

The Autodesk Entertainment Creation Suite enables our veteran artists to design detailed scenes for some of the top feature films and video game cinematics in the industry. Autodesk Entertainment Creation Suite is the backbone of our previsualization process, empowering us to help directors hone their visions from concept through the handoff to final visual effects with unprecedented efficiency.

—Chris Edwards  
CEO and Creative Director  
Rainmaker Entertainment, Inc.

# Autodesk® Entertainment Creation Suites

2013

## Redefining digital entertainment creation.

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# Experience the Creative Freedom of Having a Palette of Industry-Leading 3D Animation Toolsets at Your Fingertips

Autodesk® Entertainment Creation Suites 2013 provide an affordable end-to-end creation and production solution, with tools used by artists working in visual effects, game development, and other 3D animation production.

Autodesk helped us expand our artists' range and flexibility, enabling our creative team to take on projects of varying visual complexity with ease and consistency.

—Tony Pelle  
Director of Technology  
Rainmaker Entertainment Inc.

The Autodesk® Entertainment Creation Suite Standard edition offers a choice of either Autodesk® Maya® or Autodesk® 3ds Max® animation software, together with Autodesk® Mudbox® 3D sculpting and painting software, Autodesk® MotionBuilder® real-time virtual production and motion capture editing software, and—newly included for the Entertainment Creation Suite 2013 releases—Autodesk® SketchBook® Designer concept art software. The Premium edition additionally offers Autodesk® Softimage® 3D animation and visual effects software. Best of all, with the Ultimate edition, you get all of the products in the Premium edition plus the added advantage of having both Maya and 3ds Max.

Integrated through enhanced single-step interoperability workflows and more consistent user interfaces, the suites help increase productivity and provide enhanced creative opportunities—at a significant cost saving over purchasing all of the products individually.

#### Enhanced Interoperability

Building on the existing data exchange workflows, the Autodesk Entertainment Creation Suites offer a number of new features that further enhance interoperability and make it easier for you to work with multiple toolsets.

#### Live Character Streaming Between MotionBuilder and Maya

You can now send an Autodesk® HumanIK® character from Maya to MotionBuilder and establish a live streaming connection. This enables you to stream animation applied to a character in MotionBuilder onto the same character in Maya, providing a reliable and efficient way to previsualize a retargeting result in the final Maya scene before actually transferring the final data between applications.

#### Consistent Hotkeys

If you are familiar with using Maya, you will appreciate the ability to use the same mouse and key combinations in all 3D Entertainment Creation

Suite applications as you would in Maya to navigate viewports. In addition, a new 3ds Max interaction mode in Softimage enables artists familiar with 3ds Max to get up to speed with Softimage faster, with the option to set familiar camera navigation, mouse manipulation, hotkeys, selection mode, and keyframing mode.

#### Enhanced, Consistent F-Curve Editor

The F-Curve Editor within Maya, 3ds Max, Softimage, and MotionBuilder now offers more consistent functionality, helping you transition more easily between applications. In addition, a new manipulator in each application enables you to easily retime animations without adding keyframes.

#### Autodesk HumanIK Interoperability with CAT

Convert 3ds Max CAT (Character Animation Toolkit) bipedal characters into characters that are compatible with the Autodesk HumanIK solver used in Maya and MotionBuilder in a single step. Animation changes created in Maya or MotionBuilder can be updated back onto the original CAT character in 3ds Max, facilitating a round-trip workflow.

Maya and Mudbox image courtesy of Lukasz Siudzinski



Maya image courtesy of Gravity



Maya, MotionBuilder and Mudbox image courtesy of Guerrilla B.V.

#### Autodesk Maya

Autodesk Maya 2013 software delivers practical toolsets to help your facility create and maintain the modern, open pipelines needed to address today's challenging productions. Powerful new toolsets for dynamic simulation, animation, and rendering help you realize new levels of creativity while offering the enhanced productivity that will help keep you on schedule and within budget. In addition, the Open Data initiative introduced in Maya 2013 helps facilitate data-centric, nonlinear, parallel workflows that make it easier to handle the massive complexity requirements you face.

#### Key New Features in Maya

##### Maya nHair

Create more realistic hair and other curve-based dynamics with the new Maya® nHair module for the Maya® Nucleus unified simulation framework. nHair can interact bidirectionally with both Maya® nCloth and Maya® nParticles, so you can create complex simulations with multiple dynamic entities all working together.

##### Viewport 2.0 Enhancements

With the addition of high-quality depth sorting, together with support for image planes and animation ghosting, Viewport 2.0 now offers a higher fidelity interactive environment, so you can evaluate your work more easily in order to make better creative decisions.

##### New Node Editor

A new Node Editor helps you more easily create, edit, and debug node networks. Drag-and-drop connection editing enables you to rewire nodes in a more intuitive environment, while three levels of detail, together with color coding for different data types, make it easier to handle complex networks.

##### Bullet Physics\*

Take advantage of the open source AMD Bullet Physics engine to simulate both soft and rigid bodies in a single high-performance system. Featuring discrete and continuous 3D collision detection, Bullet enables you to create highly realistic simulations of cloth, rope, deformable objects, and ragdoll skeletons.

#### Heat Map Skinning

Spend less time manually refining skinning, with a new Heat Map Skinning method that can provide a more accurate initial binding of geometry to skeletons. With this method, skin is better able to be assigned to the intended bone as opposed to an adjacent but unrelated one.

#### Trax Clip Matching

It is now easier to visualize how motions within two or more Trax clips match in order to adjust how they blend together. With Clip Ghosts, you can view the start and end frames of clips as skeletal wireframes in the 3D view; clips can then be matched either manually or automatically.

#### Alembic Caching

As part of the new Open Data initiative, you can now read and write the Alembic open computer graphics interchange framework format, initially developed in 2010 by teams from Sony Pictures Imageworks and Industrial Light & Magic, a division of Lucasfilm Entertainment Company Ltd. Alembic distills complex animated and simulated data into application-independent baked geometry, so that massive datasets can be more easily passed between disciplines.

#### ATOM Animation Transfer

You can now transfer animation between characters via the new ATOM (Animation Transfer Object Model) offline file format—another element of the new Open Data initiative. ATOM natively supports keyframes, constraints, animation layers, and Set Driven Keys.

#### File Referencing Workflow Enhancements

Targeted improvements to both the user interface and the underlying architecture for file referencing enable you to more easily segment your scenes to work in parallel and better manage complexity—another contribution to the new Open Data initiative.

\*Available on Windows® (64-bit only), Linux®, and Mac OS® X operating systems.



3ds Max image courtesy of Platige Image

#### Autodesk 3ds Max

Continuing to push limits with its Rendering Revolution and Smart Data initiatives, Autodesk 3ds Max 2013 software delivers a powerful interactive rendering experience with ActiveShade support in the NVIDIA® iray® renderer; a new render pass system with integrated node-based compositing; and provides industry-leading interoperability with Adobe® After Effects® and Adobe® Photoshop® software. In addition, new motion graphics, animation, and simulation tools; flexible new customization options; and enhanced interoperability with Autodesk Maya 2013 and Autodesk MotionBuilder 2013 software can help increase overall productivity.

#### Key New Features in 3ds Max

##### Adobe After Effects Interoperability

If you are a media design or graphics artist whose creative toolsets include Adobe After Effects, you can now enjoy a level of interoperability with 3ds Max that sets a higher standard for 2D/3D data exchange. With the new Media Sync two-way transfer functionality, you can iterate more effectively and reduce rework to complete projects in less time.

##### Enhanced Interoperability with Adobe Photoshop

Enjoy greater flexibility when finishing renderings in Adobe Photoshop, with the new ability to output renderings in a layered PSD format that retains layer order, opacity, and blend modes.

##### Render Pass System

Thanks to an entirely new render pass system, you can now create render elements for downstream compositing more efficiently. You can quickly set up and execute multiple render passes from a single file, and modify individual passes without the need to re-render the whole scene.

#### Slate Compositing Editor

Perform simple compositing operations directly within 3ds Max with a schematic node-based interface that enables rendered layers and passes to be more easily wired together and combined with compositing nodes; the resulting composite can then be sent to After Effects or Photoshop for further refinement.

#### ActiveShade Interactive iray Rendering

Iterate more effectively when finalizing renderings, with new ActiveShade support for the NVIDIA iray renderer. ActiveShade provides an interactive rendering session that constantly updates as changes are made to cameras, lighting, materials, and geometry.

#### MassFX Enhancements

Enjoy a wide range of enhancements and additions to the MassFX unified system of simulation solvers. Highlights are a new mCloth module that features tearable fabric and support for dynamic ragdoll hierarchies.

#### Focus on Workflow

With the understanding that small things can make a big difference, 3ds Max 2013 includes a number of customer-requested workflow improvements: the ability to manipulate the camera when cutting polygons and during the creation process, enhancements to the skin modifier, and a modeless array dialog box.

#### Tabbed Layouts

Easily create and switch between a number of viewport layout configurations that can include both 3D and extended viewports. Selecting a different layout is as simple as clicking on its icon, or pressing a hotkey. You can share customized View Tabs with other artists by saving and loading presets.

#### Customizable Workspaces

Adapt 3ds Max to your personal way of working by selecting from a choice of default or custom workspaces. Each workspace can have individual settings for menus, toolbars, ribbon, and viewport tab presets; in addition, selecting a new workspace can automatically execute a MAXScript. This enables you to more easily configure the workspace to suit your preferences or to fit the task at hand.



Maya and Mudbox image courtesy of Dan Roarty



Maya and Softimage image courtesy of UVPFACTORY

#### Autodesk Softimage

Autodesk Softimage 2013 software delivers powerful new creative toolsets, a new high-fidelity interactive environment, and extended customizability. Enjoy greater creative freedom across the board: the completely new CrowdFX simulation feature set, a new High-Quality Viewport, enhanced modeling, animation, physics, and selection tools. In addition, better interoperability with Autodesk Maya 2013 and Autodesk 3ds Max 2013 software, together with extensions to the SDK (software development kit) help facilitate integration into existing pipelines.

#### Key New Features in Softimage

##### CrowdFX

Create sophisticated crowd simulations in a dedicated environment within Softimage. Using the power of the ICE (Interactive Creative Environment) multithreaded particle system, you can create massively complex effects with huge numbers of characters that react intelligently to their environment and each other. CrowdFX simulations can be easily exported to Maya for integration into existing Maya scenes.

##### High-Quality Viewport

Refine your content more efficiently using the new High-Quality Viewport to reduce the need to preview using a software renderer. With the ability to evaluate your work interactively in an environment that closely mimics the rendered output, you can make better creative decisions in less time.

##### Rigging and Animation Improvements

Enjoy improved overall productivity for everyday animation workflows, thanks to a large number of enhancements to the animation and rigging toolset. The Animation Mixer, GATOR, the Dopesheet, the F-Curve Editor, the Synoptic Editor, and Primitive Bones have all been improved.

#### Bullet Physics for ICE

The popular open source Bullet physics engine has been integrated into ICE. The new Actual Shape Collision option enables particle-based rigid body dynamics to calculate fast collisions with complex nonconvex meshes, and collide with deforming meshes for more accurate simulations.

#### New Modeling Tools

The Softimage polygon modeling toolset is extended with new options for thickness, hole capping, edge cutting, and extrusion. In addition, the interactive toolset gains an intuitive new Add Smooth Edge Loop tool that maintains the contoured shape of an object when adding edge loops, meaning no extra work is required to make the mesh smooth or to keep the object's continuity.

#### New Selection Tools

Save time when performing common and repetitive tasks, with a wide range of new selection tools and workflows that make creating different component selections significantly easier and faster. Highlights are: Quick Loop, Polygon Selection to Outline, Select Border, and Loops from Selection.

#### ICE Enhancements

Technical directors (TDs) can now attach and run VBScript, Python, or Jscript code inside ICE Compound Property Pages in order to modify the ICE Tree's content or change a scene item or value. In addition, a number of enhancements within ICE help increase productivity.

#### SDK Enhancements

Softimage 2013 offers new opportunities for extension and customization, with a number of additions to the SDK (Software Development Kit).

#### Sample Meshes and Scenes

New sample scenes and meshes—complete with UVs—help you deconstruct ICE modeling techniques and provide quick starting points for modeling various characters and objects.

With the Autodesk Entertainment Creation Suites, there is no such thing as an impossible project in our studio.

—Sébastien Dostie  
Visual Effects Designer and  
Supervisor  
Boogie Studio



Maya, MotionBuilder and Mudbox image courtesy of Guerrilla B.V.

### Autodesk MotionBuilder

Autodesk MotionBuilder 2013 software helps teams more reliably acquire, aggregate, and refine 3D character animation and other production data. With the option to record live motion capture data directly to disk, support for broadcast WAVE files, and the ability to output serial digital interface (SDI) video, MotionBuilder 2013 offers a new nonlinear editing platform for Virtual Production. In addition, with a flexible new heads-up display (HUD) and floating viewer, animators and directors can each benefit from customized views.

### Key New Features in MotionBuilder 2013

#### Live Data Recording to Disk in Story

A new option enables motion capture or certain other live input data to be recorded directly to disk, rather than to memory; a representation of the data is added to the Story timeline, where it can be loaded for editing when required. With this option, you are no longer limited by the amount of data that will fit into RAM, but only by the size of your hard disk, effectively enabling you to record take after take in rapid sequence.

#### Heads-Up Display

Take advantage of a flexible new heads-up display (HUD) feature set to render real-time metadata into the viewer. HUD elements can contain static or dynamic data: text fields, bitmaps, and aspect ratio masks are all supported. Choose from a number of presets, or add a property reference or relationship constraint from within the scene simply by dragging it.

#### Floating Viewer

Artists and directors can now each view the scene information that is important to them in an appropriate context, thanks to a new Floating Viewer that enables one camera view to be displayed on a separate monitor from the main viewpoints.

### Broadcast WAVE File Support

New support for professional broadcast audio WAVE files enables embedded timecode data to be more accurately interpreted; as a result, video and audio files can be more easily synchronized.

### Story Clip Grouping

Simultaneously edit the timing of multiple clips, thanks to a new Summary Clip option in the Story timeline. The Summary Clip enables you to translate, scale, or cut all of the clips in a folder of tracks in a single action. This provides a useful method of making high-level changes to multiple characters at once.

### Video Out

New in MotionBuilder 2013 is the ability to output an SDI broadcast video signal. This is useful in situations where a genlock reference signal is required: when capturing real-time video output for offline editorial, without having to wait for a rendered file.

### Z-Depth Selection

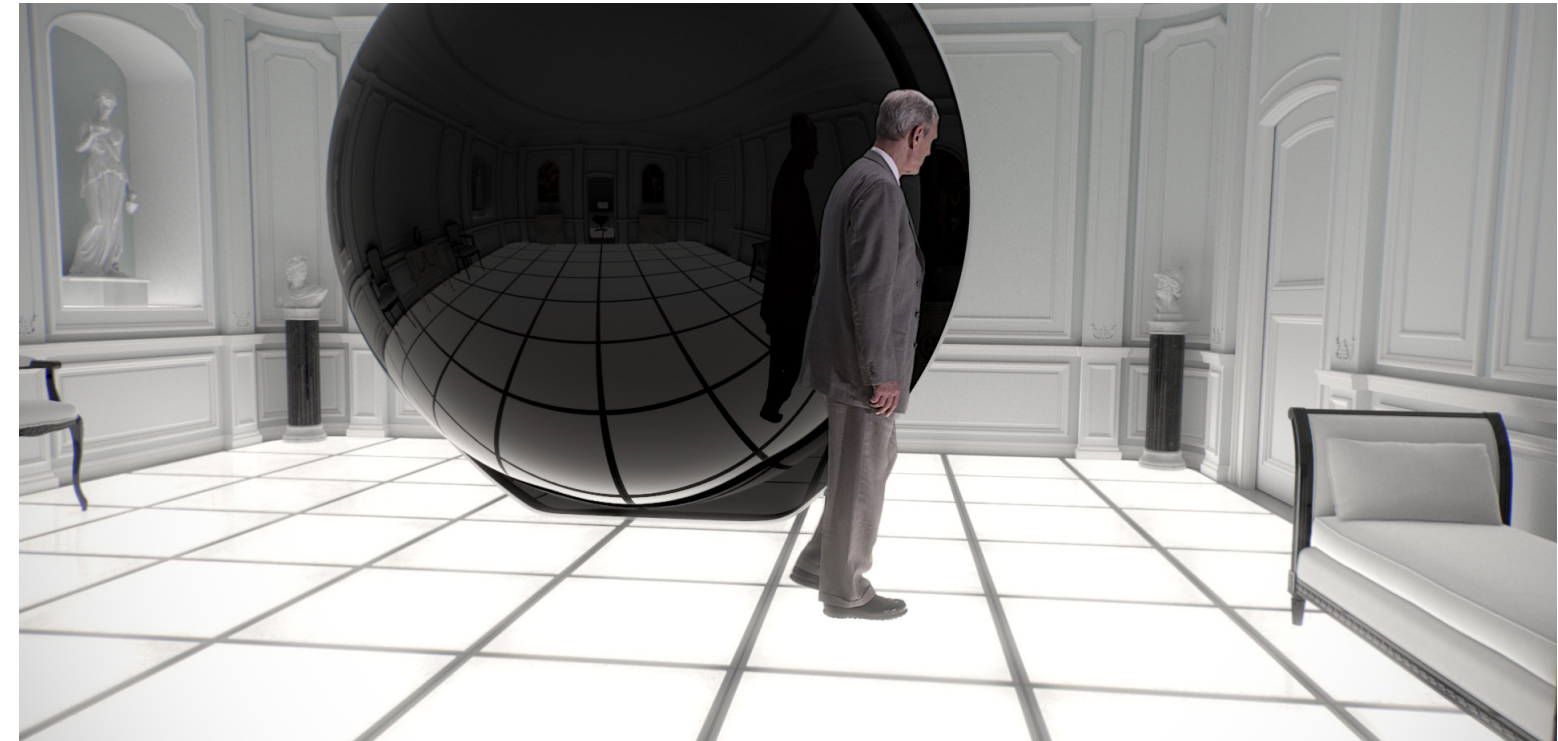
A number of new features make it easier to select objects, especially those with semitransparency. You can now optionally select through semitransparent objects; change the transparency threshold through which selection is possible; and cycle through objects based on their z-buffer depth.

### Audio Retiming

Audio clips can now be retimed in the Story timeline, so you can more easily match audio timing with the timing of the animation.

### Performance Enhancements

Targeted performance enhancements in MotionBuilder 2013 help increase overall productivity to keep creativity flowing. In particular, scene load time, merging assets from multiple scenes, and selecting objects in a scene with many nodes are now significantly faster.



Maya, 3ds Max and Mudbox image courtesy of AdNAU

### Autodesk Mudbox

Autodesk Mudbox 2013 software helps you create complex, production-ready scenes with greater ease, thanks to the new Gigatexel engine for creating massive amounts of detail, and the ability to work efficiently with significantly more objects. Meanwhile, the creative painting and sculpting toolset is extended with new multipurpose curves; the ability to combine bump and normal map information; and easier methods for creating and extracting tiled detail. In addition, with enhanced interoperability with Adobe Photoshop and support for edge sharpness data, Mudbox 2013 offers better pipeline integration.

### Key New Features in Mudbox 2013

#### Extreme Detail with the New Gigatexel Engine

Create massive amounts of detail—in the range of billions of texels—to produce the texture complexity required by today's high-resolution formats and increasingly demanding consumers. The amount of detail possible is limited only by the artist's hardware configuration. The Gigatexel engine works automatically and transparently to help you efficiently handle exponentially more pixels—with the quality and performance benefits that come with painting in true 3D.

#### Multipurpose Curves

Draw curves in screen space or in 3D space, and use them in a variety of ways to augment the painting and sculpting toolsets.

#### Customizable Workspace

Configure the user interface to better accommodate individual workflows and preferences, with the new ability to customize, save, and share custom workspaces.

### Support for Edge Hardness, Creasing, and Smoothing Groups

Enjoy the ability to more accurately interpret and display models created in Autodesk Maya, Autodesk 3ds Max, Autodesk Softimage software, and certain other content creation solutions that contain special data controlling the hardness, creasing, and smoothing of particular edges.

### Combine Bump and Normal Map Detail

Combine painted bump map detail with extracted normal map detail to produce a single normal map—even in tangent space. You can now create relief detail both by sculpting and painting, and combine the results into a single map suitable for use in games engines.

### Sculpt and Paint Tiling Detail

Easily sculpt and paint tiled detail to create seamlessly repeating textures and maps that can be used to more efficiently cover large surface areas. Even “off normal” detail featuring undercuts and overhangs can be tiled and extracted as vector displacement maps (VDMs). You can work with a live view of the artwork repeating across the surface to make better creative decisions while you paint and sculpt.

### Enhanced Photoshop Interoperability

Take advantage of a more fully integrated workflow with Adobe Photoshop, with new support for importing and exporting 16-bit PSD files.

### Duplicate and Flip Models

Easily duplicate objects, and optionally flip them to create mirrored versions, helping save time when objects are repeated on a model: columns on a temple, or a pair of boots on a character. You can also flip objects back and forth to get a fresh perspective while working.

### Presets for Adjust Color

Easily manipulate or correct the colors of a paint layer with new presets for Adjust Color that enable you to invert layers, apply inverse gamma correction to photographic sources, extract luminance values from an image, and perform certain other tasks.

### SketchBook Designer

Autodesk SketchBook Designer 2013 software enables you to explore and present new ideas for characters, props, and environments using an intuitive hybrid paint and vector toolset. SketchBook Designer features sketching, painting, and image compositing workflows; easy color manipulation; mixed media workflows; and an industry-unique transformation tool. The dynamic, scalable user interface is optimized for both pen and mouse interaction, and is designed to offer maximum creative freedom.

3ds Max and MotionBuilder Assassin's Creed® Revelations, image courtesy of Ubisoft

