



Viz Engine Release Notes

Version 4.0



Viz Engine



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1 Viz Engine 4.0.0

Release Date: 2019-08-19

These are the release notes for Viz Engine version 4.0. This document describes the user-visible changes that have been done to the software since release 3.14.0.

This document also includes the Release Information for:

- DataPool Plug-ins
- Socialize Plug-ins
- PixelFX Plug-ins

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

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1.1 Installer Notes

1.1.1 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 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).
- 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 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, 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 and Viz Socialize plugins are released together with Viz Engine starting with 4.0.0 and are included in the bundle installer. The basic plugins are installed by default.
 - Viz World plugins are not included yet and need to be installed separately by installing the latest released Viz World Client, Viz World Plugins and Viz Weather Plugins (if needed).

1.1.2 Windows

- This software has been tested to run on Windows 10 and Server 2016 (64-bit only).
- 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.
- Windows 10/Server 2016 is required.
- Installations on Windows 10 are only supported on their respective supported hardware (Z8, Z4, Z840, Z440, Dell 7910, ML360, ML380).
- Dot.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).

To run Viz Engine without Administrator privileges you need to grant the following permissions:

- *SeIncreaseBasePriorityPrivilege*
- *SeCreateGlobalPrivilege*
- *SeCreatePagefilePrivilege*
- *SeIncreaseWorkingSetPrivilege*

1.1.3 UAC

- Viz Engine 4.0 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).

1.1.4 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).

1.2 Driver Versions

These are the recommended driver versions for various hardware components:

| Vendor | Driver Version |
|---|----------------|
| Nvidia Turing, Volta, Pascal, Maxwell and Kepler GPUs | 419.17 |
| Matrox xMio, DSXLE | 10.1.020.24098 |
| Bluefish | 5.11.0.45 |
| Bluefish Supernova Firmware | 145 |
| AJA | 14.0.1.40 |
| Codemeter Runtime Kit | 6.80 |
| AV PCL/PCI Plura Timecode Reader | 5.34 |

1.2.1 Nvidia Drivers

Nvidia driver 419.17 is recommended for Quadro GPUs with Turing, Volta, Pascal, Kepler or Maxwell Technology cards. Nvidia driver configuration (Manage 3D settings):

| Setting | |
|---------------------|------------------------------|
| Vertical sync | Force Off (except Videowall) |
| 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 |

Older Quadro boards still require driver version 385.41.

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

1.2.2 Matrox Drivers

- For Matrox video cards, driver version 10.1.020.24098 is required. This version is mandatory. Pre-Release versions are not supported.
- Matrox drivers with `_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.

1.2.3 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.

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)

- The `clog` command now includes all child processes. Upon abnormal end, all child processes are terminated before a restart is attempted (VIZENG-11361).
-

1.3 Upgrade Notes

- The configuration file for Viz Engine 4.0 has a new naming scheme, and can be found at `%ProgramData%\vizrt\VizEngine\VizEngine-{instance}.cfg`.
- Existing Viz 3 configuration files as well as Genlock and IP configuration settings will be migrated automatically by Viz Engine.
- Viz Engine version 4.0 and later no longer support Viz IO.
- The path for the DataPool related files has been set to `%\ProgramData%\vizrt\VizEngine\DataPool`.

1.3.1 Licensing Model

-  With Viz Engine 4.0.0 the VALID/Sentinel/Hardlock Dongle is not supported anymore, except for a WIBU license bound to VALID/Sentinel dongle ID.
- The same set of WIBU licenses are available, as in Viz Engine 3.10.0 and later. However, since the WIBU license format (data stored in the license), on which Viz Engine 4.0.0 and later relies on, changed, it may require a refresh/reactivation of existing licenses that lack this information.
If an error with "This might be caused by an outdated wibu license." happens the WIBU licenses in the container need to be updated/renewed. All licenses issued after the end of March 2019 should contain this data already.
- 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 [documentation](#) how to apply a license container.
- Cloud based installations require a license server, standalone cloud installations are not supported.

1.3.2 Other Upgrade Notes

- XOpen dongles are no longer supported as of missing USB driver support for Windows 10.
- 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.
- 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` independent, 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 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

1.4 Virtual Environments

The following GPUs are currently supported:

| Physical GPUs |
|---------------------------------------|
| NVidia M40 (377.35 only) |
| NVidia M60 (377.35 only) |
| NVidia K2 (K280Q,K260Q) (370.35 only) |
| NVidia K520 (370.35 only) |

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

| | Viz 4 Render Pipeline | Viz 3 Render Pipeline |
|-------------------------|-----------------------|-----------------------|
| Amazon Cloud (AWS) | ✓ | ✓ |
| Microsoft Azure | not tested | ✓ |
| fra.me/nutanix | not tested | ✓ |
| VMWare ESXi (6.0, 6.50) | ✓ | ✓ |
| AliBaba Cloud | not tested | ✓ |

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

1.5 New Features

1.5.1 Key Features

| Summary | Key |
|---|--------------|
| Engine 4.0 Improved Eclipse integration | VIZENG-20111 |
| Engine 4.0 Finalize WBU licensing | VIZENG-19802 |

| | |
|---|--------------|
| New text and font handling | VIZENG-17809 |
| Automatic propagation and housekeeping of clip playlist | VIZENG-17787 |
| Unified Video and StandardPC(VGA) version | VIZENG-17128 |
| Native REST interface | VIZENG-16715 |
| Engine 4.0 New command interface | VIZENG-13595 |
| Engine 4.0 Reality Fusion Render Pipeline | VIZENG-12972 |

8 issues

1.5.2 New Features

- Logging of license errors and Warnings to the Graphic Hub journal and increase of the license grace period to 24 hours (VIZENG-21875)
- Ability to configure a dedicated WIBu container a slicense source (VIZENG-20773).
- Improved usability of license configuration by discovery and listing of available containers and licenses in this container (VIZENG-20773).

1.5.3 New Features: Renderer

| Summary | Key |
|--|--------------|
| Allow camera tracking in GFX channels | VIZENG-20731 |
| Cinema4d: import for Viz4 and Octane material support | VIZENG-20037 |
| Command to retrieve the WIBU container ID | VIZENG-20159 |
| Config Filename and Migration Improvement | VIZENG-20603 |
| Cubemap rendering | VIZENG-18579 |
| DVE for live inputs fails silently if output resolution is progressive but input is interlaced | VIZENG-14972 |
| Delete deprecated time code commands | VIZENG-16091 |
| Expose graph to VizArtist | VIZENG-20530 |
| Font Editor, configure default for kerning | VIZENG-5912 |
| Global Illumination in combination with Substance shaders | VIZENG-18540 |
| HDR Background draw not working anymore | VIZENG-13648 |
| Implement a replacement of Rest extension of VizEngine | VIZENG-16699 |
| Implement color difference keyer in new viz_engine_4 | VIZENG-20090 |

| | |
|---|--------------|
| Implement necessary configuration values | VIZENG-18351 |
| Integrate SSR into VizEngine4 | VIZENG-20100 |
| Introducing new 'Dongleless' licensing system | VIZENG-4475 |
| License information added to 'clog' generated log file | VIZENG-20953 |
| Maya FBX import: support stingray PBS materials | VIZENG-20070 |
| New Cyc / CoCyc plugin which reflects the actual Cyc-Editor with soft edges in the Tracking Hub. | VIZENG-21379 |
| New way to define holdout- and trash matte | VIZENG-21396 |
| Remove DVS Centaurus support from VizEngine | VIZENG-20901 |
| Remove Matrox Buffer Based and Stream Based Hardware (X.mio2 / DSX LE 3 / X.mio2+) from VizEngine | VIZENG-20902 |
| Remove Methods to handle CaptureDevice (xMio2) from Viz Engine | VIZENG-20934 |
| Remove VideoRenderer flicker filter | VIZPL-1129 |
| Remove create_default_renderer option | VIZENG-7727 |
| Remove global access to command answers during command execution | VIZENG-15759 |
| Rename feature for scripts in the GUI | VIZENG-16682 |
| Render editor with render system editor | VIZENG-20080 |
| Render transparent objects | VIZENG-20402 |
| Renderer: Video inputs rendered as texture are visually different in V3 and V4 pipeline | VIZENG-21824 |
| Rendergraph: Allow nested graphs | VIZENG-18447 |
| Rendergraph: Expose parameters in command map | VIZENG-21079 |
| Restarting in n-GPU Configuration | VIZENG-10046 |
| Soft Shadow/self shadowing problem with Substances | VIZENG-19668 |
| Softshadows are rendered in front of texture fonts | VIZENG-13189 |
| Substance and HDR Lighting | VIZENG-14291 |
| Substance shader emissive intensity not working - the PBR Material Definition supports this now | VIZENG-11845 |
| Support pre loading of clips in the stage assigned through Control plug-ins. | VIZENG-4105 |
| Support underline on selected text | VIZENG-10350 |
| Talent reflection container plugin | VIZENG-21004 |

| | |
|--|--------------|
| Talent reflection for Screen Space Reflections | VIZENG-20666 |
| Text underline in Viz4 | VIZENG-20292 |
| V4: Add intensity parameters to be animatable for new lights | VIZENG-21226 |
| V4: HDR image import | VIZENG-18786 |
| V4: Implement LensDistortion | VIZENG-20682 |
| V4: Implement Shader Storage Buffer Objects | VIZENG-18674 |
| V4: Implement vertex skinning | VIZENG-20743 |
| V4: Picking for text handling | VIZENG-20413 |
| V4: Render Scene with default lighting | VIZENG-20874 |
| V4: Rendering for on-screen text editing | VIZENG-20348 |
| V4: Support for Tonemapping | VIZENG-18888 |
| V4: Talent reflection | VIZENG-20501 |
| V4: Transformation manipulators for Scene Editor | VIZENG-21260 |
| V4: add gamma mask to masking | VIZENG-21954 |
| V4: animatable channels for new light and material type | VIZENG-20648 |
| V4: animatable environment rotation | VIZENG-20812 |
| V4: background skybox rendering | VIZENG-18781 |
| V4: command map for tonemapping | VIZENG-20784 |
| V4: environment map render | VIZENG-20489 |
| V4: fbx import standard materials as pbr | VIZENG-21185 |
| V4: handling events for on-screen text editing | VIZENG-20411 |
| V4: light add specular and diffuse intensity | VIZENG-20478 |
| V4: light layer plugin | VIZENG-21357 |
| V4: shadow mapping receiver | VIZENG-20725 |
| V4: stencil buffer masking | VIZENG-20637 |
| V4: support clipper plugin | VIZENG-20817 |
| V4: support dxt compress / decompress for new images | VIZENG-19770 |
| V4: tonemap mask | VIZENG-20634 |
| Vertical cross cube mapping with EXR | VIZENG-19861 |

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1.5.4 New Features: Video IO

| Summary | Key |
|---|--------------|
| Remove Methods to handle CaptureDevice (xMio2) from Viz Engine | VIZENG-20934 |
| Remove Matrox Buffer Based and Stream Based Hardware (X.mio2 / DSX LE 3 / X.mio2+) from VizEngine | VIZENG-20902 |
| Remove DVS Centaurus support from VizEngine | VIZENG-20901 |
| Implement necessary configuration values | VIZENG-18351 |
| DVE for live inputs fails silently if output resolution is progressive but input is interlaced | VIZENG-14972 |
| Support pre loading of clips in the stage assigned through Control plug-ins. | VIZENG-4105 |

6 issues

1.5.5 New Features: Plug-ins

| Summary | Key |
|--|--------------|
| Line border feature for Connector plugin | VIZPL-1145 |
| New Cyc / CoCyc plugin which reflects the actual Cyc-Editor with soft edges in the Tracking Hub. | VIZENG-21379 |
| V4: light layer plugin | VIZENG-21357 |
| Talent reflection container plugin | VIZENG-21004 |
| V4: support clipper plugin | VIZENG-20817 |

5 issues

1.6 Bugfixes

1.6.1 Bugfixes: Renderer

| Summary | Key |
|---|--------------|
| No extended performance displayed in Scene Editor | VIZENG-21832 |

| | |
|--|--------------|
| Render to Disk (Post) creates empty folder | VIZENG-21451 |
| Fixed crash and undefined behavior when incompatible NVidia drivers are installed. Viz Engine shows a message and refuses to start in this case. | VIZENG-21384 |
| Remove MULTICAMERA instances , deprecated feature. | VIZENG-21114 |
| Cinema 4D Live link will not work message logged at end of bundle installer even when Installed C4D > 15 | VIZENG-20997 |
| TIFFFetchNormalTag: Warning, Incompatible type for "RichTIFFIPTC"; tag ignored. | VIZENG-20752 |
| Command map parameter clamping | VIZENG-20358 |
| Vertical cross cube mapping with EXR | VIZENG-19861 |
| Soft Shadow/self shadowing problem with Substances | VIZENG-19668 |
| Text cursor sometimes visible ONAIR | VIZENG-17601 |
| COMMAND_EXIST allows only class name to check availability of a given command | VIZENG-17230 |
| HDR Background draw not working anymore | VIZENG-13648 |
| Softshadows are rendered in front of texture fonts | VIZENG-13189 |
| Wrong FILL output with Lens deformation+Auto Key | VIZENG-13183 |
| Substance shader emissive intensity not working - the PBR Material Definition supports this now | VIZENG-11845 |
| GUI - stage not shown if gui was started second time | VIZENG-9948 |

16 issues

1.6.2 Bugfixes: Video IO

| Summary | Key |
|---|--------------|
| VizEngine: Dual program output in one VizEngine not working anymore | VIZENG-21879 |
| NDI: Dragging 1080i input (might be clip / source dependent) to scene could lead to crashes | VIZENG-21507 |
| Matrox: Watchdog fails to trigger in DualChannel setups | VIZENG-10442 |

3 issues

1.6.3 Bugfixes: Plug-ins

| Summary | Key |
|---|------------|
| WindFlows plugin crashes engine when adding to scene | VIZPL-1174 |
| viz.exe crash on adding MapZoom plugin | VIZPL-1169 |
| Dexter not generating softshadow | VIZPL-1146 |
| Pixel FX Colorworks partially broken in combination with pxStack and CCBase | VIZPL-1144 |
| TFxSpin: Rotation of last character wrong | VIZPL-1143 |
| Graffiti plugin brush texture misbehavior | VIZPL-1142 |
| SocialTV plugins not be UAC complainant. | VIZPL-1120 |
| EVSControl plugin not UAC complainant. | VIZPL-1111 |
| OpenGL error messages dropped on adding pixelfx plugins | VIZPL-1065 |
| Graffiti plugin: shape recognition ignore custom brush image setting | VIZPL-414 |
| 10 issues | |

1.7 Changes

1.7.1 Changes: Renderer

- The configuration file has been renamed to *VizEngine-{instance}.cfg*
- The "create_default_renderer" option has been removed as it is no longer used. (VIZENG-7727)
- The deprecated MULTICAMERA feature and configuration were removed (VIZENG-21114)

1.7.2 Changes: VideoIO

- xMio2, xMio2+, and DSX.LE3 are no longer supported
-

1.8 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 menu > Folder options > View tab**, and deselect **Show preview handlers** in the preview pane.
- 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).

1.8.1 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.

1.8.2 Windows 10

- If the Windows render scaling factor is set to be higher than 100% (for UHD monitor resolutions) it may prevent the render window from showing. Setting the scaling factor back to 100% resolves this issue.
- Right clicking on the Taskbar icon of Viz Engine starts a new instance. Starting an additional VizGui process is prevented on Windows 10.

1.8.3 Videowall

- Videowall with NDI inputs are currently not supported!
- It might happen that Viz Engine is running at half speed on videowall, but goes back to fullspeed if another window comes into focus. If so, start *viz.exe -y -w*, instead of the regular videowall mode *viz.exe -n -w*.
- Bezelcorrection in combination with color correction 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 Viz Configuration 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 by 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.

1.8.4 Configuration

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

1.8.5 Viz 4 Renderer

| Summary | Key |
|--|--------------|
| Defocus through transparent objects | VIZENG-20980 |
| Execution logic is not applied to a template created from Transition Logic scene | VIZENG-21755 |
| Export as HDR fails | VIZENG-21900 |
| Fonts: Vertical fonts are not imported into Graphic Hub | VIZENG-21665 |
| Import: Some FBX files have an xyz offset | VIZENG-21285 |
| New command interface, separate extra spaces in arguments count as arg position | VIZENG-16368 |
| Orientation by character does not work | VIZENG-21643 |
| PBR Material Editor: Wrong icon when using Image or Superchannels | VIZENG-21819 |
| Renderer: A default environment map should be applied | VIZENG-21732 |
| Renderer: Command RENDERER_PREVIEW_SIZE without arguments prints license wrong warning | VIZENG-21500 |
| Renderer: DOF adds an 1x1 pixel offset to render output | VIZENG-21903 |
| Renderer: IS_RENDERER_READY answer is always 0 in Artist mode, needs to go onair to return 1 | VIZENG-19574 |
| Renderer: No placeholders for live inputs on non-video board machines | VIZENG-20141 |
| Renderer: Only 16bit png color maps can be used inside PBR materials | VIZENG-20886 |
| Renderer: Only media assets are allowed as Foreground/Background image | VIZENG-21905 |
| Renderer: Progressive video inputs rendered black in V4 render pipeline (cleanup workaround) | VIZENG-21821 |
| Renderer: Rigid bodies require compute shader, not vertex shader. | VIZENG-21012 |
| Rendergraph: Layout is not saved within scene | VIZENG-21722 |
| Scene Transformations: Image in Scene Editor heavy flickering when changing Size | VIZENG-21829 |
| Stage: Startkeyframe gets set wrong when hitting keyframe button | VIZENG-21385 |

| | |
|---|--------------|
| Text: Bounding Box of Fonts does not match v3 behaviour | VIZENG-21614 |
| Text: New character (?) is added when using modifier Key in Inline Editing mode | VIZENG-21894 |
| Text: Selection of TextBox is not saved with the scene | VIZENG-21762 |
| Text: Wrapped spaces should not be included in text alignment calculation | VIZENG-21252 |
| Text: removing TextFX resets shadow settings | VIZENG-21445 |
| Texteditor: Text not updated if Colored option is turned off again. | VIZENG-21823 |
| V4: media preview picking does not work | VIZENG-21561 |
| Video IO: DVE in V4 pipeline is not (yet) supported | VIZENG-21214 |
| Viewport tile content wrongly scaled in some cases | VIZENG-20492 |
| v4: fbx texture scaling not working | VIZENG-20853 |

30 issues

- Renderer: Only Razor Fonts are supported in Viz 4 Render Pipeline.
- Renderer: Existing Scenes using Global Illumination might need a precompute again to enable debug views.
- Renderer: Viz 4.0 Render pipeline does not support Aux Rendering (Unreal Integration).

1.8.6 Viz 3 Renderer

- Scene Transitions within GFX channels or Superchannels are not supported.
- Using Transition Logic inside GFX Channels or Superchannels 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 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** enabled fullscreen output.
- Blending cubemapped images are not supported.
- Cubemapping with WebBrowser plug-in is not supported.
- Fonts need to be re-imported to use new Pathrendering or Razor fonts technology.
- Masks are not supported on Razor Fonts and 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 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 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 3.x.
- 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.

1.8.7 Post Renderer

- Cause 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 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.

1.8.8 Matrox

- HDR output on UHD 2SI requires at least a Quadro P6000 GPU.
- HDR input support is currently for HLG only.
- 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.
- 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.
- 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:
 - 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. Use of GPU direct is not recommended (VIZENG-20700).
- Two Sample Interleave (2SI) clips played as DVE not supported.

1.8.9 X.mio3 Boards

- If the Viz instance is closed unexpected, the X.mio3 topology might get 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 framegroup of any input signal while Viz Engine is running.
- Texture delay with PAL/NTSC, GPUDirect and Fast Texture Mode is five instead of four fields. Turn off GPUDirect for four 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).

1.8.10 X.mio5 Boards

- Streampunk ledger RDS does not list the Matrox Xmio5 nodes. This is due some old NMOS APIs that are partially deprecated. We recommend using a Sony RDS.
- Riedel Explorer fails listing the Xmio5 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.

1.8.11 Other Video Boards

- When Viz Engine is in OnAir 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+ stops 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).
- Clips played with the DirectShow Clip Player might stutter with AJA boards on Windows 10 systems (VIZENG-10279).

1.8.12 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.
- The Nvidia driver doesn't recognize other GPUs under certain circumstances in combination with video wall mosaic installations. Remove and reinstall the driver.

1.8.13 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).


1.8.14 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).
- Softclip: Lagarith Codecs are playing slower on Windows Server Operating Systems. This issue can be solved by enabling **Use Multithreading** option in Lagarith codec configuration.
- Contact your local support office for more details about using Viz Weather plug-ins in Engine 4.0.0.

1.9 Supported Hardware And Software

This software has been tested to run on:

- Windows Server 2016
- Windows 10 (Version 1803)

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

1.9.1 Supported Systems

| System |
|----------------------|
| DELL Precision R7920 |
| DELL Precision R7910 |
| HP Z8 |

| System |
|--------------------------|
| HP Z4 |
| HP Z840 |
| HP Z820 |
| HP Z800 |
| HP Z440 |
| HP Z420 |
| HP Z400 |
| HP ZBook 17 G1,G2 and G3 |
| HPE DL360 Gen9 |
| HPE DL380 Gen9 |

1.9.2 Supported GPUs

| Turing GPUs | Volta GPUs | Pascal GPUs | Maxwell GPUs | Kepler GPUs |
|-------------|------------|---------------------|---------------------|---------------------|
| RTX 6000 | GV100 | NVidia Quadro P6000 | NVidia Quadro M6000 | Nvidia Quadro K6000 |
| RTX 4000 | | 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 |
| | | | | Nvidia Quadro K2 |

Orange entries are recommended for rendering graphics on Viz Reality Fusion pipeline.

1.9.3 Supported Video Boards

| Video Board | Configuration |
|----------------------------------|--|
| Matrox X.mio5 IP | Three IP Streams in, three IP Streams out (1080p60M) |
| 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 | 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.open Dongle (PCIe only) | 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 IO4K Plus | Two video inputs, two video outputs (fill & key) |
| AJA Kona IP | One IP Stream in, one IP Stream out |
| AJA Kona 3G | 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.

1.10 Plug-Ins

1.10.1 DataPool Plug-ins

New Features

- The path for the DataPool related files has been set to `%\ProgramData%\vizrt\VizEngine\DataPool`.

Bug Fixes

| Summary | Key |
|-----------------|-----|
| No issues found | |

1.10.2 Socialize Plug-ins

New Features

- Socialize Plug-ins are now UAC aware.

Bug Fixes

| Summary | Key |
|--|------------|
| SocialTV plugins not be UAC complainant. | VIZPL-1120 |

1 issue

Known Issues

- Viz Engine can't access mapped network shares on Windows 10 for security reasons. If media files are stored on a network share, please be sure to enable Network Linking in Viz Configuration (**Local Settings**).
- Trio 3.x and Viz Artist (UI) do not have full Unicode support yet (e.g. not all Emojis can be set by these control applications).
- VLC plug-in requires some additional steps:

- Download the archive from VLC: <http://download.videolan.org/pub/videolan/vlc/2.2.6/win64/vlc-2.2.6-win64.zip>
- Extract the zip file and copy all files from
 - *vlc-2.2.6\plugins* to *<Viz4Directory>\plugins*
 - *vlc-2.2.6\lua* to *<Viz4Directory>\lua*

1.10.3 PixelFX Plug-ins

New Features

Bug Fixes

| Summary | Key |
|---|------------|
| Pixel FX Colorworks partially broken in combination with pxStack and CCBase | VIZPL-1144 |
| OpenGL error messages dropped on adding pixelfx plugins | VIZPL-1065 |

2 issues

2 Documentation

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

[Viz Artist User Guide](#)

[Viz Engine Administrator Guide](#)

3 Installation And Support

3.1 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.

3.2 Support

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