The Industry Standard for 3D CAD/Animation/NURBS/Skinning/Skeleton Translations, Viewing and Scene Composition.

The **PolyTrans|CAD+DCC Pro Translation System** is the most extensive and accurate 3D CAD, animation and scene translation/viewing/rendering/publishing system. Used world wide by tens of thousands of 3D industry professionals, PolyTrans is an indispensable production pipeline tool; it performs clean, robust and reliable translations between the most popular 3D file formats in addition to a host of other extensive features. See for yourself by downloading the demo version today.
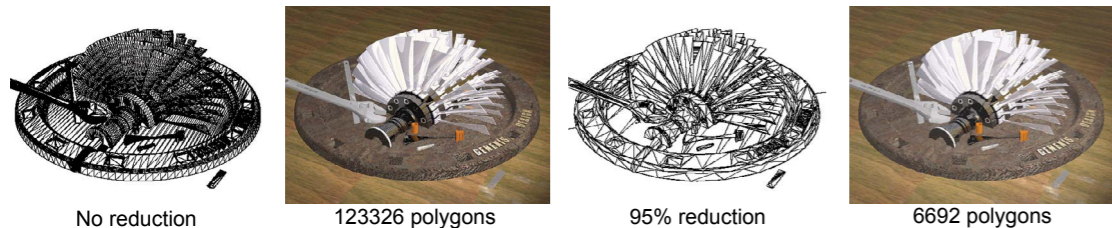
SolidWorks to Maya.
© Daka Designs Ltd.

MICROSOFT®
32 & 64-Bit
WINDOWS®
COMPATIBLE

PolyTrans|CAD+DCC converts entire scene files, including meshes with holes, trimmed NURBS, hierarchy, animation (format specific), pivot points, vertex normals, U/V tangent vectors, vertex colors, (u,v) texture coordinates, texture projection methods (planar, spherical, cylindrical and cubical), texture mapping parameters, lights & cameras. Just load the translated model into your favorite 3D program and press the render button - nothing could be simpler! Using PolyTrans, never again will you have to spend hours hand-tweaking a 3D model or re-creating it from scratch.

Okino Computer Graphics can best be understood as two distinct sub-companies: one which specializes in the CAD market and CAD-related users, and one which specializes in the animation/DCC (Design-Content-Creation) markets and users. **We excel at providing the industry standard converters** for these distinct, yet often overlapping, markets. Okino is particularly well known in the DCC market as the major provider of data conversion pipelines that tightly connect all major 3D animation packages and file formats. We know 3D graphics and provide some of the most direct, hands-on support!
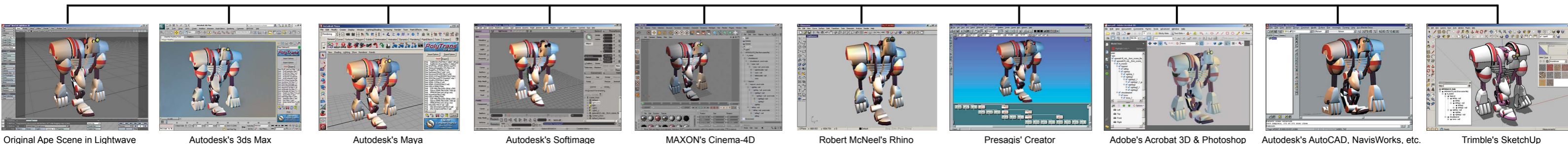
Okino's **NuGraf** is the preferred package to purchase (at a slightly higher price) if you would like to have access to a richer user interface, complete material parameter editing, 2D and 3D texture editing and creation, top notch scanline and multi-threaded ray tracing, polygon level manipulation tools, interactive texture projection and texture placement tools. NuGraf includes all of the PolyTrans functionality.

Over the last two decades **Okino Computer Graphics has pioneered the processes for repurposing all major CAD file formats into all major downstream 3D file formats and animation systems**. Most importantly, Okino does not use reverse engineered CAD modules as is done by others, but rather licenses, utilizes and/or accesses the industry standard CAD engines from Autodesk, Dassault Systemes (CATIA), PTC (ProE & Creo), Solid Edge, SolidWorks, Spatial (ACIS), Siemens (JT Open) and others.

There are thousands of animation companies who regularly receive CAD data from large Fortune 1000 companies but often cannot find a reliable method to import the data; moreover, once the data is imported the dataset is often too cumbersome and memory intensive. PolyTrans|CAD allows all disparate departments of enterprise companies (such as engineering, design, marketing, sales and support), and animation companies alike, to **easily exchange and re-use product data without the need to re-build their CAD datasets**. Such BREP solids CAD models import in minutes with no clean-up or manual intervention required. It is now commonplace, via the widespread use of PolyTrans|CAD, to easily create product brochures, technical documentation and presentation materials of CAD data using 3D authoring programs such as 3ds Max, Adobe Acrobat, Cinema-4D, Lightwave, Maya, NGRAIN, Softimage and many others supported by Okino software.

No reduction | 123326 polygons | 95% reduction | 6692 polygons

Robust CAD+Mesh Tools: Poly Reduction, Hidden & Small Parts Removal, Normals Unification, Welding + Many More

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Visit http://www.okino.com for demos and extensive product information

Major Application Areas for PolyTrans|CAD+DCC

Visual, Data & Military Simulation (VisSim)
AutoCAD DXF & DWG, Autodesk DWF, ESRI ShapeFile, MicroStation DGN, Presagis OpenFlight, OpenSceneGraph, PDB, SketchUp, VRML & X3D

Mobile & WEB File Formats
3DS, DirectX, HSF/DWF, OBJ, SW3D, U3D (3D PDF), VRML, X3D, XAML & XGL

GIS & AEC
ACIS SAT, Collada, DGN, DXF/DWG/DWF, FBX, U3D, USGS DEM, X3D, XAML & XGL. ArchiCAD (DWG), AutoCAD Architecture, Bentley MicroStation, Navisworks & Revit (DWF) and Tekla Structures (DWG).

MCAD Conversions & Viewing
ACIS, Autodesk Inventor, CATIA 4&5, DGN, DXF/DWG/DWF, IGES, JT, Navisworks (DWF), Parasolid, PLY, Pro/E & Creo, Revit (DWF), Rhino, STEP, STL, Solid Edge, SolidWorks, U3D, X3D/VRML2 & XGL/ZGL.

Animation & Skinning Cross Conversions
3d Max, Collada, Cinema-4D, DirectX, FBX, LightWave, Maya, OpenFlight, Softimage, U3D, VRML2, X3D & XAML. Frame accurate animation conversion.

POLYTRANS CAD & DCC CONVERSIONS

Mobile · VisSim · G.I.S · Animation · Game Dev · NURBS · PDMS · MCAD

PDMS & 3D Plant Software
DXF/DWG/DWF-3D (Plant 3D, AutoPlant), DGN (MicroStation, Intergraph PDS, SmartPlant), ZGL (AVEVA PDMS)

3D Game Development
All Major 3D Game Engines & Formats: Collada, DirectX, FBX, OBJ & native support for 3ds Max, Cinema-4D, Maya, LightWave & Softimage.

Trimmed NURBS
ACIS, IGES, Parasolid, Pro/E & Creo, Maya, Rhino, STEP, Softimage & X3D

Import Converter Modules

N-Sided Polygon Meshes With Holes | Vertex Normals, Vertex Colors, Vertex UV Textures, Vertex UV Tangents | Trimmed NURBS Surfaces, Spline Shapes, NURBS/Cubic Curves | Object Hierarchy and Instancing | Hierarchical Animation Channels & Keyframes | Lights, Cameras and Related Attributes | Materials and Shader Attributes | 2D Texture Mapping Definitions & Attributes | 3D Texture Projection Types (Spherical, etc.)

Core Okino Software Technology

Hierarchical Animation, Storage, Playback and Interpolation System ← **Hierarchical 3D Database Management System (Raw 3D Scene Retention)** → **BDF File Transfer Format Save & Load Mechanism**

Animation Keyframe Resampling & Reduction System | **BREP Solids & Trimmed NURBS CAD Data Optimization** | **Layered Materials & 2D/3D Textures With Photo-Real Raytrace Renderer**

3D Mesh, NURBS, Quadrics & Spline Geometry Engine | **Hidden & Small Parts Removal, Poly Reduction & Geometry-Scene Optimization System** | **2D Bitmap File Conversion Sub-System**

Export Converter Modules

Intuitive Batch Translation of 3D File Formats

Batch Translator

Automatic Polygon Processing Functions

Indexed-Polygon-Primitive Functions
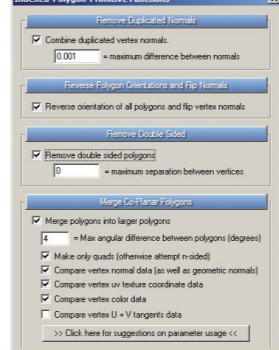
A variety of powerful polygon manipulation functions are available which weld vertices, auto-flip normals, perform auto-smoothing, merge triangles to quads, perform small & hidden parts removal, do polygon reduction and remove redundant coordinates.

Extensive Import/Export Option Functionality

Renderman RIB Export Converter
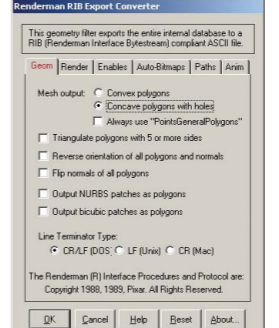
Expert users have extensive control over the numerous import/export options, including automatic bitmap conversion, selective attribute export and texture filename reference handling. All options default to ideal values for beginners.

NVIDIA & ATI Pixel Shaders Support

The very best of OpenGL features, implemented over a period of 20 years. Fast & interactive.

ProE to Cinema-4D conversion via PolyTrans|CAD. (c) Renderhouse BVBA and SAS Gouda.

ProE model. Converted via PolyTrans-for-Max & ProE Importer. Rendered with Brazil in 3ds Max. © Digital Engine Studios.

'One Space Designer' model. Converted by PolyTrans-for-Maya & IGES. Rendered with Art VPS. © Suur Graphics & Eaton Electric BV.

Office interior. ProE model. Converted & rendered in Okino's NuGraf software. © Genexis Design Ltd.
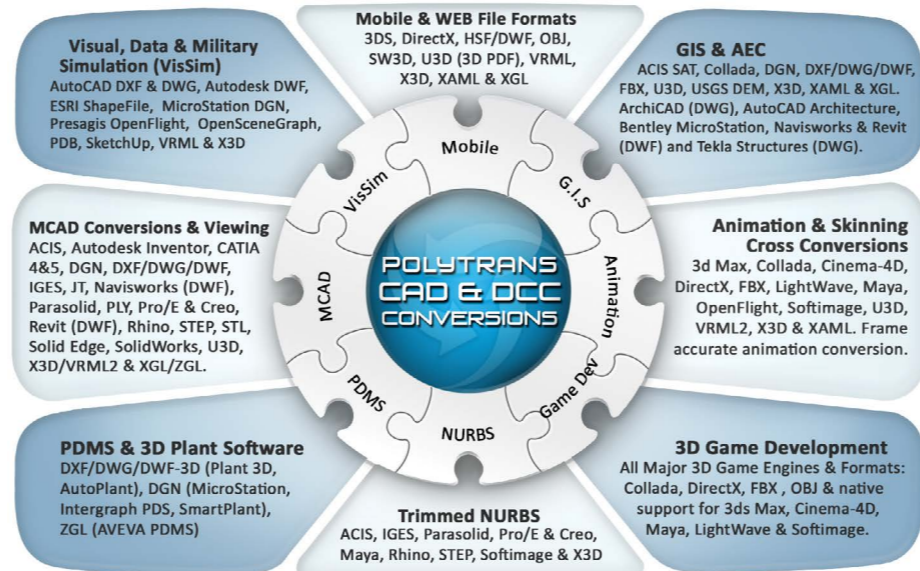

Original Ape Scene in Lightwave | Autodesk's 3ds Max | Autodesk's Maya | Autodesk's Softimage | MAXON's Cinema-4D | Robert McNeel's Rhino | Presagis' Creator | Adobe's Acrobat 3D & Photoshop | Autodesk's AutoCAD, NavisWorks, etc. | Trimble's SketchUp
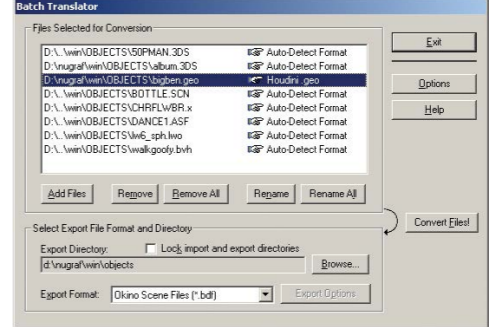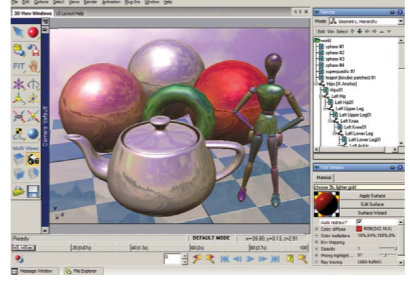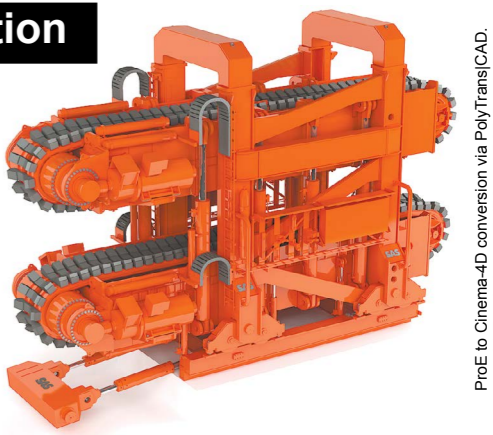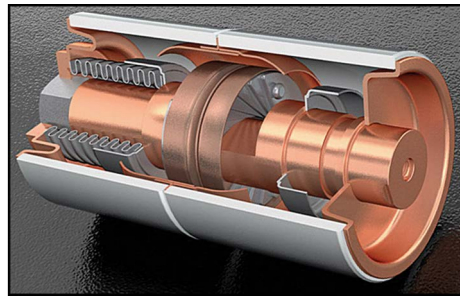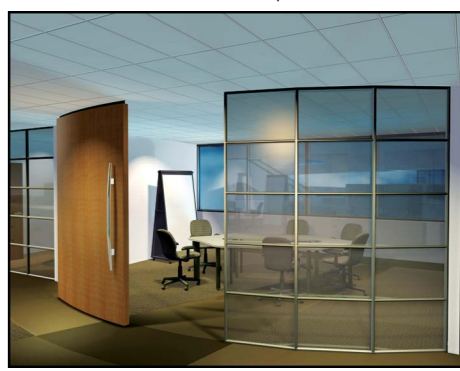
Universal Conversion Hub

Hub of Core Conversion Engines

Arctic — Skinning and Skeleton (Bones) Conversion
Accurate, robust, skinning & skeleton conversion engine plus cleansing

Titan — 3D Geometry Conversion
Meshes, attributes, NURBS surfaces, splines/curves, & quadrics engine

Atlas — 3D Animation Conversion
The intelligent bidirectional animation matching, resampling & processing engine

All Major DCC/Animation/CAD/VisSim Programs

3ds max — via PolyTrans-for-3dsMax
File Formats — .max, .bdf

Cinema-4D — Native Built-in Support for .c4d
File Formats — .c4d

Maya — via PolyTrans-for-Maya
File Formats — .ma, .mb, .bdf

LightWave — LightWave 3D Modeler/Layout
File Formats — .lwo, .lws

SketchUp — SketchUp, Google Earth & COLLADA
File Formats — .dae, .skp

FilmBox — FBX & COLLADA file formats
File Formats — .dae, .fbx

Autodesk — Native DXF, DWG, DWF & Inventor
File Formats — dxf,dwg,dwf,ipt

CATIA, SAT — Native CATIA v4, CATIA v5 & SAT
File Formats — Many

JT, IGES, STEP — Plus All Major 3D CAD File Formats
File Formats — .iges, .jt, .step

OpenFlight — Industry Standard VisSim Import-Export
File Formats — .flt

Pro/E-Creo — via PTC Granite Native Pro/E Import
File Formats — .asm, .prt

SolidWorks — via Direct Link, or Native Disk Files
File Formats — .sldasm, .sldprt

And many more! http://www.okino.com/conv/filefrmt.htm

Extensive Toolbar Controls for Interactive Scene & Object Manipulation
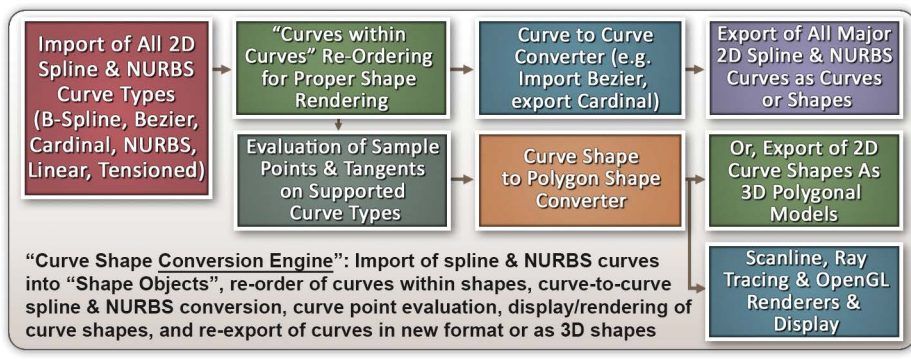
- Select (Pick) Objects
- View Window Manipulation
- Geometric Primitives
- Translate (Move) Objects
- Rotate Objects
- Scale Objects
- Load/Save Files & Geometry
- Utility Functions
- Camera Controls
- Light Controls
- Pivot Point Manipulation Mode
- Photo-Realistic Rendering

Multimedia Editor & Viewer

To aid in digital file asset management and viewing, PolyTrans includes a multimedia editor, viewer and processing system. Loads & saves almost all 2D file formats. Extensive capture system. Views video formats.

NURBS & Spline Sub-System

A significant feature of the core PolyTrans software is a complete 2D/3D NURBS curve and spline curve geometry sub-system. This sub-system can import all types of curves, curve "shapes" and surfaces, then cross-convert them to any other type of spline curve, NURBS curve, NURBS surface or polygon mesh.

Import of All 2D Spline & NURBS Curve Types (B-Spline, Bezier, Cardinal, NURBS, Linear, Tensioned)	"Curves within Curves" Re-Ordering for Proper Shape Rendering	Curve to Curve Converter (e.g. Import Bezier, export Cardinal)	Export of All Major 2D Spline & NURBS Curves as Curves or Shapes
	Evaluation of Sample Points & Tangents on Supported Curve Types	Curve Shape to Polygon Shape Converter	Or, Export of 2D Curve Shapes As 3D Polygonal Models

"Curve Shape Conversion Engine": Import of spline & NURBS curves into "Shape Objects", re-order of curves within shapes, curve-to-curve spline & NURBS conversion, curve point evaluation, display/rendering of curve shapes, and re-export of curves in new format or as 3D shapes

Scanline, Ray Tracing & OpenGL Renderers & Display

"PolyTrans|ProServer" Interface

Integrate Okino Technology into Your Own Application!

PolyTrans includes an extensive and well documented COM automation interface. This allows all of the import and export converters to be enumerated inside a third party application program, and enables the program to automate a full import/export process complete with data optimization (such as polygon reduction).

Okino COM Interface

Developers need only compile in the "Okino COM Client-Side Framework" library (OCCF) to their applications. When completed, the developer program will show all PolyTrans converters in its menus, and all messages, PolyTrans dialog boxes and status feedback as an integrated part of its user interface.

Customer Testimonials

"PolyTrans is 'the' premiere 3D conversion tool available today. The most critical aspect of a data conversion program is that although many of these programs claim to handle a large subset of these formats, they often handle only 'most' of the capabilities of each format.

A final aspect of this tool is the incredible depth of the software; if you are at all familiar with the complexity of many file formats, and the odd intricacies of them, you should greatly appreciate the time required to create a tool of this capability/magnitude."
  - Peter-Joseph Kovach (3D Magazine Writer)

"Kudos to Okino for a product that's worked exactly as advertised, and much more! PolyTrans has proven to be a rock-solid, full-featured, easy-to-use and extremely accurate translator for our Lightwave and 3ds Max scenes. Even our most esoteric scenes converted flawlessly."
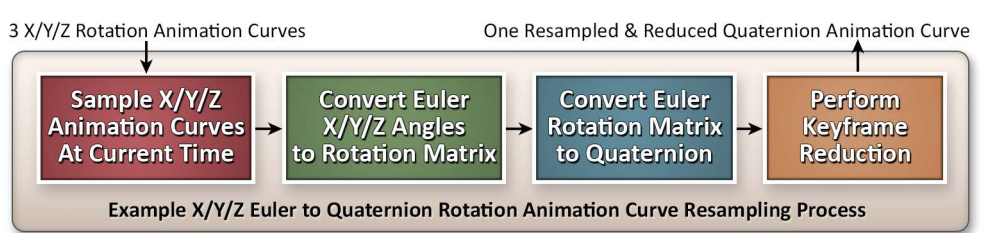 **-Gord Davison**, Animator/Designer. **IBM Laboratory - Media Design Studio**

"We have been using PolyTrans-for-3dsMax for 15 years now. Two days before Christmas CBI Engineering contracted us to animate a gargantuan oil refinery. We could not open it, far less convert it or do animation. We contacted Okino's CTO who analyzed and worked on it for 2 days, returning it to us on Christmas Eve as a fully optimized 3ds Max scene that we could manipulate in real time! Needless to say Okino now has a customer for life. While their software is great, their customer service is unbelievable!"
  -Vic Cherubini, President, **EPIC Software Group, Inc.**

Golden Pixie & GD Magazine Awards Winner

Special Versions of PolyTrans for 3ds Max, Cinema-4D, Maya & Softimage

Since the introduction of 3ds Max, Cinema-4D and Maya to the 3D graphics market, Okino's **PolyTrans-for-Maya, PolyTrans-for-3dsMax** and **PolyTrans for Cinema-4D** have provided the defacto, professional 3D conversion systems for these products, used world-wide by all key 3D production, engineering, military, aerospace and marketing groups. They provide the absolute most robust, efficient and highest quality production proven 3D converters, connecting 3ds Max, Cinema-4D and Maya to all other major CAD, DCC and authoring software programs + 3D file formats. The mirror twin plug-in systems for 3ds Max and Maya also form the most technically accurate and robust bi-directional conversion system between 3ds Max & Maya since the 1990s.

Additional specialized versions of Okino PolyTrans conversion technology is available as **PolyTrans-for-Softimage**, as the bi-directional **DWF** conversion system, the primary bi-directional **SketchUp** conversion system & many other specialized solutions.

Solid Edge CAD Model Imported via PolyTrans-for-Maya

3ds max

3ds max Scene Graph & SDK
Okino's PolyTrans Scene Graph & SDK
"PolyTrans-for-3ds max" UI. Control Panel
Okino ".bdf" Transfer File Format (for high fidelity data transfer)
Dozens of industry standard DCC, CAD, VisSim & WEB Publishing File Formats

3D File Output via PolyTrans / 3D File Input via PolyTrans
(Including strong data connectivity to Lightwave, XSI, OpenFlight & others)

Okino .bdf transfer file format moves MAX <--> Maya scenes, including geometry, materials, 2D textures, automatic bitmap conversion, lights, cameras, hierarchy, animation, skeletons (with proper & smart bone re-orientation algorithms), mesh skinning weights, and more. Under control of dozens of options.

Scene Transfer Pipeline

Maya

Maya Scene Graph & SDK
"PolyTrans-for-Maya" UI. Control Panel
Okino ".bdf" Transfer File Format (for high fidelity data transfer)
Dozens of industry standard DCC, CAD, VisSim & WEB Publishing File Formats

3D File Output via PolyTrans / 3D File Input via PolyTrans
(Including strong data connectivity to Lightwave, XSI, OpenFlight & others)

Very Accurate Animation & Skeleton/Bones/Skinning Conversion via "Arctic" Toolkit

Refer to http://www.okino.com/conv/skinning.htm

Through years of research, development and refinement, PolyTrans has come to include the industry-leading major features of animation, skeleton/bones and mesh skinning conversion. These are by far our most advanced features for multi-media and animation professionals. Supported formats for bones/skinning include 3ds Max, Maya, Cinema-4D, Lightwave, Softimage, Collada, FBX, DirectX, U3D & others.

Accurate and error free conversion of animation, skeleton/bones and skinning weights is a very difficult problem. Experience has shown that almost every 3D file format and 3D animation program is incompatible to some degree with regards to this form of data translation. To overcome these problems Okino's "Arctic" toolkit was developed to provide error-free, tolerance based conversion of animation, skeleton/bones and mesh skinning data. Arctic embeds a decade of conversion "knowledge" in its cache of algorithms and techniques.

Arctic also allows raw animation data to be imported from the most popular 3D animation programs, accurately played back in real-time, resampled to alternate forms of animation mathematical representation (as shown below-right) and exported to other 3D animation file formats. Arctic filters out off-axis scaling problems, pivot point issues, interpolation curves inconsistencies, etc.

Smooth Skinning Import, Playback, Conversion & Export (Bull From 3ds Max C.S. CDROM)

3 X/Y/Z Rotation Animation Curves → One Resampled & Reduced Quaternion Animation Curve

Sample X/Y/Z Animation Curves At Current Time	Convert Euler X/Y/Z Angles to Rotation Matrix	Convert Euler Rotation Matrix to Quaternion	Perform Keyframe Reduction

Example X/Y/Z Euler to Quaternion Rotation Animation Curve Resampling Process

Okino Plug-Ins SDK
WRITE YOUR OWN PLUG-INS

For over two decades Okino Computer Graphics has been aggressively developing an extensive 3D scene database system and 'C++' callable API that emulates the best-of-class features from most 3D animation, modeling, VisSim and CAD packages. Okino is making this extensive API SDK freely available to third party developers as a means to write custom import, export & user interface modules. Works in tandem with the PolyTrans|Pro!Server COM interface for customized pipeline solutions.
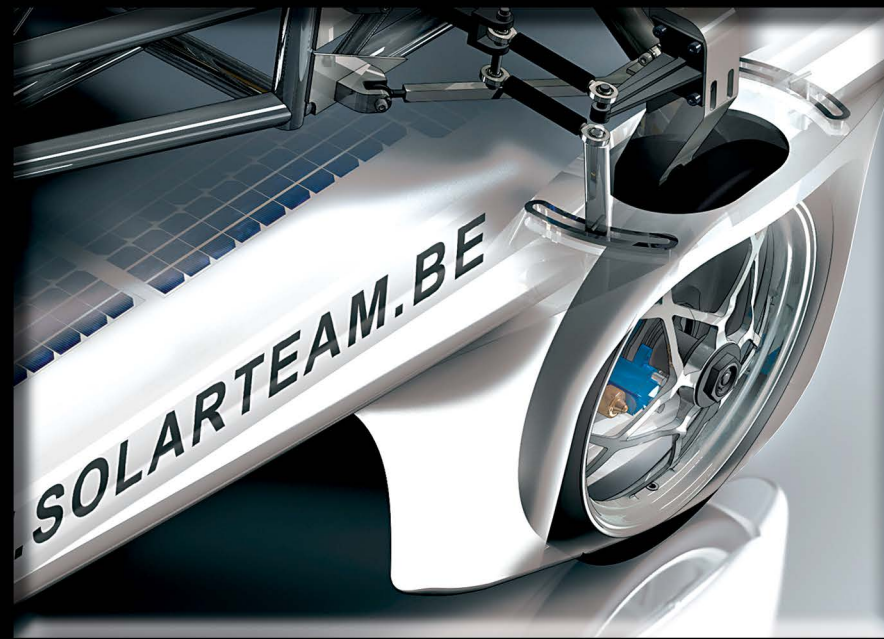
Interesting Okino WEB Pages

Okino Computer Graphics

PolyTrans® CAD+DCC
Pro 3D Translation System

Import · Optimize · View · Edit · Render · Export

The Industry Standard for Mission and Production Critical 3D CAD/DCC & Animation/Model/NURBS/Skinning Translation, Optimization and Viewing. A Powerful, Robust, Cost Effective, Trusted Productivity Tool For 3D Professionals. Over 22 Years of Development, Refinement & World-Wide Customer Usage.

3ds Max
via PolyTrans-for-3dsMax
File Formats ▼
.max, .bdf

Cinema-4D
Native Built-In Support for .c4d
File Formats ▼
.c4d

Maya
via PolyTrans-for-Maya
File Formats ▼
.ma, .mb, .bdf

LightWave
LightWave 3D Modeler/Layout
File Formats ▼
.lwo, .lws

SketchUp
SketchUp, Google Earth & Collada
File Formats ▼
.skp, .dae

FilmBox
FBX & COLLADA file formats
File Formats ▼
.dae, .fbx

Pro/E-Creo
via PTC Granite Native Pro/E Import
File Formats ▼
.asm, .prt

SolidWorks
via Direct Link, or Native Disk Files
File Formats ▼
.sldasm, .sldprt

Autodesk
Native DXF, DWG, DWF-3D & Inventor
File Formats ▼
.dxf, .dwg, .ipt

CATIA, SAT
Native CATIA v4, CATIA v5 & SAT
File Formats ▼
Many

JT, IGES, STEP
Plus All Major 3D CAD File Formats
File Formats ▼
.iges, .jt, .step

OpenFlight
Industry Standard VisSim Import-Export
File Formats ▼
.flt

"PolyTrans|CAD+DCC is a great tool for converting multiple CAD and DCC file formats. The solar powered vehicle was created in Catia V5 and transferred to Okino PolyTrans|CAD+DCC where it was subsequently optimized and re-exported for immediate use in our animation system."
- Ludwig Desmet (design visualization director) © Solarteam & Renderhouse BVBA
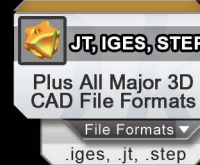
Universal Import/Export of All Major 3D Formats

Accurate, Reliable, Robust Translations

Multi-Format Animation Support

Creates "Render Ready" Models

Plug-In & Special Versions for 3ds Max®, Cinema-4D®, Maya® & Softimage®

Okino Computer Graphics
3D Rendering, Visualization & Model Translation Software

"Niagara" Project. Pro/E-Creo model by Anders Karlsson and Peter Fredh. 3D CAD Rendering by Lars Magnusson, Rand Worldwide. Copyright © Parker Hannifin AB.

PolyTrans version 5

PolyTrans, and its related Okino NuGraf, are used world wide by tens of thousands of professional 3D users, most notable of whom are listed at "http://www.okino.com/conv/users.htm", and a small, select few below:

Animation, Production Studios, Digital Effects

Animal Logic, Animation Science, Applied 3D Science, Argonaut, Arkitek Studios, Aardman Animations, BBC, Blur Studios, CBC Canada, CG2, Cinemagic, Cinesite, Criterion, Crush Interactive, Digital Anvil, Digital Artworks, DNA, Dream Team, Disney Interactive, Digital Animations, DreamWorks Interactive, Encore Video, Entertainment Design Workshop, FOX Studios, Framestore, Frantic Films, Fun Key Studios, Gigawatt Studios, Granda tv, Grollier, Head Games, Hiero Graphics, HumanCode, ICON, ILM, Infobyte, Lionhearth, Looped Picture, Marathon, MindInMotion, Mirashade, National Geographic tv, NBC, NFB Canada, Pacific Title, Pixel Liberation Front, P.I.X.A.R, Praxis Films, Quantum 3D, Rainmaker Digital Pictures, Riot, Sony Interactive, Tangerine Films, Tokyo Broadcasting, Toybox, Viewpoint, Visual Approach, Walt Disney, Warner Brothers, Weta Digital, Westwood Studios.

Corporate Users

3M, Acuity, Ademco, Alcoa Aluminum, ATI, BASF, Caterpillar, Coca-Cola, Corel, Daimler Benz, Discreet Logic, Dolby Labs, DPS, EDS, Kodak, Edmunds, Evans and Sutherland, FedEx, Flight Safety, Fuji, Fujitsu, GE, GE Medical, GE Lighting, Google, GTE, Guidant, Hitachi, Home Shopping Network, Honeywell, HP, Hummingbird, IBM, Informix, IKEA, IMSI, Intel, Johnson & Johnson, Knott Labs, Kubota, LEGO, Kimberly-Clark, LightWork Design, Logitech, Lucent, Mattel, Matrox, McGraw Hill, McLaren Cars, MIT Media Lab, Microsoft, Mitel, Moog, Motorola, NEC, NHN Corp, Nikon, Nippon T&T, NRC , National Instruments, Nokia, Nippon Systemware, NVIDIA, Obusforme, Panasonic, Panavision, Philips, Pitney Bowes, Proctor & Gamble, Raychem, Rockwell, Sanyo, Samsung, Seiko/Epson, Shell, Siemens, Sony, Spacetec, Steelcase, Tesco, Time Warner, Toshiba, TRW, Whirlpool, Walmart.

Aerospace, Defense, Government Agencies

Airbus, Alliant, Argonne NL, ATK Missile, Aerospace Corp, Australian DoD, Ball Aerospace, BAE Systems, Bombardier, Boeing, Cessna, Colt, CSC Defense, C.I.A, Cubic Defense, DaimlerChrysler Aerospace, DCIEM, DCN, EADS, F.A.A, General Dynamics, German Aerospace, GE, GM Defense, Goddard Space, GreyStone, Halliburton, Honeywell, Hughes Aircraft, ITT Aerospace, Japan Space Agency, JPL, Kongsberg Defence, L-3 Communications, LLNL, Lockheed-Martin, LANL, Mitsubishi, NASA, NATO, Northrop Grumman, Raytheon, Rolls-Royce, Sandia National Labs, Royal Netherlands Army, Sikorsky, SPAR Aerospace, Swedish Defense, Swales Aerospace, Tenix Defense, Thales, United Space Alliance, United Defense Industries, United Techologies, Vector Aerospace, USGS, U.S Air Force, U.S Army, U.S DoD, U.S National Guard, U.S Navy, U.S Secret Service.

Automotive, Engineering and Manufacturing

Alcon, All Points Engineering, Amtec Engineering, Audi, Brass Craft, British Aerospace, BMW, CAE Electronics, Corridor, Cumberland, DaimlerChrysler, DME, DOW Chemical, Dyson, Eastman Woodworking, E-OIR Measurements, Exponent Failure Analysis, Festech, Festo, ForeFront, Ford, GM, Graco, HDR, Honda, Hunter Engineering, Hyundai, John Deere, Lathrop Engineering, LEGO Engineering, Man AG, Mazda, MD Robotics, Motoman Robotics, Mitsubishi, Nicholson Manufacturing, Nissan, NK-EXA, ORCA Engineering, Peugeot, PDQ, Progressive Engineering, Queensland Manufacturing, Quartus, R Squared, Renault, Roland, SAAB, Sauder Woodworking, SKODA, Smith International, Spin Concurrent, Teledyne Brown, Tiltan Engineering, Toyota, Veridian, Volkswagon, Volvo, Watkins Manufacturing.
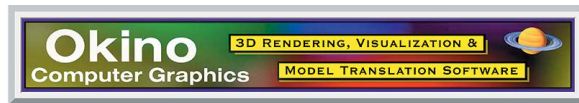
3D Game Development Companies

Accolade, Acclaim, Atari, Avalanche, Beyond Games, Blizzard North, Blue Sky, Climax, Crystal Dynamics, Dill Pixels, Dragonlore, Electronic Arts, Ensemble Studios, Epic, Fasa, Funcom, High Voltage Software, id Software, Immersia, Intelligent Games, Interplay, Ion Storm, Kaon, Kodiak Games, Leaping Lizard, LucasArts, Mak, Microforum, MegaMedia, Microprose, Mythic, Namco, Nintendo, Nocturnale, NuFx, Origin, Piranha Bytes, Rainbo Studios, Raven, Ronin Games, Reflections, Rockstar, Saffire, Secret, Sega, Software, Sierra On-Line, SingleTrac, Spacetime Arts, SPGS, Sports Simulation, Stage 22, StormFront Studios, Ubisoft, Universal Interactive, Virgin Interactive, Virtual World Entertainment (MechWarrior 3), Williams/Bally/Midway, Z-Axis, Zombie VR Studios.

Common Solutions and Benefits

- Allows all meshes, trimmed NURBS, vertex attributes, materials, shading parameters, texture map types, lights, cameras, hierarchy and animation to be imported, stored, translated and exported with high accuracy and fidelity. Creates "Render Ready" models.
- The industry's choice to convert from every major 3D CAD program and BREP based (crack free) solids modeling file format to all major downstream applications (such as 3ds Max, Maya, Adobe Acrobat, Cinema-4D, Collada, Lightwave, OpenFlight, Softimage) & many more formats.
- Popular for repurposing of Pro/Engineer & Creo, CATIA v4+v5, DWG/DWF-3D, JT, SolidWorks, Inventor, IGES, Parasolid, STEP, etc. CAD files to downstream D.C.C. programs and formats.
- Import and compose 3D scenes from a plethora of 2D/3D file formats then render out to high quality images for print media, WEB presentations, training manuals, or marketing brochures.
- A long-standing industry standard and favorite for cross-converting between all major animation packages and 3D file formats with true robustness & quality. The built-in Okino "Arctic" toolkit allows for precise, tolerance-based animation & skeleton/skinning conversions.
- Publish to WEB streaming file formats: DWF, HSF, U3D, VET, VRML1+2, X3D, XAML & XGL.
- With support for almost every major 3D & 2D bitmap file format, an integrated bitmap editor, and video file playback, PolyTrans forms the basis of an ideal digital file management tool.
- Optimized since its inception to handle very large datasets, such as 500,000 node scenes and tens of millions of polygons. Many 3D programs bog down at 10x to 100x fewer objects.
- A large and established professional user base has ensured PolyTrans remains a dependable, robust and highly featured translation system.
- Automatic 2D bitmap conversion between formats supported by each 3D file format.

Major Program Features

- The industry standard for bi-directional scene, animation, skeleton & skinned mesh conversion between 3ds Max, Maya, C4D, Collada, DirectX, FBX, LW, Softimage, U3D, and many others.
- Acts as a stepping stone to allow for massive CAD assemblies to be downsized in PolyTrans|CAD first before import into downstream animation/multimedia applications.
- Converts 3D NURBS surfaces, NURBS curves and spline shape data between compatible 3D file formats and application programs.
- Photo-realistic rendering, material editing, texture parameter editing and scene composition (ray tracer only in Okino's NuGraf). Handles very large CAD datasets.
- Excellent, built-in polygon reduction system written specifically for large CAD datasets.
- Robust polygon processing tools: auto normal unification, small & hidden parts removal, smoothing, redundant polygons removal, triangle to quad merging, polygon reduction and welding.
- Integrated multi-media editor & viewer with support for almost all major 2D file formats.
- OpenGL shaded views, with real-time lighting & object texture mapping, real-time interactive object/camera/light manipulation, textured backgrounds and multi-threaded redraws.
- Special NVIDIA & AMD accelerated video card support: real time bump & environment mapping.
- Intuitive & productive batch converter for 3D scenes or 2D images, with polygon processing.
- "PolyTrans-for-3dsMax" & "PolyTrans-for-Maya" native plug-in versions of PolyTrans.
- VBScript & JScript embedded languages for converter automation & 'NuScript' for rendering.
- Third party custom importers/exporters & system plug-ins via PolyTrans plug-in SDK. Write your own converter, or a UI plug-in such as a renderer, modeling system, uv-map editor, or anything.
- Make the PolyTrans converters appear inside your 3D application using the PolyTrans|ProServer. No cost SDK from Okino. Complex interface, simple integration.
- Export scenes to Okino's NuGraf program for fast, photo-realistic scanline or multi-threaded ray trace rendering, animation and material/texture editing. Upgrade from PolyTrans to NuGraf at a low cost. PolyTrans is a subset of the NuGraf software.
- NuGraf only: Caustics, an amazing lens flare system, sunlight calculator & polygon-level tools.
- Complete feature list, file formats, brochures, user list & demos on the Okino WEB site.

Okino Computer Graphics
3D RENDERING, VISUALIZATION & MODEL TRANSLATION SOFTWARE
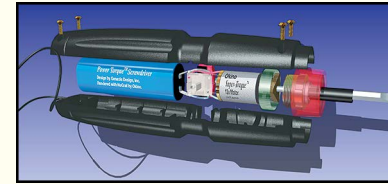
Available from:

3397 American Drive, Unit # 1. Mississauga, Ontario, L4V 1T8
Toll Free: 1-888-3D-OKINO, Tel: (905) 672-9328, Fax: (905) 672-2706
WEB: http://www.okino.com, Email: sales@okino.com

Please refer to "http://www.okino.com/conv/filefrmt.htm" for all current file support information, CAD compatibility table and the full list of supported 2D bitmap image file formats.

AutoCAD to 3ds Max. © Segnoprogetto s.r.l.

Pro/Engineer File Rendered With Okino NuGraf

Okino Scene Rendered With 3ds Max

Concept Design Using IGES Files

ACIS SAT Solid Model Translation

Trimmed NURBS CAD Conversion

HP-9 Compressor. Autodesk Inventor to NuGraf. © Ed Steinerts & Gardner Denver Nash.

Converters listed in red are sold as part of optional add-on module packages.

3D File Format	Ext	Imp	Exp	Mat	Hier	u/v	L&C	NURBS	Anim	Skin	Notes
3D Studio r4	.3ds	♦	♦	♦	♦	♦	♦		♦		
3ds Max	.max	♦	♦	♦	♦	♦	♦		♦	♦	N1
Acclaim MoCap	.amc, .asf	♦			♦				♦		
BioVision MoCap	.bvh	♦			♦				♦		
CINEMA-4D	.c4d	♦	♦	♦	♦	♦	♦		♦		
COLLADA	.dae	♦	♦	♦	♦	♦	♦		♦		
DirectX	.x	♦	♦	♦	♦	♦	♦		♦		
DXF (R12 only)	.dxf	♦	♦	RGB	♦			(main DXF/DWG/DWF in CAD/Pack license)			
Electric Image FACT	.fact	♦	♦	♦	♦	♦	♦				
ESRI Shape Files	.shp	♦			♦						
FBX	.fbx	♦	♦	♦	♦	♦	♦		♦	♦	
HSF	.hsf	♦	♦	♦	♦	♦	♦				
Illustrator (Adobe)	.ai	♦					(for 2D spline shape import)				
Inventor2 (SGI),VRML1	.wrl	♦			♦	♦					
Lightwave	.lwo, .lws	♦	♦	♦	♦	♦	♦		♦		
Maya, Autodesk	.ma, .mb	♦	♦	♦	♦	♦	♦		♦	♦	N2
NGRAIN	.3ko		♦	♦	♦	♦	♦				
Okino Text Dump	.txt		♦								
Okino Transfer File Format	.bdf	♦	♦	♦	♦	♦	♦		♦	♦	N3
OpenFlight	.flt	♦	♦	♦	♦	♦	♦				
OpenGL C Code	.c		♦	♦	♦	♦	♦				
OpenSceneGraph	.osg		♦	♦	♦	♦	♦				
PLY (Stanford)	.ply	♦	♦	♦	♦	♦					
Point Cloud 3D Files	.3pi, .asc, .csv, .npts, .npts.txt, .prn, .pts, .txt, .xyz, .xyzrgb - imp + exp (incl. interactive wizard)										
Protein Database	.pdb, .mol	♦		(molecular database import; including ribbon & backbone support)							
Renderman RIB	.rib		♦	♦	♦	♦	♦				
Renderware	.rwx		♦	♦	♦	♦	♦				
Rhino/OpenNURBS	.3dm	♦	♦	♦	♦	♦	♦	♦			
Shockwave/Director	.w3d		♦	♦	♦	♦	♦				
SketchUp	.skp	♦		♦	♦	♦	♦				
Softimage (XSI)	.xsi	♦	♦	♦	♦	♦	♦		♦	♦	N4
U3D	.u3d		♦	♦	♦	♦	♦				
USGS DEM	.dem	♦			♦						
VRML 1 & 2	.wrl	♦	♦	♦	♦	♦	♦		VRML2		
Wavefront OBJ	.obj	♦	♦	♦	♦	♦	♦		Import		
X3D	.x3d		♦	♦	♦	♦	♦				
XAML	.xaml		♦	♦	♦	♦	♦				
XGL	.xgl	♦	♦	♦	♦	♦	♦				

Ext = File extension, Imp = Import, Exp = Export, Mat = Materials & texture maps, Hier = Hierarchy, u/v = Texture (u,v) coordinates, L&C = Lights & cameras, Anim = Animation, Skin = Rigid/Smooth Skinning.

N1: Requires resident copy of Autodesk 3ds Max so that PolyTrans-for-3dsMax may plug in directly to 3ds Max.
N2: Native plug-in version of PolyTrans-for-Maya. Requires resident copy of Autodesk Maya.
N3: Okino .bdf format used to move databases between PolyTrans, NuGraf, 3ds Max & Maya.
N4: Includes the PolyTrans-for-Softimage native plug-in system, and independent .xsi import/export converters.

Okino's primary business over the last 25 years has been as the main provider of highly robust, optimized, mission critical CAD to non-CAD conversion solutions to mid- and high-end 3D professionals. Okino does not use reverse engineered technologies but rather we write and personally support all of our own CAD importers, linking against the main BREP solids geometry engines from each respective CAD modeling company. Refer to "http://www.okino.com/conv/filefrmt_cad.htm" for our extended list of supported CAD programs, file formats and notes.

CAD File Format	Ext	Imp	Exp	Kernel	BREP Solids	Okino CAD Module	Notes
Pro/Engineer & Creo	.asm, .par, .neu	♦		PTC Corp	♦	Granite/Pack	Utilizes Pro/E & Creo components
IGES (solids)	.igs	♦		PTC Corp	♦	Granite/Pack	
Parasolid (solids)	.x_t	♦		PTC Corp	♦	Granite/Pack	Ideal for Unigraphics NX
STEP (solids)	.stp	♦		PTC Corp	♦	Granite/Pack	AP203 and AP214
SAT (solids)	.sat	♦		PTC Corp	♦	Granite/Pack	
VDA-FS (solids)	.vda	♦		PTC Corp	♦	Granite/Pack	
DGN (Microstation)	.dgn	♦		OpenDesign+Okino	♦	Granite/Pack	
Autodesk Inventor	.iam, .ipt	♦		Autodesk	♦	CAD/Pack	
DXF/DWG	.dxf,.dwg	♦	♦	OpenDesign	♦	CAD/Pack	
DWF-3D	.dwf	♦		Autodesk	NURBS	CAD/Pack	AutoCAD, Revit, Navisworks
Solid Edge	.asm, prt	♦		Siemens	♦	CAD/Pack	
SolidWorks	.sldasm/sldprt	♦		SolidWorks	♦	CAD/Pack	
JT Open	.jt	♦	(Import)	Siemens		JT Import/Export	
SAT (solids)	.sat,.sab	♦		Spatial Corp	♦	Spatial-ACIS	Main industry implementation
CATIA v5 (.catproduct, part, cgr)		♦		Dassault	♦	Spatial-CATIA5	Utilizes CATIA v5 components
CATIA v4	.model	♦		Spatial Corp	♦	Spatial-CATIA4	
Pro/E "Render File"	.slp	♦	♦	N/A	(mesh)	(in base package)	
StereoLithography	.stl	♦	♦	N/A	(mesh)	(in base package)	