

Autodesk Maya 8.5

Key Features and Benefits

Autodesk Media & Entertainment

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Autodesk Maya 8.5: Key Features and Benefits

Create breathtaking 3D.

The award-winning Autodesk® Maya® software is Autodesk's popular professional 3D modeling, animation, and rendering solution. It is used by film and video artists, game developers, illustrators, graphic artists, design visualization professionals, and 3D enthusiasts to create engaging and lifelike digital images, realistic animations, and extraordinary visual effects.

Maya 8.5: Innovative Technology for Next-Gen Projects and Pipelines

Autodesk Maya 8.5 gives artists enhanced creative control, enabling faster completion of complex animation and simulation tasks. Creative control is achieved through such innovative new technology as Autodesk's next-generation Maya® Nucleus unified simulation framework. Python integration further extends this creative control, giving script writers the ability to efficiently manipulate, customize, and automate the software for use in next-generation pipelines and industry-leading productions.

New Feature Highlights

Autodesk Maya 8.5 delivers significant developments in the following areas:

Maya Nucleus and Maya nCloth—Maya 8.5 marks the first installment of Maya Nucleus technology. Maya Nucleus—Autodesk's next-generation unified simulation framework—features technology developed by award-winning research scientist Jos Stam. As the first Maya Nucleus module, Maya® nCloth functionality provides Maya artists with the ability to quickly direct and control cloth, and other material simulations, in entirely new ways.

Python—One of the world's most prominent scripting languages is now fully integrated into Maya. Script writers and developers can use the accessible, powerful Python scripting language as an alternative to the Maya Embedded Language (MEL) when customizing, extending, or manipulating the software. Not only has Python been integrated into Maya at the same level as MEL, but its bindings to the OpenMaya API (Application Programming Interface) give programmers an alternative language for plug-in development.

Productivity—Maya 8.5 maximizes artist productivity by simplifying and accelerating time-consuming tasks. In addition to performance improvements throughout many areas of the software, Maya 8.5 delivers a variety of new and improved tools that facilitate rendering, modeling, and character rigging. Maya rendering now provides improved support for CgFX hardware shading, plus new creative tools and workflow features such as new mental ray® shaders—including physical sun, physical sky, and architectural design shaders.

New Platforms—Maya 8.5 gives artists more platform options. As of this latest release, Intel®-based Macintosh® computer support is provided as a Universal binary—so Maya artists can use their favorite 3D software on Intel-based Macintosh computers as well as Microsoft® Windows® XP 32- and 64-bit, Linux® 32- and 64-bit, and PowerPC® 32-bit. Having six platforms to choose from means that the requirements of the production environment, not the 3D software, can dictate the kind of hardware and operating system setup a facility uses.

Japan Localization—Core-level development efforts have enabled Autodesk to deliver a powerful new Japanese version of Maya. With Maya 8.5, those artists who prefer to work in Japanese can do so while they navigate Maya, or customize their tools and user interface. In addition, new multilingual learning movies make it easier for Japanese-speaking artists—along with English, French, German, Korean or Mandarin-speaking artists—to learn Maya.

Two Options: Autodesk Maya Complete and Autodesk Maya Unlimited

Maya® Complete software is a comprehensive 3D solution for producing professional-quality graphics on desktop PCs or graphics workstations. It integrates all of the best tools for 3D modeling, animation, and rendering within a single, production-proven workflow. Maya Complete—the choice of award-winning digital artists and animators—has an intuitive design that makes it a favorite among film, broadcast, game development, multimedia (print and web), and design visualization artists of all experience levels.

The ultimate version of Maya—**Maya® Unlimited** software—is the choice of digital artists who are looking to make their 3D projects stand out. Maya Unlimited includes all the functionality found in Maya Complete and provides professional artists and animators with additional industry-leading innovations such as Maya® Fluid Effects, Maya® nCloth, Maya® Hair, Maya® Fur, and Maya® Live, for the creation of superior digital content.

Note: Maya Unlimited and Maya Complete are available for 32-bit Microsoft® Windows®, Linux®, and Mac OS® X and 64-bit Windows and Linux operating platforms. Mac OS X is provided as a Universal binary.

Rendering

Maya 8.5 delivers new rendering functionality focused on streamlining the rendering workflow. The mental ray® for Maya® rendering option, in particular, has been made more efficient through the addition of powerful, new shaders and workflow tools. Moreover, improved support for CgFX hardware shaders gives customers access to a wider range of real-time shaders and effects.

mental ray for Maya

Enhancements to Render Settings

New and reorganized render attributes make the mental ray for Maya render settings significantly more user friendly.

Enhancements to mental ray Render Editor/ Batch Option Editor

The mental ray rendering process has been simplified in Maya 8.5; artists now have three new options which allow them to configure mental ray to automatically determine the optimal memory limit, tile size, or number of threads for each render.

Sun and Sky Shaders

Realizing physically accurate outdoor environments has become significantly easier with Maya 8.5. New physical sun and physical sky shaders let users create photorealistic skies based on the position of the sun—all with the power of mental ray software's highly acclaimed, physically based rendering engine.

Architectural Shaders

New architectural and design shaders make it easier for artists, designers, and architects to create such effects as waxy floors, frosted glass, clay, and sand-blasted metals. The shaders provide built-in ambient occlusion and indirect illumination control on a per-material basis. They are especially tuned for high-quality glass and other glossy reflections and refractions.

Round Corner Shader

Geometrically precise corners on objects have long been one of the common “giveaways” that an image is CG and not photographic. A new *round corner* shader gives artists using the mental ray for Maya renderer the option to have this problem corrected at render time.

Tone Shader

The addition to Maya 8.5 of a tone mapping shader lets artists convert a high-range image to a lower-range one, in order to accommodate the limitations of certain display devices.

Rendering HDR Files

It is now possible to generate high dynamic range (HDR) images within Maya. Artists can bake an HDR image from the mental ray batch bake option, the Transfer Map feature, or the texture bakeSet node.

CgFX Shader Support

Shader Setup

The CgFX workflow has been improved in Maya 8.5; the shader now analyzes an assigned CgFX file and exposes the varying parameters by name in the Vertex Data section.

Improved Interface to CgFX Shaders

With Maya 8.5, the attribute editor interface for CgFX shaders is generated from the shader variables and semantics—making shaders more accessible to artists and removing unused and cryptic varying parameter registers. Context-sensitive drop-downs now present the artist with more mesh data options for use with the shader, including position, normal and tangents, and binormal information for all available UV sets.

Cg Version 1.5

Maya 8.5 supports CgFX shaders compatible with the most current version of the Cg library—version 1.5.

Varying Parameter Semantics

Maya now supports an expanded list of parameters—including TANGENT, BINORMAL, ATTR, COLOR1, and PSIZE.

Varying Parameter Packing

Shader writers can now pack multiple mesh inputs into a single *varying parameter* register.

Time Semantic

Maya 8.5 includes support for CgFX parameters that vary with time.

Matrix Semantic

Support has now been added in Maya for the following common CgFX shader matrices: worldtranspose, worldviewtranspose, worldviewprojectiontranspose, viewtranspose, and projectiontranspose.

Transparency

Maya 8.5 includes support for the rendering of transparent CgFX shaders—allowing artists to achieve state-of-the-art effects with their hardware shaders.

Modeling and Mapping

Autodesk Maya 8.5 maximizes artist productivity for time-consuming tasks with new and enhanced modeling and texturing tools and workflows.

Modeling

Symmetry and Reflection for Rotate and Scale Tools

The workflow for creating and editing symmetrical models has been streamlined in Maya 8.5; edits to polygons or their components, using rotation or scale, can be mirrored across a selected axis. This new editing functionality brings these tools into alignment with Maya software's Move tool.

Additions to Edge Loop Tools

- **Multisplit Profile Curve**—This addition to the Insert Edge Loop tool gives artists interactive mesh adjustment options for high-level polygonal surface manipulation.
- **Fix Quads**—This new option enables the Insert Edge Loop operations result in well-parameterized, four-sided polygons.
- **Offset Edge Loop Positioning**—The Offset Edge Loop tool now has options for specifying edge location and maintaining edge position.

Additions to Transfer (Polygon) Attributes

The Transfer Attributes toolset has been augmented in Maya 8.5 to include new options that streamline the transfer of information between polygon surfaces.

- **Sampling Options**—New sampling options have been added for Component Space and UV attribute transfers, allowing attributes to be transferred between objects that are separated in space or of different proportion/scale.
- **Paint Transfer Attributes**—The addition of this helpful workflow tool lets artists blend between source and target deformations, controlling the influence of either mesh on the resulting deformation on a per-vertex basis.

Tangent Smoothing Options

- **Smoothing Angle**—Modelers can now minimize undesired tangent space seams resulting from UV borders or UV mirroring through a new Smoothing Angle option that lets them specify a threshold angle below which tangents will be smoothed.
- **Normal Threshold**—The ability, new in Maya 8.5, to specify a threshold value below which the normals are considered equivalent can help artists eliminate the appearance of seams when vertex normals are not shared across an edge.

Relax Mode for Sculpting

A new Relax option for mesh sculpting smoothes mesh imperfections while maintaining overall size and volume. This option differs from Mesh Smooth in that it moves a vertex only if it is considered out of place. Mesh Smooth averages vertices indiscriminately.

Enhancements to Color Editor

HSV color values greater than one are now supported in the Color Editor. This capability gives artists more control over high dynamic range values—for material and vertex colors—in the final result.

Display of User-Defined Normals

User-defined vertex normals now display as yellow, making it easier to differentiate between modified and unmodified normals when using such features as Vertex Normal Edit, Lock Normals, or Edit Normals.

Quad Split Attribute

A new quad split attribute gives artists the option to choose Left, Right, or Best Shape for the tessellating of four-sided polygons.

High-Precision NURBS Display

A new high-precision NURBS (non-uniform rational B-spline) display preference helps eliminate issues such as animation jitter and selection problems when the artist is dealing with distant objects or objects with extreme scaling.

UV Texturing

Enhancements to Move UV Shell

A new Placement Iteration setting gives artists more precise control over UV shell placement when the Prevent Overlap setting is enabled.

Character Animation

Animation, Character Setup, and Deformers

New features and functionality give animators a higher degree of control over character rigging and other aspects of animation.

Enhanced Skin Weights Copy and Mirror

The skin weights copy and mirror functionalities have been optimized to give the animator more accurate control over how the surfaces and joint-influences match each other.

Joint Limits on Full-Body IK Systems

A Maya skeleton's joint limits now continue to be honored once a full-body IK (inverse kinematics) system has been applied.

Oriented Floor Contacts

A new oriented floor contacts feature lets characters maintain interaction with a floor regardless of its angle of orientation—thus making it easier to animate a character walking on uneven terrain, placing a hand on an object that is not evenly horizontal, and so forth.

Movable Geometry Cache Clips

The ability to move geometry cache clips between tracks in the Trax Editor, new in Maya 8.5, enables animators to organize their tracks in a logical manner, giving them a better overall view of the timeline and facilitating iteration.

Geometry Cache Threading

Geometry caching has been threaded to improve performance.

Floating Point Precision

To save disk space animators now have the option to save cache files as a single precision floating point.

Lock/Solo/Mute Cache Clips

Maya software's standard Trax controls now also work for cache clips, making it easier to test various combinations of cached simulation results.

Delete History Ahead of Cache

Artists now have the option to remove the modeling or deformer nodes used to create a specific cached result. In most instances, this option simplifies and reduces the scene graph, resulting in improved performance.

Cache Blending

The ability to set In Tangent and Out Tangent values for cache clip blending gives animators more control over the timing of the interpolation between cache clips.

Inherit Modifications

A new Inherit Modifications option in the Replace Geometry Cache options window lets animators preserve the timing, scaling, trimming, and splitting of their original cache—so that these modifications do not need to be manually reapplied once the cache is replaced.

Scripting, API, and Developer's Kit**Python**

The industry-standard Python scripting language has been fully integrated into Maya.

Python Scripting

Scriptwriters and developers can now use Python as an alternative to MEL. The language is integrated at the same level as MEL: Maya includes Python bindings to the same Maya Commands API that has made MEL popular.

Script Editor Changes

A new tab in the Script Editor has been added to support Python scripting so that customers can take advantage of their experience with the Maya Script Editor to tap into Python.

Stand-Alone Python Interpreter Linked to Maya

Not only is the Python interpreter integrated into the Maya application, but the Maya Python modules can be imported into an external stand-alone Python interpreter for batch processing.

Python Bindings to OpenMaya API

Because Maya includes Python bindings to the OpenMaya API—used for writing C++ plug-ins—programmers now have an alternative language for plug-in development.

Python MEL eval Command

An eval command included in the *maya.mel* module calls the MEL interpreter from within Python, giving users the ability to take advantage of existing MEL scripts within Python.

Python Support for Multibyte Strings via Unicode

Maya supports multibyte strings via the built-in Python Unicode type. Both the Maya commands and the OpenMaya API fully support Unicode objects. Scriptwriters can specify the encoding of their scripts using Python's existing syntax, and the Script Editor offers preliminary multibyte support.

MEL**Python Command**

A new MEL command has been added to Maya 8.5 that allows MEL scripts to call Python code. This gives MEL users the option to mix Python scripts with their MEL scripts—a good way to make the transition to using Python.

MEL Support for Multibyte Strings

MEL scriptwriters can embed Japanese strings in MEL scripts, which can then be used to create a custom UI. They can also manipulate multibyte strings using functions such as substring and tokenize.

General Scripting**New Script Editor Toolbar**

A new Script Editor Toolbar gives script writers access to the most frequently used features of the editor.

New Nodecast Command

A new command has been added to Maya that enables scriptwriters to swap nodes of similar type within a graph or DAG path while keeping all their connections, parenting, and values.

New Flag for shelfButton Command

A new flag has been added to the shelfButton command that allows script writers to create pop-up menus.

New Flags for modelEditor Command

New flags have been added to the modelEditor command that allow scriptwriters to turn on or off the display of selection highlighting manipulators and heads-up displays.

API**Python Support**

The OpenMaya API is now available from Python as well as C++ (see “Python Bindings to OpenMaya API” earlier in this document).

New Methods for Multibyte Strings

New and improved methods for multibyte string manipulation have been provided in native and Unicode encodings.

New Classes for Plug-in Internationalization

New classes and methods enable programmers to internationalize plug-ins the same way Maya is internationalized—so that plug-in binary can supply two UI languages.

DevKit

Autodesk has ported many of the existing C++ DevKit examples into Python.

File Referencing and Handling

Save Locked Reference

With Maya 8.5, files that are saved with the new Lock File option have limited editing capabilities if they are referenced.

Opening Scenes from Later Versions of Maya

A new File Open option gives artists the ability to open Maya scenes created in more recently released versions of the software—making it easier for artists and production teams that use different Maya versions to collaborate.

Note: Maya 8.5 is the first version that includes this capability, so only files from subsequent releases will be accepted.

Recent Files Access

A list of recently opened files can now be accessed directly from the status line by right-clicking the Open Scene icon.

Paint Effects

New Brushes

Several new brushes have been added to Maya Paint Effects that facilitate the creation of certain natural and man-made objects. These tools include new grass brushes (autumn and summer rice), tree brushes (bamboo, cherry, keyaki, and poplar), along with brushes for such objects as aerials, street lamps, umbrellas, benches, and windmills.

Japan Localization

With Maya 8.5, those artists who prefer to work in Japanese can now do so while they navigate Maya, or customize their tools and user interface.

Localized Japanese Maya User Interface

- **Japanese UI**—By making Japanese-language menus, labels, error messages, annotations, heads-up displays, notes, and string attributes available in Maya, Autodesk has removed the largest obstacles to learning and navigating the software for artists whose primary language is Japanese; available for Maya on Windows and Mac.
- **Ability to Switch UI Languages**—Users can switch between the English and Japanese UI by adjusting their language setting between sessions.
- **Data Compatibility**—Data compatibility between English and Japanese Maya files promotes collaboration in facilities/on projects where both languages are in use.
- **Force ASCII**—A system wide Force ASCII feature prevents users from accidentally assigning objects and character nodes multibyte names.

3D Japanese Text

Artists can now create 3D text using resident Japanese fonts (also functions as Korean and Chinese fonts).

Japanese Plants for Paint Effects

New Maya Paint Effects brushes enable artists to realize rice and bamboo plants as well as cherry and poplar trees—abilities that have been requested by many Japanese Maya users.

Improved Japanese Documentation

The Maya 8.5 Japanese documentation now provides menus in both English and Japanese.

General and Miscellaneous

Supported Platforms and Operating Systems

Autodesk Maya 8.5 supports the latest hardware technologies and operating systems—including Intel-based Macintosh computers. Having six hardware platforms and multiple operating systems to choose from means that the requirements of the production environment, not the 3D software, can dictate the hardware/software setup a facility uses.

- **Intel-based Macintosh computers**—New Intel-based Macintosh computer support, provided as a Universal binary, results in greater productivity for Mac users.
- **Other Platforms**—Besides running on Intel-based Macintosh computers, Maya is also available for 32-bit Mac OS X on PowerPC, Windows 32- and 64-bit, and Linux 32- and 64-bit.

Containers in Hypergraph and Hypershade

The addition of containers to the Hypergraph and Hypershade helps users simplify the display of complex node hierarchies—an efficient workflow tool for those who work with large, complex graphs. The ability to bookmark a Work Area has also been added, enabling users to take a “snapshot” of specific layouts, which can be referred to as needed.

Multilingual Learning Movies

The *Maya Essential Skills* movies are now available with professional multilingual audio and subtitle options. Formerly available in English with a Japanese-language option only, the latest movies provide French, German, Italian, Korean, and Mandarin (Simplified Chinese) language options as well.

Numeric Input and Transform Mode via Status Line

Artists can enter individual X, Y, and Z values on the status line to position their objects on each axis, independently. In addition, the Transform mode for the entered value can now be set via a pop-up menu available through an icon on the status line.

Channel Box Attribute Display

A selected object’s attributes, as displayed in the channel box, now expand directly under the node name, rather than under the list of node names. This makes it clearer which node these attributes belong to.

Hypergraph Layout Styles

Maya 8.5 now gives artists the option to draw graph hierarchies using different layout styles.

Linux Lang Support

Maya on Linux now uses the LANG environment variable, standard on Unix® operating systems, to determine the user's locale.

Error Reporting on Windows

The process of reporting Maya errors to Autodesk has been simplified with Maya 8.5, for Maya on 32-bit Windows systems. If the software quits unexpectedly, an Error Reporting dialog box appears—one that automatically contains specific information on the problem.

Additions to Panel Show Menu

The Show menu in Scene View now has options for selection, highlighting, and manipulators, as well as the option to show or hide the heads-up display.

General Connection Editor Enhancement

The connection editor has now been enhanced to respond to object selection—filling itself automatically.

Name Display—Certain Editors

Attributes in the Attribute Spreadsheet, Channel Control, Connection Editor, and Outliner can now be displayed as either Nice, Long, or Short descriptions, and arranged alphabetically or sorted. This capability means that attribute names can be made to appear in the UI in the same format scriptwriters require for their scripts.

Maya Nucleus Unified Simulation Framework (Maya Unlimited)

Autodesk Maya 8.5 delivers Maya Nucleus, Autodesk's next-generation unified simulation framework featuring technology developed by award-winning research scientist Jos Stam.

Maya Nucleus Solver

The Maya Nucleus solver, introduced with this release of Maya, is a linked particle system that interactively simulates a wide range of dynamic entities. The solver works with a variety of shapes (curves, nonmanifold geometry, meshes with holes, and so forth) within a unified framework.

- **Unified Framework**—Multiple solvers can influence each other bidirectionally and use the same forces and constraints.
- **Fast and Stable**—Because Maya Nucleus offers better performance and stability than other solvers, it automatically recovers (continuing the simulation) where other solutions simply fail; for example, when rapid motion causes clothing to collapse or implode.
- **Directable**—Artists can shape and influence results toward a modeled target, even while the simulation is running. Maya Nucleus simulations are cached in the unified caching framework, introduced in Maya 8, so multiple simulations can be blended together in the Trax timeline to achieve an optimal single result.
- **Open and Extensible**—Maya Nucleus was designed as an open system with an API that will, in future releases, allow third-party or in-house plug-in solvers to

be added to it. Each Maya Nucleus solver (module) can be designed to function as a system where “nObjects,” passive objects, and all related components of the module become members of a particular solver system. Objects that belong to the same solver system can interact with one another.

Maya nCloth (Maya Unlimited)

As the first Maya module built on Autodesk’s new Maya Nucleus technology, Maya nCloth provides Maya artists with the ability to quickly direct and control their cloth and other material simulations in entirely new ways. Beyond cloth, Maya nCloth lets artists create deformable plastic and metal simulations as well as “cloth-on-cloth” simulations—a cape over a jacket, shirt over pants—with natural-looking collisions.

Maya nCloth Objects

Because Maya nCloth objects are created with the regular Maya modeling toolset—using standard (quad) open or closed polygon meshes—any polygon mesh model can be quickly transformed into a Maya nCloth object. These objects can be stiff, viscous or flowing and as tightly or loosely woven as the artist wants. They can also be made to bend, stretch, shear, dent or even tear: whether the change is subtle or significant, it can be realized quickly.

Directability

While Maya nCloth’s intelligent solving capabilities frequently produce the artist’s desired results with little or no intervention, the system was also designed to accommodate those artists who want to maintain a high level of creative control over their cloth simulations. Cloth attributes, for example, can be manipulated with Maya Artisan’s easy-to-use, brush-based interface. Artists can also shape and influence results toward a manually modeled target (pose) even while the simulation is running. Maya Nucleus simulations are cached in the unified caching framework introduced in Maya 8, so multiple simulations can be edited in the Trax timeline and blended together to achieve results not typically possible from a single simulation.

Collisions

With Maya nCloth, artists and TDs can easily set up and manipulate realistic cloth collision behavior. Collisions can be completely automated, such as passive object collisions, or set up to give the artist a high degree of control over properties such as influences, order, and layering. The latter not only helps the artist to achieve specific creative results, but can be used to improve the performance of some simulations. Support for self-collisions means Maya nCloth simulations deliver highly realistic results—while avoiding the self-interpenetration and implosion errors that other cloth systems frequently exhibit. Interpenetration with the collision object is also rare. In such instances Maya nCloth quickly recovers and continues the simulation.

Constraints

Artists can now create topology-independent constraints on their cloth objects. This means they can refine their cloth geometry—increase resolution by applying a smoothing operation, for example—without affecting previously established constraints. Constraints can be used to fit a garment to the contours of a character, influence how the Maya nCloth settles on a character, or control how the Maya nCloth moves during animation. They can also be used to attach buttons, tear cloth, and merge different Maya nCloth objects.

Forces

Artists can use any of the standard Maya dynamics forces, or the integrated Maya Nucleus physics forces, to automatically animate their Maya nCloth. Simulations using force fields result in the type of highly realistic motion that can be difficult to achieve via traditional animation methods.

Air Pressure Model

Maya nCloth offers artists creative options that extend beyond cloth simulation. Any supported geometry—whether a closed, sealed volume such as an inner-tube or an open one, like an untied balloon—can be given the behavioral properties of an inflatable object, with internal and external pressure.

Maya Fur (Maya Unlimited)

Volume Fur Rendering Enhancements

Maya Fur volume rendering in mental ray has now been improved. Artists have the ability to increase the fur antialiasing quality and include motion blur; plus optimizations deliver accelerated self-shadowing.

Fur Interpolation Along UV Border Edges

A new Export Wrap Threshold setting has been added to Maya Fur, which helps reduce visible gaps in combed fur along UV borders.

Maya Hair (Maya Unlimited)

Follicle Control Enhancements

Follicle Attraction Damping can now be adjusted on a per-follicle basis—damping changes can be applied using the Paint Hair tool, and a ramp may be used to adjust follicle stiffness.

Recommended Minimum System Requirements

Software

The **32-bit** version of Autodesk Maya 8.5 software is supported on any of the following 32-bit operating systems:

- Microsoft® Windows® XP Professional (SP2 or higher)
- Red Hat® Enterprise Linux® 4.0 WS (U4)
- SUSE Linux 10.1
- Fedora™ Core 5
- Apple® Mac OS® X 10.4.8

The **64-bit** version of Autodesk Maya 8.5 software is supported on any of the following 64-bit operating systems:

- Microsoft Windows XP x64 Edition (SP1 or higher)
- Red Hat Enterprise Linux 4.0 WS (U4)
- SUSE Linux 10.1
- Fedora Core 5

The following web browsers are supported for Autodesk Maya 8.5:

- Microsoft® Internet Explorer 6.0 or higher
- Netscape® 7 or higher
- Apple® Safari™
- Firefox®

Hardware

At a minimum, the **32-bit** version of Autodesk Maya 8.5 software requires a system with the following hardware:

- Windows and Linux: Intel® Pentium® 4 or higher or AMD Athlon® XP processor
- Macintosh®: Power Mac® G5 or Intel®-based Macintosh® computers
- 1 GB RAM
- 2 GB hard disk space
- Qualified hardware-accelerated OpenGL® graphics card
- Three-button mouse with mouse driver software
- DVD-ROM drive

At a minimum, the **64-bit** version of Autodesk Maya 8.5 software requires a system with the following hardware:

- Windows and Linux: Intel® EM64T, AMD Athlon 64, or AMD Opteron® processor
- 1 GB RAM
- 2 GB hard disk space
- Qualified hardware-accelerated OpenGL graphics card
- Three-button mouse with mouse driver software
- DVD-ROM drive

For the latest list of qualified hardware to run Autodesk Maya 8.5, refer to the Autodesk Maya 8.5 qualification chart located at www.autodesk.com/qual-charts.

Note: Autodesk Maya 8.5 is also capable of running on other hardware configurations such as the Power Mac G4 or boutique distributions of Linux. However, enumerating systems that are not tested and cannot be supported or that fall below the requirements for a productive user experience is beyond the scope of the online qualification charts.

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