback mode)
VIZENG-31319	Clip Channel scan mode does not get updated when opening HAP clip in AUTO + Videowall mode
VIZENG-31313	XDCAM HD clip is stretched
VIZENG-31309	Matrox assets flicker when used in a video wall system
VIZENG-31179	Random issues loading ProRes clips
VIZENG-31176	Engine stops clip playback after mixing SDR/HDR clip formats
VIZENG-31078	Wrong clip duration inside Multiplay GUI
VIZENG-30933	Matrox clip player - Viz Engine crash when running in videowall setup for several hours

21 issues

3.7 Changes

3.7.1 Upcoming Changes

- In the next version of Viz Engine, an upgrade to VGPU 17 is planned. Therefore:
  - NVIDIA Tesla M60 VGPU support will be removed.
  - Windows Server 2019 VGPU support will be removed.

3.7.2 Changes: Renderer

- NVIDIA Kepler GPUs were set as deprecated (NVIDIA isn't supporting Kepler boards in newer driver versions anymore).

3.7.3 Changes: VideoIO

- Improvements in the IO sequence made GPU direct obsolete. The setting was removed.

> ⚠ **Note:** Support for SMPTE ST 2022-6 has been removed.

3.8 Known Issues

3.8.1 General

- Saving a new scene with references that do not exist anymore fails. Those references need to be removed manually to save the scene.
- Importing HDR images with special characters in its file name from a drive with 8dot3 disabled fails.
- Transition Logic scenes require to have GeomAutoFree = 1 set in the Viz Config file. With inactive GeomAutoFree, system stability is not guaranteed.
- Interactive Applications within a GFX channel only work in DVE mode in Fullscreen or if the GFX channel has an offset in Fullscreen. Scaled GFX channels or plug-ins that rely on screen coordinates (Graffiti) are not supported.
- Bones and Skin live motion data tracking requires Tracking Hub 1.1.2 (released together with Viz Engine 3.11).
- Viz Engine REST interface does not start if a user is Non-Admin (VIZENG-23386).
- On Air output shows wrong field-of-view if AuxRenderer is enabled, PP in scene editor is disabled and Viz Engine is not in On Air mode.
- Viz One Browser clip preview might fail on Viz One Versions >=7.0
- The Toggle plug-in can not handle the background loading of objects or scenes.
- Oversized snapshot requests (bigger than the configured output resolution) in the Classic Render Pipeline aren't supported. Use the Viz Engine Render Pipeline instead.
- The `clog` command now includes all child processes. Upon abnormal end, all child processes are terminated before a restart is attempted (VIZENG-11361).

Key	Summary
VIZENG-29594	AEExport.aex is not copied to After Effects Plug-ins folder after a repair of the Viz Engine installation
VIZENG-27515	AJA IO: Embedded Audio only available if SDI Input enabled
VIZENG-26244	AJA/ Bluefish: Switching frequency results in output frame buffer issue
VIZENG-32796	Alpha gets ignored when importing .tiff image with alpha
VIZENG-30876	Alpha support for WEBM with VP8/VP9 and MKV with VP8/VP9
VIZENG-32563	Black bars/flicker on wall output after upgrade to 5.3.x

Key	Summary
VIZENG-29680	Change Audio Backend on EAS
VIZENG-28452	Consolidation of logging settings and configuration
VIZENG-27866	Enable individual volume control for tracks
VIZENG-21755	Execution logic is not applied to a template created from Transition Logic scene
VIZENG-31127	Experimental: Reduce overall in-to-out delay in Fast Texture Mode
VIZENG-25687	GFX Video Output not working
VIZENG-28344	GH Sync: support main/replication setup
VIZENG-30569	Improve Undo/Redo performance on larger GI scenes
VIZENG-24017	Improve VizEngine startup time
VIZENG-32266	Material Shininess wrong in sample scene after Scene Conversion
VIZENG-32278	Matrox: Video Cue and Playback issue with specific OP1a video
VIZENG-29589	Maya 2024 doesn't support Viz Maya plugin
VIZENG-32689	Multiplay transition not working with VML clip player
VIZENG-31624	Optimize transform update
VIZENG-29001	Playback of audio clips without extension in VML Player
VIZENG-31946	Renderer: opaque materials affects key in overlay sequence

Key	Summary
VIZENG-31191	Short freeze on Matrox output
VIZENG-21385	Stage: Startkeyframe gets set wrong when hitting keyframe button
VIZENG-29623	Text: global config for default font style
VIZENG-26964	Used lens distortion parameters not in sync with main scene

26 issues

3.8.2 Installation

- Do not use the C4D Version 15R2 patch file(s) unless you are using this version. Otherwise, it prevents Cinema 4D R16 from starting up.
- 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.

3.8.3 Windows 10

- Right-clicking on the Taskbar icon of Viz Engine starts a new instance. Starting an additional VizGui process is prevented on Windows 10.
- 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 the preview pane.

3.8.4 Videowall

- It might happen that Viz Engine is running at half speed on videowall, but goes back to full speed if another window comes into focus. If so, start `viz.exe -y -w`, instead of the regular videowall mode `viz.exe -n -w`.
- GFX channels with Alpha != 100% decrease render performance. On video wall setup, `gfx_channels_antialiased = 0` should be turned off in the Viz Configuration section **RENDER_OPTIONS**.
- Windows scaling can lead to unwanted side effects.
- The maximum resolution on videowall setups is limited to 16392px by 16392px.
- 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.

3.8.5 Configuration

- Specifying a path in the configuration file including the # character is not supported. Such paths are cut before the # character.

3.8.6 Viz Engine Render Pipeline

- Existing Scenes using Global Illumination might need a precompute again to enable debug views.
- Background loading of external images (filesystem, network locations, etc.) is not supported. Images from Graphic Hub should be used.
- Fonts using GEOM_TEXT may slightly differ between 4.2.0 and 4.3.0.
- Flexbox labels in Scene Editor do not support Unicode characters.

3.8.7 Classic Render Pipeline

- Scene Transitions within GFX channels or Superchannels are not supported.
- Soft Shadow intensity is currently not working together with Global Illumination.
- We recommend using a warmup scene showing all needed assets once. Under certain circumstances, video and clip surfaces can show up red the first time being used.
- Playing Audio clips on systems with no physical audio hardware available stops the renderer. You need to turn off audio in the configuration 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 `CurlAuthUnsafe = 1`, Viz One Browser does not work anymore.
- VGA Fullscreen Output is only active if offscreen rendering is turned off. Setting `offscreen=0` in section RENDER_OPTIONS enables fullscreen output.
- Blending cubemapped images are not supported.
- Cubemapping with Browser plug-in is not supported.
- Fonts need to be re-imported to use new Pathrendering or Razor fonts technology.
- Masks are not supported on Path rendered Fonts (VIZENG-13737).
- 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 an 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 Viz Engine 3.5.0 when the ringing filter is activated. Before Viz 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 Viz Engine to freeze. Make sure that the driver profile **Workstation App > Dynamic Streaming** is selected. Always use the recommended 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 = 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. 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).
          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.
- 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.
- Grid picking currently only works for Cube and Cylinder geometry.
- 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. 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 correctly. 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 are not found.
- Font option "lighted" has no effect on fonts rendered with type "vector" (VIZENG-18941)
- 16-bit PNG images are not rendered properly when imported with compression.

3.8.8 Unreal Integration

- Unreal Engine 5.x with Temporal Super Resolution (TSR) enabled can lead to flicker issues when used in combination with NVIDIA Driver 528.89. Changing to FXAA solves the issue.

3.8.9 Post Renderer

- Because of performance issues rendering fullscreen sequences in UHD is not supported.
- 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.
- Post-rendering does not work properly if `onair_no_videoout flag = 1` (Videowall mode).
- Post-rendering does not work properly if TriCaster integration is active and the 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.
- Viz Engine might crash if certain VfW codecs are used on non-Matrox installations in Post Render Mode.

3.8.10 Matrox

- Enable Hardware DVE/(Fast Texture Mode) is only available for two instances.
- The configuration ClipIn[n].UseV210 and ClipIn1. ContainsAlpha are mutually exclusive and should not be enabled at the same time.
- The overall delay is one field higher than in previous versions using IO3 This is caused by the required A/B buffer of IO 4.
- A program output channel needs to be defined. Pure preview or Cleanfeed is not supported.
- HDR output on UHD 2SI requires at least a Quadro P6000 GPU.
- HDR input support is currently for HLG only.
- Mixing different frame rates with clips processed by a M.264 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.
- When using 3G formats (1080p/UHD) or the Zero-Frame-Delay Mixer, auto-sensing 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 dual channel systems, please perform the following steps after enabling the watchdog to ensure the correct state is written to the Matrox Board:
    a. Start Channel 1.
    b. Wait until channel has started up and topology has been written.
    c. Start Channel 2.
    d. Wait until channel has started up and topology has been written.
    e. Exit channel 2.
    f. Exit channel 1.
    g. Start channel 1.
    h. Wait until channel has started up and topology has been written.
    i. Start channel 2.
- ClipOut channel does not work when Matrox0.VideoOut1.FrameBufferDelay is set to zero (VIZENG-16373).
- UHD Clip Playback with M264 S1/S2/S3 *alone* requires color conversion on the shader level. (VIZENG-20700).
- Two Sample Interleave (2SI) clips played as DVE are not supported.

- Cutting of Audio tracks should not be done at all, as this results in a crackling noise. Always use a cross-fade to change audio sources.
- Monitoring live, clip and genlock status via SNMP is not supported (SNMP was deprecated and is no longer supported by Microsoft).
- Certain M4V clips may cause Viz Engine to lock and flood the console with errors when being played in a loop.
- Running interlaced AVC-Intra 100 clips on M.264 boards may lead to instabilities when played non-stop over several hours.

3.8.11 X.mio3 Boards

- If the Viz instance is closed unexpectedly, the X.mio3 topology might become unusable. To reset the topology, enable ResetTopology in the config file, restart Viz, close it and start Viz 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 one frame.
- It is not recommended to change the frame group of any input signal while Viz Engine is running.
- Only two DVE UHD inputs are supported at 50Hz. For 60M formats, only two texture inputs are supported.
- Animating UHD DVE scaling might result in jittering. You need to increase the VideoDelayDVE setting to `2`.
- Texture delay with PAL/NTSC, and Enable Hardware DVE is five fields instead of four fields. (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).

3.8.12 X.mio5 Boards

- Standard Definition (PAL and NTSC) resolutions are not supported by X.mio5 IP boards according to the SMPTE ST 2110 standard.
- Streampunk ledger RDS does not list the Matrox X.mio5 nodes. This is due to some old NMOS APIs that are partially deprecated.
- Riedel Explorer fails listing the X.mio5 nodes. Riedel Explorer automatically selects NMOS API Version 1.3 instead of 1.2. It is possible to select the used API version manually if you switch to static mode and/or enable version downgrade in the Riedel Explorer.

The X.mio5 board has been tested to support up to 12 Inputs (1080i 50 and 60M) on a 10GbE network.

3.8.13 DSX.core

After the installation of the DSX-core client version of the driver perform the following steps:

1. Unregister *mvfDsxCore.dll*.
    a. Click **Start > Run** (or use the Windows command line: **Search > CMD >** (Right click) **Run as Administrator**)
    b. Type `REGSVR32 /U "C:\Program Files\Matrox DSX-TopologyUtils\System64\mvfDsxCore.dll"` and press **ENTER**.
2. Shut down http://X.info in the task manager (mveXinfo.exe).
3. Delete *mvfDsxCore.dll* from the folder *C:\Program Files\Matrox DSX-TopologyUtils\System64*.
4. Start http://X.info *(mveXinfo.exe).*

3.8.14 Other Video Boards

- When Viz Engine is in On Air mode, there might be audio distortions using Bluefish cards (VIZENG-8853).
- Bluefish Supernova S+ cards can only be used in a Virtual Set Environment if the board is synced to Blackburst/Trilevel.
- GPUDirect is not supported in combination with AJA or Bluefish boards.

3.8.15 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.
- The NVIDIA driver doesn't recognize other GPUs under certain circumstances in combination with video wall mosaic installations. Remove and reinstall the driver.

3.8.16 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 the connection to the naming server fails, please verify the communication port in the config file (Port `19396`).

3.8.17 Adaptive Scene Design

- WindowMask plug-in prevents Flexbox labels from being picked.

3.8.18 Audio

- Unplugging a USB microphone from the machine while EAS is enabled freezes Viz Engine without the possibility to recover (VIZENG-29571).

3.9 Supported Hardware And Software

This software has been tested to run on:

- Windows 10 (LTSC 1809)[(1)]
- Windows 10 (LTSC 21H2)
- Windows 11
- Windows Server 2022, Windows Server 2019

[(1)] Unreal Engine requires a newer Windows 10 version than 1809. UE Integration was successfully tested with 21H2

> ⚠ **Note:** Only English language Operating System(s) are supported.

3.9.1 Supported Systems

System
Lenovo P3 Ultra
Lenovo P620
Lenovo SR655 V3
DELL R7920
HP Z8 G5 Fury
HP Z8 G4
HP Z4 Rack G5
HP Z4 G4
HP ZCentral 4R

3.9.2 Supported GPUs

Ada Lovelace GPUs	Ampere GPUs	Turing GPUs	Volta GPUs	Pascal GPUs	Maxwell GPUs	Kepler GPUs (1)
RTX 6000 Ada	RTX A6000	RTX 6000	GV100	Quadro P6000	Quadro M6000	Quadro K6000
RTX 5000 Ada	RTX A5500	RTX 5000		Quadro P5200	Quadro M4000	Quadro K5000
RTX 4500 Ada	RTX A5000	RTX 4000		Quadro P4200	Quadro M2000	Quadro K5200
RTX 4000 Ada SFF	RTX A4500	RTX 3000		Quadro P4000		Quadro K4000
	RTX A4000	T1000		Quadro P3200		Quadro K4200

Ada Lovelace GPUs	Ampere GPUs	Turing GPUs	Volta GPUs	Pascal GPUs	Maxwell GPUs	Kepler GPUs (1)
	RTX A2000			Quadro P2200		Quadro K2000
	RTX A3000 (mobile)			Quadro P2000		Quadro K2200
	RTX A2000 (mobile)			Quadro P1000		
	RTX A1000 (mobile)					
Orange entries are recommended for rendering photo-realistic graphics on the Viz Engine Pipeline.						
(1) Kepler GPUs require an older driver version (473.47). Supported on the Classic Render Pipeline for backward compatibility only.						

3.9.3 Supported Video Boards

Video Board	Configuration
Matrox Electronic Systems Ltd	
Matrox X.mio5/X2 SDI	Up to four 12G SDI input with up to four SDI 12G SDI outputs variable configuration from 12in0out to 0in12out
Matrox X.mio5/8 SDI	Up to four 12G SDI input with up to four SDI 12G SDI outputs variable configuration from 8in0out to 0in8out
Matrox X.mio5 IP	Up to 32 ST 2110 inputs and 32 ST 2110 outputs depending on used SFPs and resolution
Matrox X.mio3 Full Height	Various input/output configurations from 48 to 84
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/S4	H.264 Encoder/Decoder board

Video Board	Configuration
Matrox DSX LE 5L /4	Various input/output configurations from 04 to 40, all in 12G
Matrox DSX LE 4 /8	Various input/output configurations from 08 to 80
Matrox DSX LE 4 /4	Various input/output configurations from 04 to 40
Matrox DSX LE 4 IP	Various input/output configurations from 04 to 40
BlueFish Technologies	
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)
Bluefish Kronos K8	Four video inputs, two video outputs (fill & key)
AJA Video Systems, Inc.	
AJA IO4K Plus	Two video inputs, two video outputs (fill & key)
AJA Kona 4	Two video inputs, two video outputs (fill & key)

Please refer to the Viz Engine Administrator Guide for which drivers and driver settings to use.

3.10 Build Information

Platform Toolset: Visual Studio 2022 (v143)
Windows SDK Version: 10.0.22621

4 Documentation

Documentation for Viz Engine, Viz Artist and Viz Plugins are available at the Vizrt Documentation Center:

- Viz Artist User Guide
- Viz Engine Administrator Guide
- Viz Plugins User Guide

5 Installation And Support

5.1 Installation

The installation wizard guides you through the installation process. Make sure to close any running Viz application prior to the installation. In order to run Viz Artist or Viz Engine independent of a database server, you need to install the Viz Graphic Hub database software locally.

5.2 Support

Support is available at the Vizrt Support Portal.