MAYA TRANSLATORS

FOR WINDOWS, IRIX, AND LINUX

VERSION 4.5

MAYA TRANSLATORS FOR WINDOWS, IRIX, AND LINUX

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MAYA TRANSLATORS

1 IGESDXFTOMAYA CONVERTER

IgesDxfToMaya is a stand-alone OpenModel application available on UNIX and Windows. It converts IGES and DXF files to Maya ASCII files using OpenModel. Most of the information in those data files are provided by OpenModel in its own data structures from which the IgesDxfToMaya converter retrieves the information, re-organizes it, and outputs it in Maya ASCII file format.

RUNNING IGESDXFTOMAYA

There are two ways in which you can use the IgesDxfToMaya converter to load IGES and DXF files into Maya: Interactively and Batch mode (recommended).

Interactively

You can drag-and-drop, open, or import an IGES|DXF file directly in Maya. As soon as Maya recognizes the file type, it spawns a separate process to run the IgesDxfToMaya converter, generates a temporary Maya ASCII file, loads the Maya file, and deletes it after loading.

The advantage of this approach is a relatively simple workflow. However, it is inefficient to convert the IGES|DXF file everytime it is loaded into Maya, especially when the conversion process has approximately the same memory requirements as Maya. This large amount of memory consumption is due to the the size of the OpenModel DSOs (Dynamically Shared Objects), which is the first reason why we designed this converter to be a stand-alone application. It is more efficient to use the following approach to bring IGES|DXF files into Maya.

Batch mode (recommended)

You run the IgesDxfToMaya converter from a shell window to convert the IGES|DXF file to a Maya ASCII file and load the resulting file into Maya. You only need to convert your file once and use the converted Maya file in subsequent loadings. The IgesDxfToMaya command is located in the same directory as the Maya executable. Its command line syntax and various options are explained in the next section.

IGESDXFTOMAYA COMMAND

Syntax:

IgesDxfToMaya [iges|dxf file name] [options]

Example:

```
IgesDxfToMaya example.dxf -o example.ma
```

Notes:

- The options for converting IGES|DXF files are only available when you use the converter in the batch mode.
- All the options, except the specification of the output file name (-o), are used by OpenModel functions for retrieving information. These options are based on the Alias import options.

General options

Option	Values	Default	Description
-o	any string	none	Output file name

IGES file options

Option	Values	Default	Description
-g	on | off	off	When set to on, all geometry retrieved from the IGES file will be grouped under a node named "IGES_FILE". Otherwise, this group node will not be created.
-c	on | off	off	When set to on, multiple knots are removed based on continuity in IGES Parametric Curve and Surface geometry.
-a	on | off	off	When set to on, supported geometric entities that have been flagged for use as annotation are retrieved. Otherwise, ignored.

Option	Values	Default	Description
-tts	on | off	on	When set to on, retrieved trimmed or bounded surfaces whose boundaries are the same as, or iso-parametric to, the natural boundaries of the untrimmed surface, are converted to untrimmed surfaces by shrinking the surface to the trim boundaries. Otherwise, trimmed surfaces are represented as trimmed surfaces.
-ttf	on | off	off	When set to on, retrieved trimmed or bounded surfaces that are planar are converted to face geometry in OpenModel. Maya will convert it back to a trimmed surface.
-s	any number	1.0	All retrieved geometry is scaled by this factor in world space.

DXF file options

Option	Values	Default	Description
-g	on | off	off	When set to on, all geometry retrieved from the DXF file is grouped under a node named “DXF_FILE”. Otherwise, this group node will not be created.
-ls	on | off	on	Determines whether or not shaders are to be loaded from the “shader” sub-directory of the current project.
-ab	on | off	off	Determines whether “anonymous” DXF BLOCK entities are processed or ignored. Anonymous blocks are automatically generated by the AutoCAD “HATCH” command and represent the hatch lines used to pattern polygons.
-ft	polyset | surface	polyset	This indicates the type of geometry resulting from conversion of DXF 3DFACE, SOLID, and TRACE entities.
-pt	polyset | surface	polyset	This indicates the type of geometry resulting from conversion of DXF POLYLINE and LINE entities.

Option	Values	Default	Description
-u	inches | miles | feet | mils | microinches | kilom | m | cm | mm | microns	inches	Set the unit for DXF coordinate data—the units of the DXF coordinate data are not stored in the file.
-s	any number	1.0	All retrieved geometry is scaled by this factor in world space.

2 StudioImport Plug-in and Translator

StudioImport is a translator for Studio wire files (previously known as Alias wire files) available on IRIX, Windows, and Linux.

Note

StudioTools v10 now uses a different file format for its wire files. This new file format should cause no change in your everyday use of StudioTools because the file provides all of the same capabilities as the old Alias|Wavefront wire file. This new file format will be compatible with new releases of StudioTools, so you won't need a translator to use Version 10 files in future releases.

Loading StudioImport

To load the StudioImport file Translator:

Once Maya is installed:

1. Open Maya and select Window > Settings/Preferences > Plug-in Manager.
2. Click the **loaded** button for the StudioImport plug-in.

Opening Studio wire files

To open a Studio wire file:

Select File > Open Scene and select the Studio wire file you want to open from the file browser selection.

StudioImport conversion issues

The following are known issues for StudioImport conversion as of Maya 4.5.

- Studio SID data is not supported in the StudioImport plug-in.
- Any paint data will not be translated into Maya. SID shapes will translate as Maya surfaces.
- Poly sets will lose texture coordinates on translation to Maya.
- Area and Linear lights are not transferred correctly.

3 EXPORTING FILES FROM MAYA

For details on exporting to formats other than Maya through the user interface or plug-ins, please see “Managing Files and Projects” in *Using Maya: Essentials*.

MAYATOALIAS CONVERTER

MayaToAlias is a Maya plug-in for UNIX and Windows that uses OpenMaya API to get the scene information from Maya, and then exports it using OpenModel to a wire file (version 9.7.3) or IGES or DXF file, depending on which export file format is chosen.

To load the MayaToAlias plug-in:

1. Open Maya and select Window > Settings/Preferences > Plug-in Manager.
2. Click the **loaded** button for the MayaToAlias plug-in.

   Now you can export Maya content to wire, IGES, or DXF format through the usual export mechanism.

To export a Maya file to wire, IGES, or DXF:

1. Select File > Export All or File > Export Selection.
2. Select a file name and file type, and then click Export.

   aliasWireExport, IGESexport, and DXFexport are three of the options in the File Type pull-down menu.

MayaToAlias exports the following from Maya to wire files:

- transform nodes
- hierarchy
- instanced objects
- NURBS curves
- NURBS surfaces
- trimmed surfaces
- meshes

- cameras

MayaToAlias exports the following from Maya to IGES format:

- transform nodes
- instanced objects (become copied objects in IGES)
- NURBS curves
- NURBS surfaces
- trimmed surfaces
- meshes

MayaToAlias exports the following from Maya to DXF format:

- transform nodes
- instanced objects (become copied objects in DXF)
- NURBS curves
- NURBS surfaces
- trimmed surfaces (become surfaces and curves in DXF)
- meshes

Release Notes

- If you get an error message when using MayatoAlias of the form "Creating surface fails - node [nodename], it is because Studio Tools and Maya have different requirements for a valid NURBS surface. Valid NURBS surfaces in Maya may not be valid in Studio Tools, hence they are not created. Usually the problem can be fixed by changing Open to Periodic in either U or V direction (this can be done by using the Edit Surfaces > Open/Close Surfaces tool. Ensure that the Surface direction is set correctly by opening the option box).

EXPORTING TO WAVEFRONT (OBJ)

The objExport plug-in lets you export Maya polygon data to the Wavefront OBJ ASCII file format. It successfully converts:

- Maya texture coordinate and vertex normal information.
- Maya renderable set information into material names.
- Maya component set information into groups.

To load the objExport plug-in:

1. Open Maya and select Window > Settings/Preferences > Plug-in Manager.
2. Click the **loaded** button for the objExport plug-in.

To export a file in OBJ format:

1. Select File > Export All or File > Export Selection.
2. Choose OBJexport as the file type and then click Export.

Note

objExport does not export OBJ formatted curves, surfaces, smoothing groups, or point group materials. It also does not support NURBS. You should use the MayaToAlias plug-in for scenes that contain NURBS surfaces.

For details on exporting to OBJ format, see *Using Maya: Essentials*.

Note

Alias|Wavefront provides the source code for the objExport plug-in as part of the Maya Developer's Toolkit. Ensure that you have installed the Toolkit, and you will find the source code in `.../devkit/plug-ins/objExport.cpp`.

EXPORTING TO RENDERMAN

The ribExport plug-in adds the new file format RIBexport to the File > Export All... options menu. This lets you export scenes created in Maya in the RIB (RenderMan) format.

Note

This plug-in only supports the Export All file access mode. RIB file import is not supported.

To load the ribExport plug-in:

1. Open Maya and select Window > Settings/Preferences > Plug-in Manager.
2. Click the **loaded** button for the ribExport plug-in.

To export a file in RIB format:

1. Select File > Export All or File > Export Selection.
2. Select RIBexport as the file type and then click Export.

   The plug-in exports NURBS and polygonal geometry. All types of animation in Maya are supported, including keys, expressions, path, deformations, and motion blur.

   The ribExport plug-in supports ambient, directional, point, and spot lights. Simple non-textured shaders are supported, although only the shader color is exported; all other shading attributes are ignored. Phong and Blinn shaders are exported as "plastic" and Lambert shaders are exported as "matte." Per-face shading groups are not supported; only shading groups that are assigned to objects or object instances are exported.

When exporting Maya scenes into RIB, note that the # character is a special formatting character in RenderMan image names (See section 4.1.10 of the RenderMan user manual for information on its formatting capabilities). If you want to include a real # character in a RenderMan image name, you must use "##".

The image name constructed by the ribExport plug-in includes the contents of the "imageName" attribute of the renderable cameras. If you want to include the special RenderMan formatting characters in an image, the imageName attribute is the place those characters should be placed.

RIBexport Options

Default File Extensions Specifies whether the `.rib` extension will be appended to the specified file name. The `.rib` extension is not added if the specified filename already contains that extension.

Single File Output If Yes, each frame is written to a single file. If No, all frames are written to one file.

Extension Padding If the *Single File Output* option is off, this option specifies whether the RIB file extensions will be padded with 0's.

Geometry Motion Blur Specifies whether geometry motion blur information is written to the RIB file.

Pixel Samples Specifies the number of samples taken for each pixel. This value will be used for both the X and Y directions.

Note

Alias|Wavefront provides the source code for the ribExport plug-in as part of the Maya Developer's Toolkit. Ensure that you have installed the Toolkit, and you will find the source code in `.../devkit/plug-ins/ribExport.cpp`.

4 IGES AND DXF ENTITY SUPPORT

The following tables list IGES entities supported in Maya and DXF entities supported in Maya.

IGES ENTITIES SUPPORTED IN MAYA

Type	Form	IGES Entity
100	0	circular arc
102	0	composite curve
104	0-3	conic arc
106	1	copious data
106	2	copious data
106	11	copious data
106	12	copious data
106	63	closed area
108*	0*	plane
108	1	plane
110	0	line
112	0	parametric curve
114	0	parametric surface
118	0-1	ruled surface
120	0	surface of revolution

122	0	tabulated cylinder
124	0	transformation matrix
126	0-5	rational b-spline curve
128	0-9	rational b-spline surface
130	0	offset curve
140	0	offset surface
141	0	boundary entity
142	0	curve on surface
143	0	bounded surface
144	0	trimmed surface
308	0	subfigure definition
402	7,9	associativity instance
406	1	property - definition levels
408	0	singular subfigure instance
406	15	name

DXF ENTITIES SUPPORTED IN MAYA

DXF Entity
ARC no thickness
ARC with thickness
CIRCLE no thickness
CIRCLE with thickness
POINT, with thickness
LINE/3DLINE no thickness
LINE/3DLINE with thickness
3DFACE/SOLID/TRACE
POLYLINE/3D open
POLYLINE/3D closed

DXF Entity
POLYLINE/3D with thickness
POLYLINE/3D Mesh
POLYLINE/Polyface Mesh
BLOCK
INSERT
LAYER

DXF entities supported in Maya

5 MAYA OPENFLIGHT IMPORTER/EXPORTER

The OpenFlight file translator plug-in provides extended functionality to Maya to help address the needs of the Visual Simulation customer. This is done by providing a data translator to read the currently existing OpenFlight databases into Maya. Accompanying the OpenFlight database importer is an OpenFlight Exporter. Functionality that was found to be missing from Maya was added in the form of new node types that can be created and edited from within the Maya modeling environment.

INSTALLING OPENFLIGHT

Run the setup and follow the prompts. OpenFlight will be installed where Maya is installed. A message similar to the following is displayed:

```
OpenFlight has found Maya 4.5 at C:\Program
Files\AliasWavefront\Maya4.5. The software will be installed into
this location.
```

LOADING OPENFLIGHT

To load the OpenFlight file Translator:

Once Maya is installed:

1. Open Maya and select Window > Settings/Preferences > Plug-in Manager.
2. Click the **loaded** button for the Open/Flight plug-in, **fltTranslator**.

IMPORTING/EXPORTING OPENFLIGHT FILES

OpenFlight is a 3D file format. The file importer/exporter is an OpenMaya plug-in. Any of the Beads that can be imported into Maya can also be exported (see "Supported OpenFlight Beads" on page 25).

The exported file contains a subset of the imported data. External file or texture references point to the referenced files in their current directories. Should it be necessary to move an exported file to a location that does not allow access to the original file references, these referenced files can be copied into the same directory as the target OpenFlight file and the references will read correctly.

To open an OpenFlight file:

Select File > Open Scene and select the OpenFlight file you want to open from the file browser selection.

To export an OpenFlight file:

Select File > Export All (or Export Selection), and choose OpenFlight from the File of type drop-down list.

Version compatibility

You can read (import) versions from 14.2 up to 15.7, but only export 15.7 files.

WORKFLOW CONSIDERATIONS

The following are workflow issues you should consider when working with OpenFlight files in Maya.

When importing files

OpenFlight models are built with a Z-up axis up orientation. When a model is read into Maya using File > Open, the default orientation in Maya is repositioned so that Z is the up vector (normally Maya's Y axis is oriented as the up vector).

When files are read into Maya using File > Import, the orientation is not affected by the import. You must correctly orient the imported data yourself.

When exporting files

Here are some of the limitations to consider when exporting an OpenFlight file from Maya:

- Models are always exported in color RGB mode.
- The units are always meters.
- No animation can be exported.
- No lights or cameras can be exported.
- The exporter only supports a single texture map per face. Layered textures will result in only the first texture being exported.
- 2D and 3D procedural textures will not be exported.
- Many Maya rendering parameters have no direct equivalent in OpenFlight.
- Degree of Freedom Beads are only created when Limits are set on a Maya group/transformation node.

When using Switch Nodes

Support has been added to Maya for OpenFlight Switch nodes. Switch nodes allow for an array of visibility masks to be applied to a group transform node. Each child node's visibility is represented by one bit in the visibility mask. (Current implementation only supports up to 32 children.)

The switch node is implemented as a helper node that is applied to a group transform node and can be viewed and selected through the Hypergraph. The currently selected mask can be modified through the Attribute Editor associated with the switch node.

Switch Nodes are created automatically when an OpenFlight database with Switch Nodes is read into Maya. They may also be created using the fltSwitch command from within the Maya modeling environment.

Switch node attributes

Name Long (Short)	Type	Default	Flags
outputVis (out)	Tint32	0	R
curMask (in)	Tint32	0	RWSK
maskWidth (mkw)	Tint32	0	RWS
numMasks (nmk)	Tint32	0	RWS
masks (mks)	Tint32	0	ARWS

fltSwitch Command

Synopsis FltSwitch [flags]

Return Value [string[]] (object name or node name on create)

Description This command is used to create, edit or query Switch Nodes from within Maya.

Flags -p(c) The parent group transform node.

-cm(eq) Set or query the current switch node mask.

-n(ceq) The name of the node to be operated on.

-am(e) Append a mask based on the current object selection.

-em(e) Edit the currently active mask based on the current object selection.

-dm(e) Delete the current mask.

Example

```
// Create a Switch node

fltSwitch -n sw1;

// After some geometry has been added under sw1, masks maybe
created by selecting the geometry to be visible under the switch
for the mask and and then using the fltSwitch command as follows.
```

```
fltSwitch -e -am -n sw1;

// Setting the current mask to the desired switch will enable that
mask.

fltSwitch -e -cm 0 -n sw1;
```

When using Light Points

Support has been added to Maya for OpenFlight Light Points. Light Points allow for an array of lights to be created that have no render properties.

Light Points are implemented as a shape in Maya. They are created automatically when an OpenFlight database with Light Points is read into Maya. Additionally, Light Points can be created from within Maya using the MEL command, *fltLightPoints*.

Each Light Point Shape can contain any number of Light Points. By selecting a Light Point Shape and opening its Attribute Editor, all Light Points attributes are available. Many of these attributes have no visible effect within Maya but can still be edited, saved, and exported.

Light Point attributes

Name Long (Short)	Type	Default	Flags
LightPointsMin (lpmn)	double3	0	RWS
LightPointsMax (lpmx)	double3	0	RWS
SurfaceMaterialCode (smc)	Tint16	0	RWS
FeatureId (fid)	Tint16	0	RWS
BackColor (bc)	Tint32	0	RWS
DisplayMode (dm)	Enum	0	RWS
Intensity (ity)	Float	0	RWS
BackIntensity (bit)	Float	0	RWS
MinimumDefocus (mndf)	Float	0	RWS
MaximumDefocus (mxdf)	Float	0	RWS
FadingMode (fm)	Tint32	0	RWS
FogPunchMode (fpm)	Tint32	0	RWS
DirectionalMode (drm)	Tint32	0	RWS
RangeMode (rm)	Tint32	0	RWS
MinimumPixelSize (mnps)	Float	0	RWS
MaximumPixelSize (mxps)	Float	0	RWS

ActualSize (aps)	Float	0	RWS
TransparentFalloffPixelSize (tfps)	Float	0	RWS
TransparentFalloffExponent (tfe)	Float	0	RWS
TransparentFalloffScalar (tfs)	Float	0	RWS
TransparentFalloffClamp (tfc)	Float	0	RWS
FogScalar (fs)	Float	0	RWS
SizeDifferenceThreshold (sdt)	Float	0	RWS
DirectionalType (drt)	Enum	0	RWS
HorizontalLobeAngle (hla)	Float	0	RWS
VerticalLobeAngle (vla)	Float	0	RWS
DirectionalFallofExponent (dfe)	Float	0	RWS
DirectionalAmbientIntensity (dai)	Float	0	RWS
AnimationPeriod (ap)	Float	0	RWS
AnimationPhaseDelay (apd)	Float	0	RWS
AnimationEnabledPeriod (aep)	Float	0	RWS
Significance (sig)	Float	0	RWS
Calligraphic (call)	Tint32	0	RWS
Flags (flgs)	Tint32	0	RWS
XanimRotateAxis (xra)	Float	0	RWS
YanimRotateAxis (yra)	Float	0	RWS
ZanimRotateAxis (zra)	Float	0	RWS
LightColors (lc)	Double3	0	ARWS
LightNormals (ln)	Double3	0	ARWS
InputLightPoints (ilp)	0x58000014	0	RW
OutputLightPoints (olp)	0x58000014	0	RS
WorldLightPoints (wlp)	0x58000014	0	ARS
CachedLightPoints (clp)	0x58000014	0	RWS

fltLightPoints Command

Synopsis fltLightPoints [flags]

Return Value [string[]] (object name or node name)

Description This command is used to create Light Points from within Maya.

Flags -d(c) The distance between light points.

-c(c) The number of light points to be created.

-n(c) The node name to be created.

-p(c) The parent group transform node.

-nt(c) If specified, then no parent transform will be created. In this case a parent must also be specified with the –p flag.

-clr(ce) The RGB color value to be applied to all created light points. Each value should be in the range from 0.0 - 1.0. In edit mode if no light points are selected then the light point shape name must be specified using -n.

-nml(ce) The Normal to be applied to all created light points. In edit mode if no light points are selected then the light point shape name must be specified using -n.

Example

```
// Create 3 light points spaced 0.5 UI units apart

fltLightPoints -c 3 -d 0.5
```

fltLightsOnCurve Script

Synopsis fltLightsOnCurve [arguments]

Return Value None

Description This script uses an existing curve and creates a given number of Light Points using the currently selected curve as a placement guide. The Light Points will be evenly spaced along the curve.

Note—The curve is used for construction purposes only and *will be* modified by this script.

To use this script:

1. Create a curve to use as a placement guide for the Light Points.
2. Select the curve and then execute the script.

Example

```
// Create 3 Red Light Points equally spaced along the selected
curve

fltLightsOnCurve 3 1.0 0.0 0.0;
```

Arguments Arg1An integer that specifies the number of Light points to be created.

Arg2A float that specifies the Red component of the assigned color for the Light Points (0.0 – 1.0)

Arg3A float that specifies the Green component of the assigned color for the Light Points (0.0 – 1.0)

Arg4A float that specifies the Blue component of the assigned color for the Light Points (0.0 – 1.0)

Degree Of Freedom (DOF) Nodes

All transform nodes in Maya can represent DOF nodes. They each have limit information available and by default work within their own co-ordinate space.

To create a DOF from a Maya transform node:

Set a limit on a group transform node from the Attribute Editor.

Level Of Detail (LOD) Nodes

Maya's LOD nodes work slightly differently from the OpenFlight LOD nodes. To simulate the behavior of OpenFlight LOD nodes, all children of an OpenFlight LOD node are grouped together under a single group transform node that is controlled by the LOD node. A null transform node can also be inserted before and/or after the controlled LOD node to satisfy Maya's switch in/switch out requirements.

Warning!

Deleting these nodes will cause the LOD to behave incorrectly.

Maya's LODs are also tied to a particular camera. When importing an OpenFlight file, a camera named *fltLOD* is created. To activate the LOD behavior, you must use this camera. If new LOD nodes are created from within Maya, they should likewise be associated with the LOD camera.

SUPPORTED OPENFLIGHT BEADS

The following table provides comparisons between OpenFlight and Maya.

OpenFlight Beads	Maya equivalent/comment
Control Records	
Instance Definition	Instanced geometry
Instance Reference	Instance group node
POP	Changes move up to the previous parent in the DAG
PUSH	Creates a child under the current parent
Unsupported Control Records	
Extension	
POP Subface	See PUSH Subface

PUSH Subface	Maya cannot support hierarchy on co-planer surfaces. Instead the next face to be created will be offset by 1 mm in the direction of the normal.
Pop Attribute	Reserved for MultiGen
Push Attribute	Reserved for MultiGen
Primary Records	
Degree-of-Freedom Record	Maya transforms are used to represent DOF's. See "Workflow Considerations" on page 20 for more information.
EXTERNAL REFERENCE	File reference to another OpenFlight database.
FACE	Shape node for a face. Faces are part of a polymesh within Maya.
GROUP	Group transform node.
HEADER	Header record for an OpenFlight file. Sets orientation, field of view, etc. Sets the appropriate orientation and UI units.
Level-of-Detail	Level of detail group node.
Light Source	A Light.
Light Point	A special node type associated with the OpenFlight translator. See "When using Light Points" on page 22" for more details.
OBJECT	Transform node.
SWITCH	A special node type associated with the OpenFlight translator. See "Switch Nodes" under "Work Flow Considerations" for more details.
Unsupported Primary Records	
Binary Separating Plane	Allows for the modeling of databases without Z information
Curve	B-spline, Cardinal, also known as Catmull-Rom, and Bezier.
CAT	Continuously Adaptive Terrain Skin. A triangle mesh for high fidelity, real-time viewing.
Clip Region	
Extension Node	User defined node information.
MESH	Poly mesh. (This is not widely supported and may not be available in the first release)
Morph Vertex List	Works in conjunction with LOD node to morph geometry depending on the distance from the camera.
Road Segment	
Road Construction	

Road Path	
Sound	Sound emitter position
Text	
Ancillary Records	
Continuation	Not a node but simply a continuation of a vertex list. Records are limited to 64K in size.
LONG ID	A node name greater than 7 characters to be applied to the previously read node. Maya node names do not have this restriction so the name is applied directly to the node.
REPLICATE	Multiple instances of the current transform node.
TRANSFORMATION MATRIX	Transform matrix to be applied to the current transform node.
Unsupported Ancillary Records	
Bounding Volume	
CAT Data Header	
CAT Data Key	
CAT Data Face	
Extension Attribute	3rd party support.
Local Vertex Pool	
MESH PRIMITIVE	
MultiTexture	Allows support for up to 8 textures per vertex (May not be in first release).
Road Zone	(Pointer to a file that contains grid elevation data)
UV List	Follows Vertex List and contains texture layer information.
Vector	(Only used for light point faces).
Palette Records	
Color Palette	A collection of color entries. Maya does not use a color palette. Each vertex holds the corresponding RGB color.
LIGHT PALETTE	Lights are DAG node entries in Maya.
MATERIAL PALETTE	Material become Shaders within Maya. See Texture Palette
TEXTURE PALETTE	Textures are applied to shaders within Maya. Shaders have an associated shading group that all nodes using this texture are connected to.

Eyepoint and Trackplane Palette	Implemented as Cameras in Maya. (See "Known Issues" on page 28.)
Light Source Palette	
VERTEX PALETTE	Vertices are part of a polymesh in Maya.
VERTEX LIST	See Vertex Palette.
Vertex Palette Header	Followed by vertex data.
Vertex with Color	Polymesh vertex data.
Vertex with Color and Normal	Polymesh vertex data.
Vertex with Color, Normal and UV	Polymesh vertex data.
Vertex with Normal and UV	Polymesh vertex data.
Unsupported Palette Records	
Key Table	
Linkage Palette	
Line Style Palette	Maya has only 1 line style.
Name Table	
Sound Palette	
Texture Mapping	

KNOWN ISSUES

The following outlines the known issues in OpenFlight Version 1.0.

Known issues:

1. Light Sources cannot be exported. Currently a single ambient light is always exported.
2. An attempt is made to map Eye Points to Cameras in Maya; however, the mapping appears incorrect in some cases. Eye points are not exported from Maya.
3. Track Planes are not supported.
4. Point Lights are omni-directional only.
5. The only way to freeze a DOFs co-ordinates from within Maya is to export the scene as an OpenFlight file and then read it back in.
6. Articulations on group nodes are not supported.

7 Maya's LODs need to be extended to better handle the flexibility of the OpenFlight LODs.

8 UI-based tools are missing to support Light Points, Switch nodes, and LODs.

9 If you perform a Freeze Transformations on a translated Light Point, Maya versions older than 4.0.3 will crash. This can be fixed by updating to Maya 4.0.3.

10 File textures may only be applied to the color attribute of a Maya shader. Textures applied to other attributes are ignored.

11 Normals on faces are ignored on import. Maya regenerates the normals based on the vertex ordering. However edge settings are preserved.

6 StudioPaint Plug-in and Translator

The StudioPaint plug-in and translator allows StudioPaint compatibility with Maya. StudioPaint is available with IRIX only. If you plan to use Maya with StudioPaint, you must load the StudioPaint plug-in for Maya. If you plan to use StudioPaint with Maya files, you must install the Maya translator for StudioPaint.

If you have StudioPaint installed on your system, the StudioPaint plug-in for Maya and the Maya translator are automatically installed when you install Maya.

In some situations, you may need to manually install the StudioPaint plug-in for Maya and/or the Maya translator for StudioPaint. For example, if you do not have StudioPaint installed on your system and you install Maya, and then install StudioPaint later, you must manually install the Maya translator for StudioPaint.

Similarly, if you have StudioPaint installed on your system and do not have Maya installed, but would like to be able to use StudioPaint with Maya files, you must manually install the Maya translator for StudioPaint.

Notes

You must have Maya already installed before you can load the StudioPaint plug-in for Maya.

You must have StudioPaint already installed before you can load the Maya translator for StudioPaint.

Installing the StudioPaint plug-in and translator

To install the StudioPaint plug-in for Maya and/or the Maya translator for StudioPaint:

1. Insert the Maya CD in the CD-ROM drive.
2. From the Desktop, choose Toolchest > System > Software Manager.

   You are prompted for a password.
3. Enter the root password.

   The Software Manager opens.

4 In the Available Software field at the top of the window, type `/CDROM/dist` and press Enter.

5 Click the Customize Installation button.

6 Turn off the Software > Short Product Names option so the full product names are listed.

7 Do either of the following:

To install the StudioPaint plug-in for Maya, select the Alias|Wavefront StudioPaintMaya Plug-in option.

To install the Maya translator for StudioPaint, select the Alias|Wavefront StudioPaint - Maya 4.5 Update option.

8 If there are conflicts, Software Manager will alert you. If needed, click the Conflicts button, and resolve the conflicts.

9 Click the Start button.

Note

If Software Manager tells you that Inventor n32 Run-time is missing, you must install Inventor n32 Run-time from the IRIX (version 6.5.8 or higher) Operating System CD before installing the StudioPaint plug-in and translator for Maya. Choose File > Exit to exit from Software Manager and see Installing Inventor n32 Run-time in the StudioPaint 9.5 Supplement.

10 Choose File > Exit to exit from Software Manager.

11 Log out and then log in again.

LOADING THE STUDIOPAINT PLUG-IN

To load the StudioPaint plug-in for Maya:

1 From the Maya main menu, select Window > Settings/Preferences > Plug-in Manager. The Plug-in Manager window opens.

2 Click the **loaded** button for the StudioPaint plug-in.

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