

zCore Unity Plugin 4.0.0

Migration Guide

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Migrating to zCore Unity 4.0.0

The 4.0.0 release of the zCore Unity Plugin API has been redesigned to more closely match the native core API. This document describes the changes and any known issues.

Inspector Field Changes

| ZSCore 3.0.0 | ZCore 4.0.0 |
|------------------------|--|
| CurrentCamera | Renamed: CurrentCameraObject |
| EnableTracking | Removed: Use SetTrackingEnabled() and IsTrackingEnabled() instead. |
| InterPupillaryDistance | Renamed: Ipd |
| FieldOfViewScale | Removed |
| HeadTrackingScale | Removed: Use SetFrustumAttribute() and GetFrustumAttributeFloat() with ZCore.FrustumAttribute.HeadScale |
| GlassesOffset | Removed: Use SetFrustumAttribute() and GetFrustumAttributeFloat() with ZCore.FrustumAttribute.GlassesOffset |
| MouseAutoHideTimeout | Renamed: MouseAutoHideDelay |

General API Changes

| ZSCore 3.0.0 | ZCore 4.0.0 |
|--------------------------|---|
| SetEyesSwapped() | Removed: Handled automatically. |
| AreEyesSwapped() | Removed: Handled automatically. |
| GetStereoCamera() | Return Value Change: Now returns a <code>zSpace.Core.StereoCamera</code> instead of <code>UnityEngine.Camera</code> . |
| SetAutoStereoEnabled() | Removed: Use <code>ZCore.EnableAutoStereo</code> inspector field. |
| IsAutoStereoEnabled() | Removed: Use <code>ZCore.EnableAutoStereo</code> inspector field. |
| ConvertFromRightToLeft() | Removed: All API calls that use the <code>Matrix4x4</code> type either for arguments or return values assume that they are in the Unity left-handed coordinate space, except for the stereo frustum projection matrices. |

Display API Changes

| ZSCore 3.0.0 | ZCore 4.0.0 |
|------------------------|---|
| GetDisplayResolution() | Renamed: <code>GetNativeDisplayResolution()</code> |
| GetDisplayOffset() | Removed: Now use <code>GetFrustumCameraOffset()</code> and negate its corresponding return value. |
| IntersectDisplay() | Argument Change: Now requires <code>ZCore.Pose</code> parameter type instead of <code>Matrix4x4</code> . |

Viewport API Changes

| ZSCore 3.0.0 | ZCore 4.0.0 |
|-----------------------|--|
| GetViewportPosition() | Argument Change: No longer accepts integer output parameters and returns a Vector2 instead. |
| GetViewportSize() | Argument Change: No longer accepts integer output parameters and returns a Vector2 instead. |

Coordinate Space API Changes

| ZSCore 3.0.0 | ZCore 4.0.0 |
|------------------------------------|---|
| GetCoordinateSpaceTransform() | Return Value Change: Now returns a left-handed Matrix4x4 to be consistent with the Unity coordinate space. |
| GetTrackerToCameraSpaceTransform() | Removed: Use GetCoordinateSpaceTransform() with ZCore.CoordinateSpace.Tracker and ZCore.CoordinateSpace.Camera for the <i>from</i> and <i>to</i> coordinate spaces respectively. |

StereoFrustum API Changes

| ZSCore 3.0.0 | ZCore 4.0.0 |
|-----------------------------|--|
| SetInterPupillaryDistance() | Removed: Use SetFrustumAttribute() with ZCore.FrustumAttribute.Ipd |
| GetInterPupillaryDistance() | Removed: Use GetFrustumAttributeFloat() with ZCore.FrustumAttribute.Ipd |

| ZSCore 3.0.0 | ZCore 4.0.0 |
|------------------------|--|
| SetViewerScale() | Removed: Use SetFrustumAttribute() with ZCore.FrustumAttribute.ViewerScale |
| GetViewerScale() | Removed: Use GetFrustumAttributeFloat() with ZCore.FrustumAttribute.ViewerScale |
| SetFieldOfViewScale() | Removed |
| GetFieldOfViewScale() | Removed |
| SetHeadTrackingScale() | Removed: Use SetFrustumAttribute() with ZCore.FrustumAttribute.HeadScale |
| GetHeadTrackingScale() | Removed: Use GetFrustumAttributeFloat() with ZCore.FrustumAttribute.HeadScale |
| SetGlassesOffset() | Removed: Use SetFrustumAttribute() with ZCore.FrustumAttribute.GlassesOffset |
| GetGlassesOffset() | Removed: Use GetFrustumAttributeFloat() with ZCore.FrustumAttribute.GlassesOffset |
| SetNearClip() | Removed: Use SetFrustumAttribute() with ZCore.FrustumAttribute.NearClip |
| GetNearClip() | Removed: Use GetFrustumAttributeFloat() with ZCore.FrustumAttribute.NearClip |
| SetFarClip() | Removed: Use SetFrustumAttribute() with ZCore.FrustumAttribute.FarClip |
| GetFarClip() | Removed: Use GetFrustumAttributeFloat() with ZCore.FrustumAttribute.FarClip |
| SetPortalMode() | Renamed: SetFrustumPortalMode() |
| GetPortalMode() | Renamed: GetFrustumPortalMode() |

| ZSCore 3.0.0 | ZCore 4.0.0 |
|-----------------------|---|
| SetCameraOffset() | Renamed: SetFrustumCameraOffset() |
| GetCameraOffset() | Renamed: GetFrustumCameraOffset() |
| GetViewMatrix() | Renamed: GetFrustumViewMatrix() |
| GetProjectionMatrix() | Renamed: GetFrustumProjectionMatrix() |
| GetEyePosition() | Renamed: GetFrustumEyePosition() Note: Eye position is now returned in the Unity left-handed coordinate space. |
| GetFrustumBounds() | Argument Change: No longer accepts a 6-element float array and returns a ZCore.FrustumBounds instead. |

TrackerTarget API Changes

| ZSCore 3.0.0 | ZCore 4.0.0 |
|------------------------------|---|
| SetTrackerTargetEnabled() | Renamed: SetTargetEnabled() |
| IsTrackerTargetEnabled() | Renamed: IsTargetEnabled() |
| IsTrackerTargetVisible() | Renamed: IsTargetVisible() |
| GetTrackerTargetPose() | Renamed: GetTargetPose() Note: Now returns value of type ZCore.Pose. Also, use ZCore.CoordinateSpace.Tracker to retrieve the tracker-space pose. |
| GetTrackerTargetCameraPose() | Removed: Now use GetTargetPose() with ZCore.CoordinateSpace.Camera |

| ZSCore 3.0.0 | ZCore 4.0.0 |
|--|---|
| GetTrackerTargetWorldPose() | Removed: Now use GetTargetPose() with ZCore.CoordinateSpace.World |
| GetCachedTrackerTargetWorldPose() | Removed: Now use GetTargetPose() with ZCore.CoordinateSpace.World |
| SetTrackerTargetPoseBufferingEnabled() | Renamed: SetTargetPoseBufferingEnabled() |
| IsTrackerTargetPoseBufferingEnabled() | Renamed: IsTargetPoseBufferingEnabled() |
| GetTrackerTargetBufferedPose() | Removed: Now use GetTargetPoseBuffer() Note: GetTargetPoseBuffer() returns pose information in tracker-space. To convert pose information to any other coordinate space, use GetCoordinateSpaceTransform() or TransformMatrix(). |
| GetTrackerTargetBufferedCameraPose() | Removed: Now use GetTargetPoseBuffer() with TransformMatrix() |
| GetTrackerTargetBufferedWorldPose() | Removed: Now use GetTargetPoseBuffer() with TransformMatrix() |

TrackerTarget Button API Changes

| ZSCore 3.0.0 | ZCore 4.0.0 |
|--------------------------------|---|
| GetNumTrackerTargetButtons() | Renamed: GetNumTargetButtons() |
| IsTrackerTargetButtonPressed() | Renamed: IsTargetButtonPressed() |

TrackerTarget LED API Changes

| ZSCore 3.0.0 | ZCore 4.0.0 |
|------------------------------|--|
| SetTrackerTargetLedEnabled() | Renamed: SetTargetLedEnabled() |
| IsTrackerTargetLedEnabled() | Renamed: IsTargetLedEnabled() |
| IsTrackerTargetLedOn() | Removed: Now use IsTargetLedEnabled() |
| SetTrackerTargetLedColor() | Renamed: SetTargetLedColor() Note: Now accepts UnityEngine.Color instead of ZSCore.LedColor for the color argument. |
| GetTrackerTargetLedColor() | Renamed: GetTargetLedColor() Note: Now returns UnityEngine.Color instead of ZSCore.LedColor for the color argument. |

TrackerTarget Vibration API Changes

| ZSCore 3.0.0 | ZCore 4.0.0 |
|------------------------------------|--|
| SetTrackerTargetVibrationEnabled() | Renamed: SetTargetVibrationEnabled() |
| IsTrackerTargetVibrationEnabled() | Renamed: IsTargetVibrationEnabled() |
| IsTrackerTargetVibrating() | Renamed: IsTargetVibrating() |
| StartTrackerTargetVibration() | Renamed: StartTargetVibration() Note: Now accepts an argument to control the intensity of the vibration. This is currently only supported for new zSpace stylus hardware. |
| StopTrackerTargetVibration() | Renamed: StopTargetVibration() |

TrackerTarget Tap API Changes

| ZCore 3.0.0 | ZCore 4.0.0 |
|-----------------------------|--------------------------------------|
| IsTrackerTargetTapPressed() | Renamed: IsTargetTapPressed() |

Mouse Emulation API Changes

| ZCore 3.0.0 | ZCore 4.0.0 |
|-----------------------------|--|
| SetMouseEmulationDistance() | Renamed: SetMouseEmulationMaxDistance() |
| GetMouseEmulationDistance() | Renamed: GetMouseEmulationMaxDistance() |

Known Issues in 4.0.0 release of the zCore Unity Plugin

The 4.0.0 release of the zCore Unity Plugin supports both 32-bit and 64-bit builds. When used with Unity 5.1 and below (including all Unity 4 versions), the 4.0.0 release places native DLLs in the **Assets/Plugins/x86** directory for 32-bit DLLs and the **Assets/Plugins/x86_64** directory for 64-bit DLLs.

If you import the 4.0.0 release of the zCore Unity Plugin into a project using Unity 5.1 or below, the Unity engine no longer uses the native DLLs in the **Assets/Plugins** directory. This causes any plugins using these DLLs to fail, often without generating an error message.

Resolution

Move any native DLLs originally located in the **Assets/Plugins** directory into the appropriate subdirectory: **Assets/Plugins/x86** for 32-bit DLLs and **Assets/Plugins/x86_64** for 64-bit DLLs.

Note: This issue should only impact developers using Unity 5.1 and below. Unity 5.2 and above handles plugins with both 32-bit and 64-bit native DLLs in a manner that prevents this issue.