



*Darkwatch. Image courtesy of High Moon Studios.*

# High Moon Studios

*By Audrey Doyle*

The Autodesk 3D Animation Product Portfolio provides this game developer with complementary modeling and animation solutions that meet the challenges of next-generation content creation.

For avid gamers, the next generation of game consoles offers an amazing digital entertainment experience, with games that feature characters and objects boasting more refined and realistic movement, as well as spectacular landscapes and virtual worlds that are rendered in real time.

For the companies creating the 3D content in those games, however, next-gen consoles introduce certain challenges that they have to contend with in order to remain competitive.

"Thanks to the power of next-generation consoles, next-gen games can have worlds that are much bigger and more realistic, and graphics and characters that are much more stunning, realistic, and complicated, than those developed for previous-generation systems. This usually equates to the need for a bigger team with a lot more artists, and with that, an increased budget that can support it," says Emmanuel Valdez, chief creative officer at High Moon Studios, a leading game developer based in Carlsbad, California.

To be sure, these challenges are of primary concern to most video game developers and publishers these days. To address this concern at High Moon Studios, the artists there are using a trio of tools they feel will help them to tackle the challenges of next-gen content creation. Those tools are Autodesk® 3ds Max®, Autodesk Maya®, and Autodesk MotionBuilder™ software, the three components of the Autodesk 3D Animation Product Portfolio.

Formerly an independent studio and now a wholly owned subsidiary of Vivendi Universal Games, High Moon Studios has been a Maya house since

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2002, when the company formed. "From day one, we set out to assemble a group of talented and experienced game industry veterans who had already developed successful video game properties and knew what it took to create compelling entertainment," Valdez recalls. "At that time, Maya was stronger in animation than the other packages we looked at, so we actively sought artists who were experienced in Maya."

As such, Maya and the complementary MotionBuilder animation product played a crucial role in the development of High Moon Studios' debut title: the highly successful action-horror game *Darkwatch*. To create the game—which was released in North America last summer for the Sony® PlayStation® 2 and Microsoft® Xbox® consoles—the artists used Maya for modeling and texture-mapping all of the characters and environments and for producing all of the keyframe animation, and MotionBuilder for motion-capture clean-up and data manipulation. In addition, the studio's game designers used Maya exclusively to lay out the game levels for *Darkwatch*.

According to Valdez, the robust tools and high-end capabilities in Maya and MotionBuilder helped the newly formed *Darkwatch* team to create a hit title that has since earned praise from gamers and reviewers alike. More recently, the game's cinematic trailer, also created in Maya and MotionBuilder, earned a host of 2005 International Davey Awards, including two Gold awards for graphics and special effects and a Silver award for animation. The same *Darkwatch* video also earned a nomination for a 2005 Aurora Award for Best Video Game Trailer.

#### Next-gen tools for next-gen content

With a hit title under their belts, the artists at High Moon Studios soon began conceptualizing new ideas for next-generation titles. It was at this time that they decided to incorporate 3ds Max software into their award-winning toolset.

"Autodesk had previously approached us with the idea that we were entering the new age of next-gen art content creation, and the company invited us to take a look at what they were doing with 3ds Max," says Valdez. "We had long identified 3ds Max as a great application. So once we finished *Darkwatch*, we decided to incorporate 3ds Max into our pipeline and take a good closer look at it."

According to Valdez, one of the studio's directives was to develop a new workflow that enabled the artists, which number slightly more than 30, to exchange data between applications. "That's one of the challenges of incorporating different applications into your pipeline," he explains. "You have a bunch of different artists from all types of disciplines—from animation to character modeling—and they all have to work together and share their data."

Fortunately, the products comprising the Autodesk 3D Animation Product Portfolio address this crucial need. "Sharing models and textures between 3ds Max and Maya is fairly simple, and sharing animation data between the two is where MotionBuilder really shines," says Mike Brown, lead artist. "Both 3ds Max and Maya provide you with so many different ways to rig a character, and MotionBuilder is the common bridge between them on the animation side. We know we can get animation data from 3ds Max into MotionBuilder and from Maya into MotionBuilder."

This, say the artists, enables the team to choose the content creation software with which they feel most comfortable. "For us, it's always been important to use the best tool for the job," says Valdez, "and in fact, a lot of the artists here use both 3ds Max and Maya on a regular basis."

It also has enabled the studio to build a best-of-breed team that is ready for any challenges that come their way. "We like using 3ds Max and Maya because we can hire talented people who already have experience in those packages and they can join the team and be productive immediately," says Randy Stebbing, senior technical artist. "If we were using one program exclusively, we would have to overlook a lot of good job applicants. Using both packages gives us versatility."

#### Software that plays well together

Today, the artists are busy working on multiple next-generation projects for the PlayStation 3 and Xbox 360 that involve both licensed and original properties.

According to Brown, the artists' experiences thus far with using 3ds Max, Maya, and MotionBuilder have proven that the software powerhouses complement each other in many ways.



*Darkwatch.* Image courtesy of High Moon Studios.

"In general, we're using Maya for traditional keyframe animation because it's a great keying application, we're using MotionBuilder to clean up and manipulate motion-capture data, and we're using 3ds Max to model the assets, create normal maps, perform character skinning, and construct basic character rigs and skeletons," Brown says. "But we have occasionally complemented some of the Maya tools with 3ds Max tools, and vice versa."

The artists also are flexing their scripting muscles by using both MEL and MAXScript to create batch-processing scripts. "We've taken the native abilities in MotionBuilder, 3ds Max, and Maya, and using either MAXScript in 3ds Max or MEL in Maya, we've created batch scripts that speed up certain production tasks," says Stebbing. "For example, last week we had a MotionBuilder file that had embedded into it numerous takes for a character. To convert that to Maya by hand would have taken several hours. Once we had finished the MEL script, the conversion took only five minutes."

Yet another advantage of using the Autodesk 3D Animation Product Portfolio is the ability to try out certain scenarios in each package to see which one is better suited to the task. "We are trying to raise the bar in terms of what is possible to render in real time in a game," comments Brown. "So far, we have identified some effects that we want to render in the Unreal Engine 3. We've also tried animating some effects ahead of time, in 3ds Max and Maya. We've seen what our options are in each package, and a lot of times, one or the other of the two packages has provided a solution that works quite well."

For example, he says, the team has been investigating ways to destroy objects, and have them collide, shatter, and fracture in a believable way. "Traditionally, this is a very tough thing to do in real time," Brown says. "So, we're investigating how to do this in the Unreal Engine, with the physics happening in the Engine, as well as simulating the effect ahead of time in the software, to see which one works better. Both 3ds Max and Maya have very complete dynamics systems, but the approach to setting something up with their dynamics systems is vastly different. So, we are sitting down with both 3ds Max and Maya and seeing what it will take to create realistic destructible objects in the software, and which of the two packages is easier, faster, or more artist friendly, and whether it makes sense to do this in the software or in the Engine."

At this point, High Moon Studios is well on its way to developing its next highly anticipated titles. Continuing to create these titles with the Autodesk 3D Animation Product Portfolio of 3ds Max, Maya, and MotionBuilder is a natural solution for the company. "These products are the leading modeling and animation packages for game developers," says Brown. "Plus, they complement each other well; each has advantages and excels in certain areas."

"The biggest thing for us is using the best tool for the job," he concludes. "If we have tools that will speed up the production of assets in certain areas of the pipeline, then we're going to use those tools to do that."