Animation Store Creator

Version 1.0

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1 Introduction

Various Vizrt systems feature *Animation Store* transitions, providing full color overlays embedded in each transition, per-pixel A/B source selection at each point, realtime cloth dynamic effects, and slow-motion interpolation so the transition (and overlay) can be run at any speed and still look fabulous.

The included *Animation Store Creator* allows talented artists to easily author custom *Animation Store* transitions, using their own preferred graphics software tools to prepare the animation sequences displayed during the transition.

Some video systems provide a number of 'animation stores' to supply animated color overlays during transitions. Configuration can be a cumbersome multi-step operation. As well, since only a few effects are loaded at any time, users must juggle between these for different switcher effects. Conveniently, Vizrt's Animation Store transitions support provides an effectively unlimited number of effects for every effects channel (including DSKs, Overlay channels, and the main Background Transition).

Vizrt's Animation Store implementation makes setup almost unnecessary and switching less bothersome. In addition, Animation Store transitions support not just one but two embedded sound samples: one heard when flying on, and the other when flying off. But how do you create your own animation store transitions?

The included *Animation Store Creator* application allows you to easily author custom Animation Store transitions. You can use your preferred graphics software tools to prepare the animation sequence displayed during the transition, and then bring sounds and color together in a single easily applied transition using this tool.
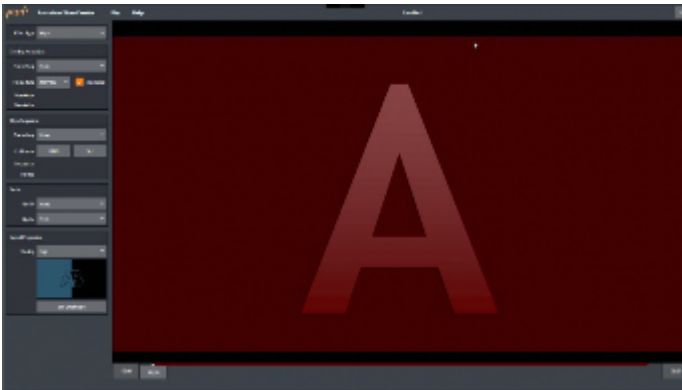
1.1 Related Documents

- *Viz Verdi Switcher Guide*: Contains information on how to install, configure and use Viz Verdi, and supported hardware.

1.2 Feedback And Suggestions

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2 Overview

The *Animation Store Creator* is the transition authoring application, and is attractive, simple, and user friendly. In simplest terms, it accepts one or two image sequences as inputs:

· The first image sequence supplies the full color overlay.
· A second sequence can be supplied to define the transition itself. This one is optional, since it is possible to create a transition without it by specifying a *Cut Frame* instead.

In addition, two optional sound files can be supplied, as mentioned previously, and you can also designate an icon for the new transition. On completion, transitions automatically appear in the correct location for convenient live use.

This section contains information on the following topics:

· Launching the Application
· Screen Layout

2.1 Launching The Application

The application is available from the *Home page* of the *Startup screen* on your Vizrt system.

For example, in the live video production suite, click the **Add-Ons** button on the icon ring and select the **Animation Store Creator** link shown at right.

2.2   Screen Layout
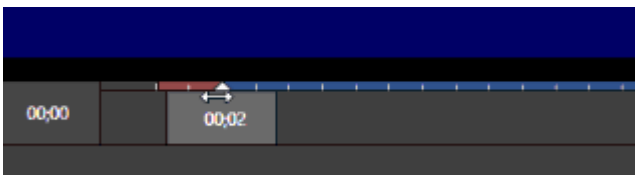

The largest area of the screen is the *canvas*; this displays the result of your efforts. A scrub bar beneath the canvas (shown in detail below) lets you preview the effect as it will appear any point in time.

Running down the left side of the canvas, you'll see a stack of controls with standard menus shown at the top. The control groups in this section are briefly described in the table below.

Control Group	Description
Menus	Allows you to save your project, export the finished transition (including exporting as an executable installer file), or view *Help* information.
Effect Type Settings	Governs the manner in which the transition proceeds.

Control Group	Description
Overlay Controls	Allows import of files sequences defining the effect.
Transition Controls	Allows import of files sequences defining the effect.
Audio Controls	Allows import of files sequences defining the effect.
Export Controls	Allows you to choose the most economical (in terms of memory) quality for your transition and assigns a thumbnail icon image to appear in the Live Desktop's *Transition Bin*.

3 Getting Started

In this section, we'll talk about the transition creation process. We'll discuss the Animation Store Creator workflow, and the nature and purpose of the image sequences and audio files it uses. We'll also look at the File menu output options, and project management.

This section contains information on the following topics and procedures:

- Transition Design
- Effect Type
- Wipe Sequence
- Warp Sequence
- Audio Track
- Animated Buffer
- Export Properties
- Menus

3.1 Transition Design

Let's spend a moment considering the purpose of transitions as this relates to design and the order of operations in the *Animation Store Creator* software.

Setting aside all other aspects, a properly prepared transition accomplishes one of two things:

1. Applied to the live production suite's *Background* video layer, it will ultimately swap the displays from the current *Program* and *Preview* row sources.
2. Or applied to an *Overlay* and *DSK* channel, it will introduce another source (commonly a title or graphic, but not limited to those options) to appear 'above' (or 'in front of') the *Background* video layer and remove it from view if the transition is run in reverse.

In both cases above, the transition manipulates two sources of imagery, which we can refer to as *source A* and *source B*:
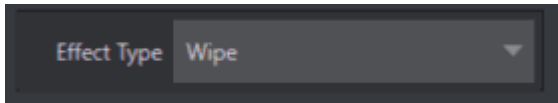
- At the beginning of a transition, only *source A* is displayed.
- Source B is introduced as the transition progresses, either replacing source A (when the transition is applied in the Background channel) or appearing superimposed above it (when applied to a DSK/Overlay channel).
- An *Overlay Animation* constitutes an added source displayed above both *source A* and *source B* during the course of the transition, being completely removed from view when the transition ends.

In all cases, the way *source B* is introduced is governed by the controls and animation content (if any) you supply in the *Wipe/Warp Sequence* control group, discussed a bit later in, and by the **Effect Type** menu setting – discussed next.

3.2 Effect Type

Consider a simple transition. *Overlay Animations* (Overlay Animation Sequence) generally either begin with a fully transparent frame, gradually dissolving onto the screen; or it comes into view

from an off-screen location. In both cases, the overlay is removed from view by the end of the effect in one manner or another, fully revealing the newly introduced source.

Often, the *Overlay Animation* is designed to completely fill the screen at some point, allowing the actual transition to occur as a cut *behind* the animation. In this case, there is no need for a separate animation sequence to define the transition. Therefore, the *Wipe Sequence* controls allow you to simply specify (or *Set* the frame you are currently previewing as) the *Cut Frame*.

> ✅ **Hint:** The title of the Wipe/Warp Sequence control group varies depending on the **Effect Type** selection.

Otherwise, you can supply a simple black and white animation to define a transition as an animated blend of source *A* and *B* . The "*Wipe*" **Effect Type** supports both of these types of transitions (Details about animation sequences for *Wipe* transitions are provided in Wipe Sequence).

3.2.1   Warp A, Warp B, or Warp A and B

The *Warp* options in the **Effect Type** menu unleash some of *Animation Store Creator*'s most powerful capabilities. Using these options, the corresponding *source* (*A, B or both*) is completely governed by the animation you supply. The designated source can be moved, rotated, and distorted in endless ways:

Select *Warp A* to:

- Fly *source A* off the screen, revealing *source B* behind it.
- Or roll *source A* into a ball and roll it off the screen.

Select *Warp B* to animate source B:

- Fade it up with a ripple to hide *source A.*
- Or unroll source B like a scroll over top of *source A.*

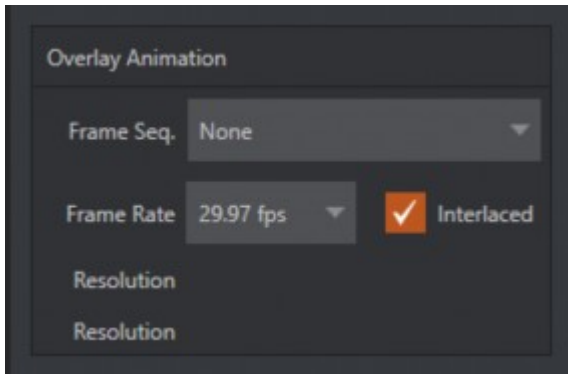> ⚠ **Note:** Transitions prepared using the Warp A option are unsuitable for use in an Overlay or DSK channel.

The *Warp* A and B option in the **Effect Type** menu allows both sources to be completely governed by the animation you supply. This is achieved by adding blue to the warp gradient of the B source.

> ⚠ **Note:** Information on preparing warp animations is provided in Warp Sequence. Be sure to supply an Overlay Animation when using this effect type.

3.2.2   Overlay Animation Sequence

The next step when creating a new *Animation Store Transition* is to load an *Overlay Animation*.

The *Overlay Animation* supplies the full color overlay imagery that appears on top of all *Switcher* video layer content (both sources: *A* and *B*) as they are displayed or removed when the effect is applied in the *Live Desktop*.

3.2.3   File Sequences

You will likely supply the *Overlay Animation* to the *Animation Store Editor* as an incrementally numbered file sequence. Typical animation and effects programs are capable of outputting suitable file sequences. File naming conventions for sequences often takes the form *filename0001.png*, *filename0002.png*, etc. (or perhaps *filename.0001.png*, or *filename_0001.png*).

The files should be prepared in a 32-bit format (with embedded alpha channel) of course, so the underlying *Switcher* sources is visible behind the overlay. Most common 32-bit file formats are supported, including PNG, TIFF, TARGA, and (flattened) PSD.

> ✅ **Hint:** If your graphics application of choice does not automatically export 32-bit files in straight or non-premultiplied format, you should choose that option.

As an alternative to file sequences, the most common 32-bit animation file formats are also supported.
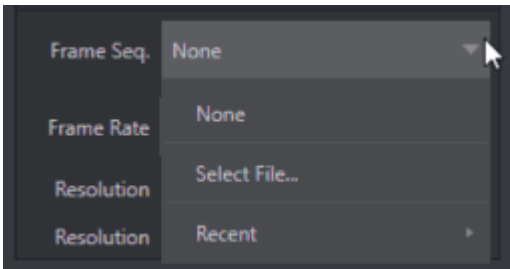
Frame Count

The number of images in the file sequence depends on your specific need. Typically, this sort of transition effect is not very long, often just one or two seconds. A two second transition intended to be played at normal speed (Medium, or [M] in the *Transitions group* on the *Live Desktop*) would look great with a sequence of 60 frames for NTSC, or 50 for PAL.

If you expect the transition will primarily be applied with a shorter duration you could use less frames, say just fifteen. (Using the lesser frame count when possible has the benefit of reducing demands for *Effects Memory* in the *Switcher*.)
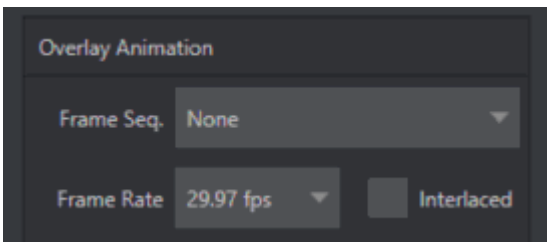
The Media Browser

Click the drop-down menu labeled **Frame Seq** and click on **Select File** to open your media browser to locate your Animation Store sample files.

The samples folder contains sub-directories holding the overlay file sequence (the folders are titled "overlay" or "warp"), the transition file sequence ("transition") and sound files ("sounds"). Once you have selected your sample animation, select any one the PNG (or EXR) files in that folder and click open. The system automatically detects that it is an image sequence and loads it up in proper order.

Frame Rate and Interlace

The **Frame Rate** control allows you to choose appropriate settings for your target session format (PAL, or NTSC). As mentioned earlier (in File Sequences), you can choose a double-rate setting when you think it might be necessary to do so, but normally you should avoid this option, to minimize unnecessary use of *Effects Memory*.

Select **Interlaced** switch when the animation sequence is fielded to ensure smooth motion.

> ✅ **Hint:** Interlace support assumes upper field first order. NTSC SD D1 format frames (720x486 resolution, lower-field-first) are converted to this format if detected.

3.3   Wipe Sequence

The details of the animation sequence used to define the transition itself are fairly similar to the material we just discussed, with a few important distinctions.

> ⚠ **Note:** This step is optional. If your overlay animation sequence completely fills the screen at any point, you can simply use the **Cut Frame** control to designate the frame where the change occurs. No transition sequence is required in this case.

The transition file sequence serves a different purpose than the overlay sequence does. It tells the *Animation Store Creator* what content will appear in each pixel of the screen at any given time during the effect.

At this point, you can supply either a black and white transition animation for simple pixel-blending effects, or a UV-map gradient animation for more elaborate effects that move and warp
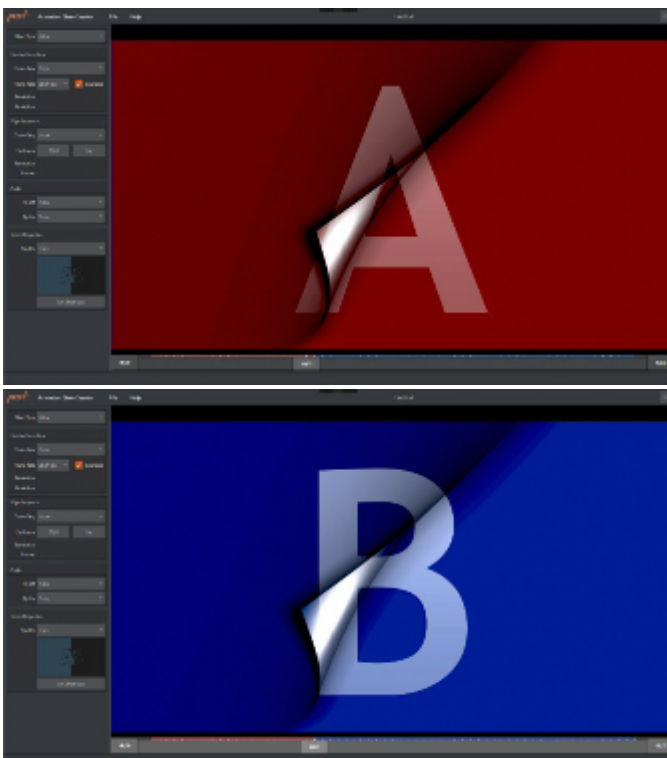
the video source (a suitable texture for use in warping animations is supplied in the folder at *C:\...
\Effects\Animation Stores\Samples*).

3.3.1 Simple Transitions

A very basic transition created with black and white imagery behaves as follows: White pixels in a
given frame define the static background layer. *Source B* appears wherever black pixels exist in the
current frame. Pixels partway in between black and white result in overlay transparency.

Let's consider an example: Above, we see thumbnail icons for a black and white image sequence
prepared to define a simple transition. As you can see, the first frame is white. The black section
of each frame 'grows' from left to right as the sequence progresses.

For this sort of effect, the **Effect Type** option is set to *Wipe*. The canvas shows a frame about
halfway through a transition. This shows the outcome at that frame as the transition sequence
wipes the incoming *source B* over *source A*, which is already on the screen as the transition begins.

Applied to a *DSK* or *Overlay* channel, this simple *Animation Store* can be used to reveal a lower third type title, or as a full screen wipe.
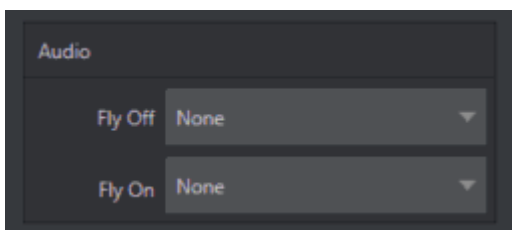
3.4   Warp Sequence

As mentioned earlier, much more elaborate and complex transitions can be prepared using UV gradient animations (you can find a sample UV texture map to get you started in the folder at *C:\Program Files\Vizrt\...\Effects\Animation Stores\Samples*).

Using suitable graphics software to distort and translate the supplied texture, you can create dynamic cloth effects to reveal your video and graphic sources.

Animations can be designed that move the gradient texture into or out of the frame. Depending on whether the animation is assigned to *source A* or *B* (using the *Warp A* or *Warp B* options in the **Effect Type** menu), the animation can remove the current source, introduce a new one in its place, or reveal an incoming overlay.

You'll find example file sequences in the content supplied with your Animation Store Creator. Examine these files to gain a good understanding of the relationship of the overlay and transition animation sequences and how the Wipe, Warp A and Warp B options affect the resulting effect.

3.5   Audio Track

You can optionally select sound files for your transition using file menus labeled **Fly On** and **Fly Off** in the **Audio** control group.

Files should be a suitable length, naturally. Most common audio file formats are compatible (including *.wav* and *.mp3*).

Audio can be extracted from video file formats. This allows you to use the same video file as both the frame sequence and audio source (under their respective menus).

> ✅ **Hint:** Audio levels for transitions can be controlled in the live production suite's Audio Mixer.
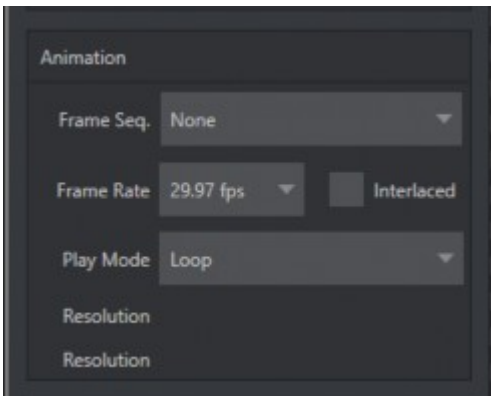
3.6   Animated Buffer

A more recent addition to the **Effect Type** menu is *Animated Buffer.*

Animated Buffer provides powerful animation effects that can be used independently of Media Players, effectively allowing you to inject animation freely all throughout your productions. They serve particularly well in DSKs and M/E Key layers but can also provide useful elements for M/E compositions, and more.

Selecting this **Effect Type** option updates the Control Stack to display relevant options and settings in the area below:

The **Frame Seq**. selector (**Animation** control group) lets you choose a file sequence (or animation clip in common formats, including those with embedded alpha channel). The **Resolution** and **Frames** display fields update after loading the file(s).

3.6.1   Play Mode

The video production suite's *Buffer* system supports three types of animated effects. Select *Loop*, *Single*, or *Ping Pong* using the **Play Mode** menu, according to the type of effect you require.
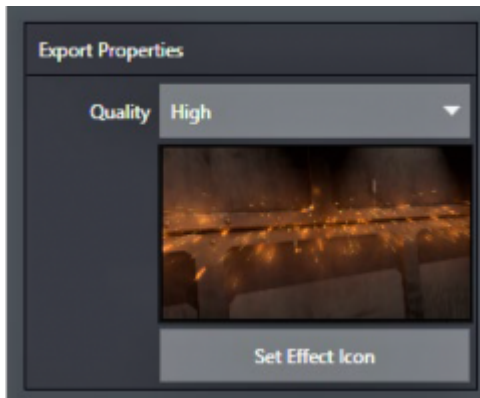
3.7   Export Properties

The last control group is labeled **Export Properties**. The **Quality** drop-down menu has three optional settings. Generally, the *Normal* or *High* setting will do. Consider using *Ultra* only for

situations involving highly detailed imagery in the overlay channel, and especially slow transition speeds.

> ✅ **Hint:** Again, using unnecessarily high settings without a good reason simply wastes valuable Effects Memory.

To select an icon for the new transition to be generated, drag the scrub bar beneath the canvas to a suitable frame and click the **Set** button in the **Export Properties** group.

3.8 Menus

Two primary menus sit at upper left, just beneath the application title bar. Let's consider the features found in the **File** and **Help** menus.
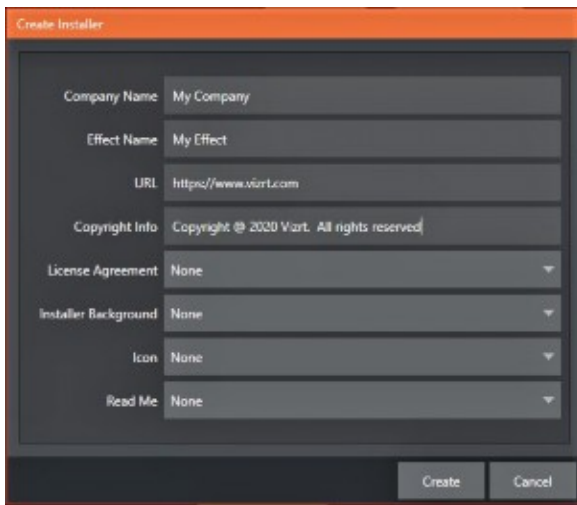
3.8.1 The File Menu

The file menu permits you to save and re-open transition projects and export your results.

1. **New:** Opens a new, *blank* project.
2. **Open:** Opens a previously stored transition project to continue working with it.
3. **Recent:** Shows a list of recently active transition projects.
4. **Save:** Stores the current project.
5. **Save As:** Saves a copy of the current project with a new name.
6. **Export to:** Compiles the finished transition and store it in the correct location for live use. Note that the optional targets listed in the menu can include various types of NDI systems detected on the local network; naturally only supporting live video mixing systems are suitable destinations.
7. **Create Installer:** Creates a standalone installer (*.exe*) file that you can share with another Vizrt live production suite user.
8. **Exit**

3.8.2 Create Installer

Select the **File** menu point **Create Installer** to open the dialog panel shown below.

Enter information for the different fields listed and select either **Browse** (to locate a custom file you have prepared) for the file entries listed below or select **Use Default**.

Once you have completed these steps, press the **Create** button at the bottom of the panel. After you supply a filename, a progress gauge will be shown as the standalone installer file (*.exe*) is prepared.

4 NDI

What is NDI?

In a nutshell, Network Device Interface (NDI) technology is the world's most prolific video over IP protocol for live production. NDI allows systems and devices to identify and communicate with each other, and to encode, transmit, and receive high quality, low latency, frame-accurate video and audio over IP in real time.

NDI enabled devices and software have the potential to greatly enhance your video production pipeline, by making video input and output available anywhere your network runs. Vizrt systems and a growing number of third-party systems provide direct support for NDI, both for ingest and output. Although Viz 2110 IO provides many other useful features, it is purpose designed primarily to turn SMPTE 2110 sources into NDI signals and vice versa.

5 Third Party Licenses

This product uses a number of third-party software libraries under license. Related license requirements are defined in documentation installed on the product. To view these licenses, please click the Additional Licenses link provided in the Help menu on the **Startup > Home** page shown upon launching the product.