

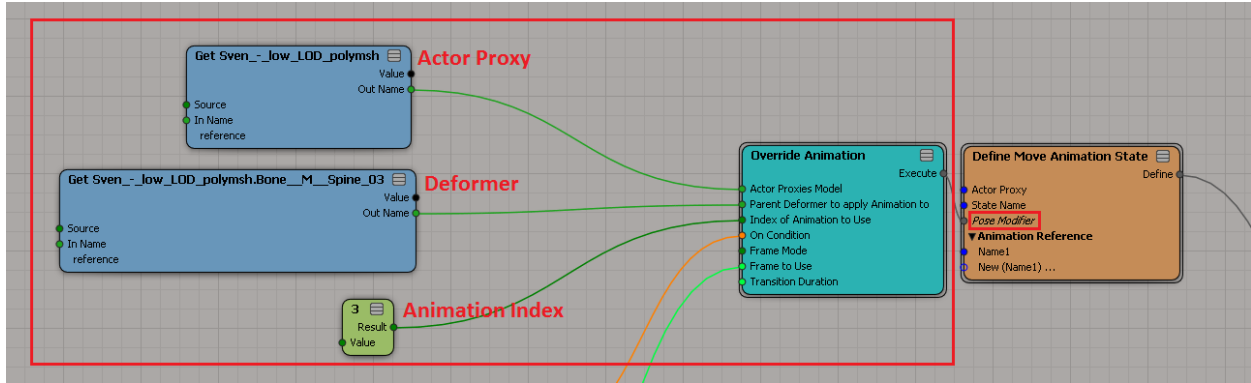
Animation Blending system for CrowdFX

Animation Blending system allows you to blend a pose into a crowd animation state. For example, you can have a walking crowd with their upper bodies doing shooting animation when a shooting target is in range. (Demo: http://www.youtube.com/watch?v=UAG9tgx3_k8)

To use this animation blending system, you will need 'Override Animation' compound. You will need to use some CrowdFX components as input to make it work, namely the actor proxy (numbered 1 in the picture below) and the deformer in which you would like to blend the animation (pick from the list under number 2 in the picture below).



Override Animation will be connected to Pose Modifier of an animation state that you would like to blend in. It has several input ports:



1. Actor Proxies Model

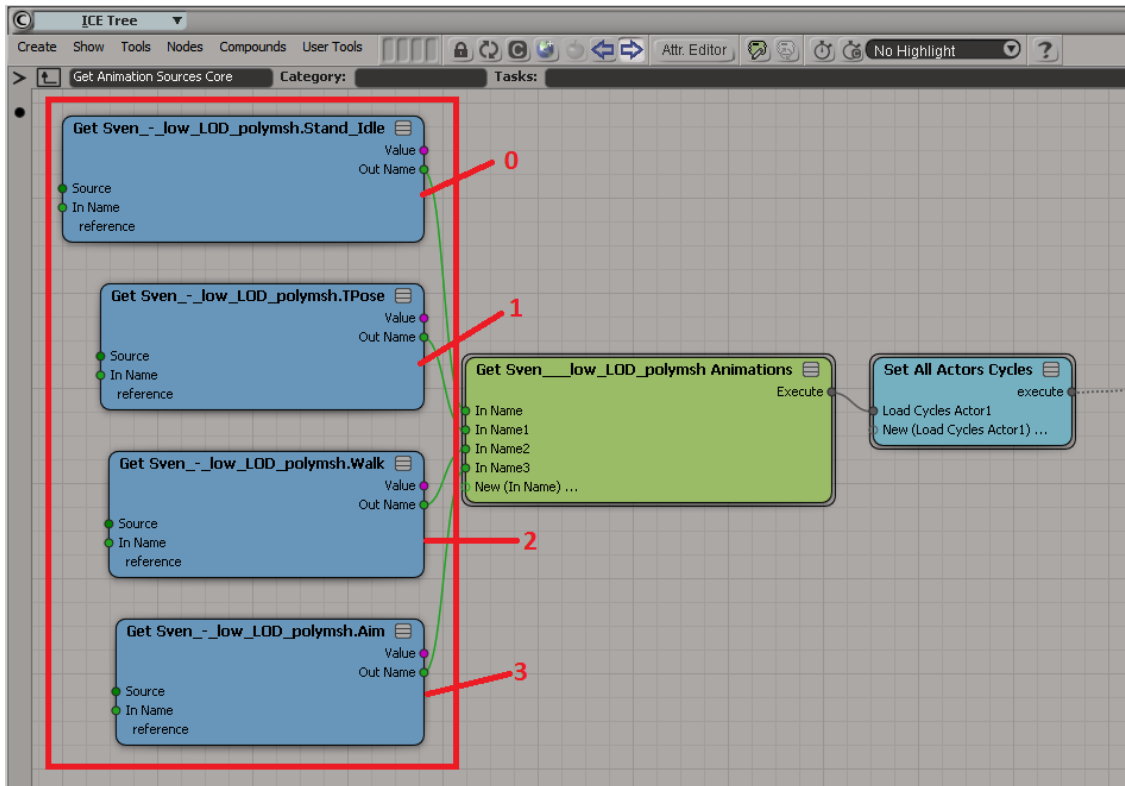
The crowd actor proxy of the animation state. You can find the actor proxy under Crowd > Actor_Proxies > [Model Name]_[polymsh/mesh]. See the explorer reference no. 1 above.

2. Parent Deformer to apply Animation to

This will be the deformer in which animation will be blended. All its descendant deformers will be affected as well. You can use any deformer listed under Crowd > Actor_Proxies > [Model Name]_[polymsh/mesh] > Deformers_Proxy (see no. 2 of the explorer reference above).

3. Index of Animation to Use

Determine the animation to be blended in. This is not so straight forward as you need to find the index of the animation to use. You can find it by counting the animation index (0 based) from debugging 'self.__CrowdFX_CycleNames' attribute or go to 'Get_Animations_Sources' ICE tree of the crowd under Get Animation Sources Core.



(Example from sample scene)

4. On Condition

Specify the condition in which the animation will be blended. If you would like the animation blending to take place at all time, put it as true. Otherwise, you can use your conditions. The sample scene uses angle to target as condition. Blending only takes place when angle to target is less than 45 degrees.

5. Frame Mode

You could choose 'Normal Animation' or 'Custom Frame No.'. 'Normal Animation' will blend the animation on loop, i.e. as if we are playing that animation. 'Custom Frame No.' will blend in a specific frame of the animation. The sample scene has an aim animation of turning the aim from 45 degrees to the right to 45 degrees to the left. 'Custom Frame No.' is used to match the angle to a specific animation frame of that angle.

6. Frame to Use

This value is used only if 'Custom Frame No.' is used for Frame Mode. Specify the frame no. of the animation to be blended in.

7. Transition Duration

The duration in which the transition between the animation state and the blended animation will be played when the condition to blend changes from true to false and vice versa.

Notable Compounds within 'Override Animation' compound

1. 'Make Chosen Hierarchy follow parent'

This compound is responsible for getting the final transforms of blended animation excluding the transitional poses.

2. 'Convert Deformer Transforms to Local' and 'Convert Deformer Transforms to Global'

These two are needed to create the transitional poses. If we blend the global transforms, the deformer distance to each other will be changed, resulting in unexpected poses. As such, we must convert the transforms to local space first, blend them then revert them back to global space. These compounds need actor rig to be stored previously using 'Store Deformer Hierarchy', which is within 'Store Actor Hierarchy' compound.

3. 'Store Actor Hierarchy'

We would like to convert all deformers to local space and global space. This compound utilizes 'Deformers_Proxy' group under actor proxy to store all deformer hierarchy rather than just a selected deformer.

4. 'Set Pose Transition Blend Value'

This compound is responsible in calculating the blend value for the transitional poses. The blend value is saved under the attribute '__CrowdFX_PoseBlend_BlendTransitionValue'.