Changelog 9.0

3Delight

- Added "asrgba" option to the exr display driver. This forces the output to be named "RGB" / "RGBA" in the file, regardless of the AOV name.

3Delight

- Fixed bad normals in some cases with the Sx API.
- Fixed support for "zips" compression in exr display driver.
- Fixed an issue with stereo rendering and view dependent shading of some surfaces.

3Delight

- Fixed occlusion() and indirectdiffuse() calls with all uniform parameters.

3Delight for Maya

- Notable changes are now reported in the "3Delight for Maya Download" section of the Wiki.

3Delight

- Fixed a crash when trying to use some invalid texture files.

3Delight for Maya

- Added "Bias" in "Point Cloud"§ion of Global Illumination attributes.

3Delight

- Added attribute "dice" "lodreferencecamera" which allows specific cameras to be used to compute the detail level to render (for LOD with RiDetail/RiDetailRange).
- When the above is not specified, 3Delight now uses the "dice" "referencecamera" cameras if they are set. If that is not specified either, it falls back to the main camera.

3Delight for Maya

- Point-based Full global illumination now supports environment intensity, environment colour gain, environment colour offset and fixed the effect of colour bleeding intensity.
- Fixed AOV output of point-based Full global illumination.
- Changed default value of "Cast shadows from Environment" to 'off'.
- Changed interpretation of Render Pass Global Illumination environment intensity for "Fast Image-Based Lighting" and "Full Global Illumination" effects. Older scene will be automatically updated to continue producing the same images; once saved they should not be used with older 3dfm versions.
- Added Global Illumination attributes to basic render pass.

3Delight

- Fixed ray tracing of displaced triangles.
- Fixed inefficiency when using a dirtex texture with the network cache.
- PtcWriteDataPoint no longer returns an error when too many identical points are provided. The extra points are now quietly dropped.
- Fixed point based occlusion with a combination of "maxdist" and polynomial falloff.
- Fixed 'I' variable to be correctly updated after a displacement shader has run. This is most apparent when ray tracing between two surfaces close to each other.

3Delight

- Improved quality of "maxdist" with point based occlusion() and indirectdiffuse().

3Delight for Maya

- Added "Max Specular Depth" and "Max Diffuse Depth" attributes in the Render Pass Quality Raytracing group. The Raytrace max depth is now there too.
- Added "Z Threshold" attribute for all images rendered in the Render Pass Advanced section.

9.0.125 - 2011-08-18

3Delight

- Attribute "trace" "maxdiffusedepth" and Attribute "trace" "maxspeculardepth" are now supported and offer a finer control over ray depths. Previous global limit (specified by Option "trace" "maxdepth" is still supported and specifies the total maximum depth. Finer control over ray depths can dramatically improve performance.
- Fixed handling of "object" space in the Sx API.
- Fixed the environment map looks in occlusion()/indirectdiffuse() to take falloff into account.

9.0.124 - 2011-08-16

3Delight

- Improved accuracy with some types of transforms.
- Fixed shaderdl –recompile-sdl with some shaders.
- Fixed a crash in point based occlusion on extremely dense meshes.
- Improved reliability of live shader recompilation.

3Delight for Maya

- Fixed <aov> token expansion which could contain a ',' .
- Fixed problematic graphing of Renderman Code nodes when one of their input plug is connected to a compound output plug (like a colour plug).

9.0.123 - 2011-08-12

3Delight

- Improved the look of progressive rendering when a filter other than 1×1 "box" is used.

3Delight for Maya

- Added <aov> token for display filenames. It is an better version of <output_variable>.
- Default image filename now uses <aov>.
- Default filename now includes frame number for images, RIB and RIB fragment files.
- Added "progressive raytrace" in the Render Pas Advanced Hider option menu. Used with a frame buffer-style display driver, it allows a coarse rendered image to be quickly displayed; it then is progressively refined.

9.0.122 - 2011-08-09

3Delight

- The gather() construct can now query "primitive:P" and "primitive:N". This will work even when no shader is run at the ray intersection.
- Fixed output of "a" alone when used with a display subset. It would previously always render black.
- Fixed subsurface() crash when used with subdivision mesh instances.
- Added the SX_RI_PARENT_CONTEXT constant to the Sx API which allows for a context to inherit the options and attributes of the currently active rendering context. This is intended for use in procedurals.

3Delight for Maya

- Added support for 'RiAttribute "user"' and 'RiOption "user"' using extra attributes on the Render Pass node, similar to what already exists for 'RiAttribute "user"' on the geo attribs nodes.
- Fixed multi-threaded inconsistencies with "baldness" fur attribute map "Noise" attributes. **Important:** Maya Fur using baldness will produce slightly different renderings.

9.0.121 - 2011-08-05

3Delight

- Fixed the side of 'Sides 1' surfaces which is seen by shadow("raytrace") or Attribute "light" "shadows". These surfaces now cast shadows if they are facing the light, not if they are facing the object being lit.

3Delight for Maya

- Fixed the side of 'Sides 1' surfaces which cast raytraced shadows, as above. Note that this is now the opposite of the Maya Software renderer but the same as mental ray. It is also coherent with the behavior of shadow maps.

9.0.120 - 2011-08-02

3Delight

- Fixed a shading bug.

3Delight for Maya

- Fixed broken "Reload shader" menu item in the 3Delight relationship editor.

9.0.119 - 2011-07-31

3Delight

- Added two new attributes to control raytraced displacements: "displacementshadingrate" and "inflategrids".
- Faster ray tracing of displacements.
- Fixed a bug with curves aimed directly at the camera.
- Fixed a crash when "frame" shade frequency is used when raytracing deformation blur inside a procedural.

3Delight for Maya

- Added "3Delight RIB Fragments" project path. The default path for RIB fragments is now relative to this path. It can be overridden with _3DFM_OUTPUT_PATH or _3DFM_RIBFRAGMENTS_PATH
- Fixed error that prevents rendering when the scene contains no ligths to render (and the default light is turned off).

9.0.118 - 2011-07-26

3Delight for Maya

- Fixed issue that prevents pre 9.0.117 render passes from being displayed correctly in the Attribute Editor.

9.0.117 - 2011-07-22

3Delight

- Added support for "followtoplogy" and "unitlength" parameters for subsurface(). These map to the already implemented "normalize" and "s token expansion which could contain a ',' .
- Fixed problematic graphing of Renderman Code nodes when one of their input plug is connected to a compound output plug (like a colour plug).

9.0.123 - 2011-08-12

3Delight

- Improved the look of progressive rendering when a filter other than 1×1 cale" parameters.
- Fixed a crash when raytracing, transformation blur and "frame" shade frequency are used together.
- Fixed occasional crash when displacement shaders produce invalid geometry (error P1124).
- Fixed a performance issue with point based occlusion/indirectdiffuse.

3Delight for Maya

- Added 16-bit float bit depth in displays GUI for EXR images.
- Fixed possible incorrect bit depth menu items.

9.0.116 - 2011-07-19

3Delight

- Added support for the "weight" parameter to gather. This feature, along with the "importancethreshold" attribute can be used to accelerate ray-tracing using importance sampling.
- Data type of the exr display can now be set to either half or float with the "exrpixeltype" parameter or the /display/exr/pixeltype entry in rendermn.ini.

9.0.115 - 2011-07-15

3Delight

- Fixed opacity bug with "frame" shade frequency.
- Fixed a bug with varying/facevarying variables on curves introduced in 9.0.112.

9.0.114 - 2011-07-15

3Delight

- Implicit field plug-ins will need to be recompiled.
- Subsurface attributes are now correctly copied along with other shading attributes in stored resources.
- Fixed bugs with subsurface visibility and hierarchical displacementshadingratesubdivision meshes.

3Delight for Maya

- Fixed some shader node reload / replace operations that disrupted shader node set membership.

9.0.113 - 2011-07-13

3Delight

- EXR display driver can now write multiple AOVs to the same file.
- No need to install EXR libraries to write EXR files.
- Fixed shader compiler issues involving struct optional method parameters.
- Fixed a crash with "frame" shade frequency and subdivision surfaces.

3Delight for Maya

- Added "Shading Frequency" attribute in the geo attribs node's motion blur section. Note: shading frequency is now "per frame" as opposed to "per segment" in the previous versions.
- Now shading motion blurred objects with more than 2 motion samples only once per frame by default. Previously all objects were shaded once per motion segment. This new default can be overridden by a geo attribs node with the "Shading Frequency" attribute.

9.0.112 - 2011-07-11

- Added Attribute "shade" "frequency" attribute to control the frequency of shading with multi-segment motion blur. Currently supported only for subdivision surfaces and curves.
- Added support for ptexture() (PTEX). Only supported on quad-faced geometry for now.
- Fixed displacement with multi-camera render when view dependant shading is enabled.

3Delight for Maya

- Fixed issue on some deformed particle systems.

9.0.111 - 2011-07-04

3Delight

- Fixed Dtex API when image size is not a multi. This option let's the user switch the ray-tracing algorithm into a mode which is very efficient with (very) large amount of instances.
- Faster loading of textures. This will have a positive impact on renders which access a lot of texture data on multi-core machines.
- Fixed occasional crash when raytracing shared instances.
- Fixed missing surfaces when raytracing scaled shared instances (#3385).

10.0.17 - 2011-11-30

3Delight

- Added ability to specify polygonal bokeh shapes (aperture control) (#3363).
- Faster motion blur raytracing. Speedups are proportional to the ple of tile size.
- The color is now multiplied by the opacity when "primitive" hitmode is used in the ray tracer. This makes behavior more similar to what most shaders do.

3Delight for Maya

- Fixed crash with Maya 2012 when browsing for a viewing app in the preferences dialog.
- Fixed incorrect rendering / crash with deformed particle systems.

9.0.110 - 2011-06-30

3Delight

- Fixed point based occlusion() with hitsides set to "back".

9.0.109 - 2011-06-24

3Delight For Maya

- Fixed the "re-use point-cloud" option in the Global Illumination tab.

9.0.108 - 2011-06-19

3Delight

- Fixed some crashes.

9.0.107 - 2011-06-15

3Delight for Maya

- Fixed issue with background rendering when the rib file name contains "#" or "@"; only the first frame was rendered.

9.0.106 - 2011-06-07

3Delight

- tdlmake now supports PNG files.
- Added a list of error messages to the manual.
- Fixed uniform texture lookups.
- Fixed RifParseFile to not cause a RiReadArchive call to be filtered.
- Fixed forwarding of RiReadArchive callback to other archives read.
- Fixed behavior of k_RifParseThisLayer and k_RifParseNextLayer with RifParseFile and RifParseBuffer so they use the correct filter.
- Fixed Japanese translation of the installer.

3Delight for Maya

- Fixed issue with projection nodes using a camera in a referenced scene.

9.0.105 - 2011-05-31

3Delight

- Performance: evaluation of transmission rays when using the "shader" hitmode has been optimized. Gains can go from a few percents to an order of magnitude faster.
- Fixed a bug with single pass subsurface and multi-segment deformation blur of object instances.
- Fixed network rendering when the path to the RIB is not absolute.

9.0.104 - 2011-05-29

3Delight

- Fixed gather() with varying coneangle.
- shaderinfo –methods was not working correctly. Fixed.
- Improved behavior of many area functions inside conditionals.
- Improved baking of point clouds on dense subdivision meshes with "interpolate" enabled.
- Added Option "netcache" "minfreespace" to specify a minimum amount of free space to keep on the netcache drive.

3Delight For Maya

- Added preliminary plugin for Maya 2012.

9.0.103 - 2011-05-19

3Delight

- gather(), trace(), occlusion() and indirectdiffuse() now accept the "type" parameter which is identical to the "raytype" parameter (prman 16 compatibility).
- gather() default ray type is now "specular" instead of "diffuse" (prman 16 compatibility). WARNING: this may change renders.
- Fixed bound calculation for curves.
- Fixed ray type in displacement shaders run for subsurface.

9.0.102 - 2011-05-12

3Delight

- Improved multithreading for some baking renders.
- Added a new option to shaderinfo: –methods will list all the methods in the shader.

3Delight For Maya

- RenderMan Shader preview renderings will not wait for an available licence anymore. This fixes issue where Maya would hang while a shader node is about to be displayed in the Attribute Editor when all available licences are taken.

9.0.101 - 2011-05-05

3Delight

- Fixed including of sl files with an absolute path.
- Fixed a performance problem with point cloud occlusion()/indirectdiffuse() introduced in 9.0.100.

9.0.100 - 2011-05-04

3Delight

- Fixed an accuracy problem with some point clouds when used with occlusion()/indirectdiffuse() since 9.0.96.

3Delight For Maya

- Fixed fluid issue on Linux where only the first rendering was correct.

9.0.99 - 2011-04-25

3Delight

- Added RxTexturePoints1, RxTexturePoints4, RxShadowPoints1, RxShadowPoints4, RxEnvironmentPoints1 an can now also return § shade frequency and subdivision surfaces.

3Delight for Maya

- Added d RxEnvironmentPoints4 APIs.
- Fixed a bug with zero width particles.

9.0.98 - 2011-04-21

3Delight

- Fixed a crash in occlusion()/indirectdiffuse() when trying to use a point cloud with null normals.

3Delight For Maya

- Fixed a bug with se or lf-shadowing in Maya fluids.
- Nodes upstream of Renderman Code nodes will now graph properly in the Hypergraph. This may introduce an harmless MEL error message when deleting all connections at once between a Renderman code node and another node.

9.0.97 - 2011-04-19

3Delight

- Fixed a bug with the new point based occlusion() and indirectdiffuse() when "hitsides" is "both" or "back".

9.0.96 - 2011-04-14

3Delight

- New point based occlusion() and indirectdiffuse() algorithm. Improves quality in many ways and adds support for an opacity channel in the pointaov cloud. The old algorithm can still be enabled by Option "render" "compatptc" 1. Please report any issues you might havedeepshadow which prevent you from using the new algorithm as the old one may eventually be deprecated and removed.

9.0.95 - 2011-04-06

3Delight For Maya

- Fixed issue with mia_material_x when using raytraced reflection aovs.
- Fixed issues with some option menus that are used to connect nodes to an attribute.

9.0.94 - 2011-04-01

3Delight

- Fixed rendering of motion blurred curves specified with uniform or raster space width.

3Delight For Maya

- Added "mia_material_x_passes". It is simply a copy of "mia_material_x", provided as a convenience.

9.0.93 - 2011-03-30

3Delight

- Fixed constness of RtErrorHandler parameter declaration as well as PtDspyDevFormat's name field.
- Fixed outputchannel() behavior when trying to output to an existing uniform variable.

3Delight For Maya

- Added gadget to define a RenderMan shader parameter string value with a connected node name.
- Added jpeg display driver in the Render Pass UI.

9.0.92 - 2011-03-23

3Delight For Maya

- delightCacheXform now supports -sampleTime modifier flag to -contains.

9.0.91 - 2011-03-17

Note: OS X build should be back next week. *3Delight*

- Added new GxGetGeometryBound API.
- Fixed Gx API for objects with multiple primitives.
- Added the "expand" parameter to texture() and environment(). This reads single channel textures as rgb instead of putting the value only in the red channel.
- Fixed a bug with nested RslPlugin calls (through the Sx API).
- Added writing functions to the Dtex API (to write 3Delight deep shadow maps).

3Delight For Maya

- delightCacheXform command now supports "-contains" and "-remove". The short version of the "-concat" flag has been changed from "-c" to "-cat".
- Added support for mia_material_x reflection max distance and fade to color attributes.
- Fixed possible empty renderingback with the default render layer.

9.0.90 - 2011-03-10

3Delight

- Fixed RifParseFile() with k_RifParseThisLayer and k_RifParseNextLayer modes.

- Fixed bad interaction between display subsets and ray tracing.
- Added "local:" prefix to outputchannel(). Currently only works with lights.

3Delight For Maya

- Added "delete" operation in contextual menu for the "Collections" pane of the 3Delight Relationship Editor.

9.0.89 - 2011-03-07

3Delight

- Fixed tdlmake when reading OpenEXR files with arbitrary data windows.
- Added "normalize" parameter to subsurface() shadeop.
- Fixed a crash when filtering RiEnd().
- Fixed point cloud occlusion return values when there is no valid point cloud.

3Delight For Maya

- Fixed refraction computations of hypershade nodes to handle total internal reflections.

9.0.88 - 2011-02-27

3Delight

- The OS X packages now require OS 10.5.
- Removed the limit on the number of variables collected by gather().
- Uninitialized variables in shaders are no longer initialized to zero by 3Delight.
- Deep shadow maps without mipmaps can now have an arbitrary resolution.
- Fixed some performance issues with shaders using huge arrays.
- Fixed the last value of a varying primvar on bezier curves which are very small on screen.

9.0.87 - 2011-02-18

3Delight

- Fixed some occasional single sample holes in surfaces.
- Fixed orientation of normals when using CSG difference.
- The Gx API now returns the default s and t values for parametric surfaces when none are provided as primitive variables.

9.0.86 - 2011-02-15

3Delight

- Fixed a crash with photon mapping and shared instances.
- Fixed a performance issue with the network cache when it is too small and there are many files in it.
- Fixed point based occlusion()/indirectdiffuse() from within Sx API.
- Fixed use of search paths for point cloud files in subsurface().
- Fixed RslPlugin crashing in the construct() method of a shader loaded by the Sx API.

3Delight For Maya

- Added "Cast Shadows from Environment" toggle in the global illumination options, used when "Effect" is set to "Full Global Illumination".
- Fixed some AOV output with Mental Ray shading nodes, such as the global illumination AOVs.
- Added "Photon Estimator" attribute in the geo attribs node, global illumination section.

9.0.85 - 2011-02-07

3Delight

- Fixed a hang with some invalid subsurface parameters.

3Delight For Maya

- Fixed issue with RIB archive nodes while Maya is in command line mode. This was producing incorrect directional light shadow map framing when rendering with Maya's "Render" command line utility.

9.0.84 - 2011-02-01

3Delight

- Improved quality of generated photon maps when using IBL.
- Fixed licserver crash introduced in 9.0.83.

9.0.83 - 2011-01-31

3Delight

- Fixed attribute("light:...", ...) from a coshader called from a light.

3Delight For Maya

- Fixed output of global illumination AOVs with layered shader nodes.

9.0.82 - 2011-01-21

3Delight

- The conditional RIB statements are now correctly forwarded to ri filters. The false blocks are also no longer seen by the ri filters.
- Fixed a bug in the shader compiler which broke the physicalsun shader.
- Added Attribute "shade" "smoothnormals" which causes polygon meshes to be rendered with smooth normals instead of geometric normals by default.
- Added "display window" parameter to the exr display driver.
- The renderman context (as set by RiBegin/RiEnd/RiGetContext/RiContext) is now entirely thread specific. This fixes various strange causes of warning 5032.
- Fixed some crashes when shading a very large number of points with the Sx API.

3Delight For Maya

- Fixed possible issue when rendering with a "Lights to render set" that contains no lights.

9.0.81 - 2011-01-17

3Delight

- Fixed optional dynamic array parameters of standard methods when called implicitly by 3Delight.

3Delight For Maya

- Fixed global illumination "environment" effects that were always added to the beauty image, regardless of "Add to Final Mix".

9.0.80 - 2011-01-10

3Delight

- Added motion blur support to the Gx API.

3Delight For Maya

- Fixed incorrect display / possible crash when a coordinate system node in dome mode was drawn in shaded / textured mode in the scene view.

9.0.79 - 2011-01-06

3Delight

- Fixed outputchannel() when writing uniform values.

9.0.78 - 2010-12-27

3Delight

- Correct detail is now given to procedurals when renderdl -catrib -callprocedurals is used.
- Fixed RxEnvironment with 4 channels.
- Fixed RxTransformPoints with "NDC" and "raster" spaces.
- Standard shader methods (eg. "surface", "displacement", "light") with optional parameters will no longer cause crashes.

3Delight For Maya

- Fixed bug in diffuse "key light" AOVs that caused them to contain the IBL GI effect.

9.0.77 - 2010-12-16

3Delight

- Added the -idf option to renderdl.
- Fixed some rare cases where shadow() would return NaN values.
- Fixed DtexPixelGetPoint() returning bad data with some shadow maps.

3Delight For Maya

- Global Illumination effects are now applied by surface shaders; this fixes issues with shaded transparency and the GI effects.
- Global illumination environment reflections and refractions are output to aov_env_specular.
- Photon emission from hypershade surface shaders now take into account diffuse intensity, specular intensity and incandescence, when relevant.
- Fixed issue with Maya volumesLights and useBackground hypershade node.
- Fixed issue with Maya Fur that could cause a "procedural object exceeded its bounds" error.
- Diffuse color of mia_material now depends on refraction color.
- Improved specular model for mi_metallic_paint & mib_illum_cooktorr
- Modified the delightShaderInfo command interface. "-file" flag has been replaced with "-beginShader" / "-endShader" flag pair to improve performance.

- Attempt to update GI attributes of 9.0.69 to the newer set of attributes. "aov_env_diffuse" will be attenuated by obsolete "giIntensity" value if "Add to final mix" is enabled.
- Added support for "standard bump", "overall bump" and "no diffuse bump" in mia_material_x

9.0.76 - 2010-12-07

3Delight

- Fixed broken cellnoise() with negative input on 32-bit OS X.
- Fixed DtexOpenFile API call. Was rondomly rejecting valid files.

3Delight For Maya

- Fixed possible camera framing inconsistency due to pixel aspect ratio value.

9.0.75 - 2010-11-24

3Delight

- Exported Dtex API.

3Delight For Maya

- Fixed "empty attribute editor" issue that could occur when selecting a render pass, geo attribs, or light attribs node, especially on Windows.
- Fixed possible "Value is out of Range" MEL error that could occur when displaying a geo attribs node in the AE.

9.0.74 - 2010-11-21

3Delight

- Fixed output of varying arrays from the Sx API.
- Slightly changed behavior of RiGetContext()/RiContext() with multiple threads.
- option() and RxOption() can now query "render:nthreads".

3Delight For Maya

- Added possibility for defining a custom procedure to handle "tdlmake" calls by 3dfm.
- Added support for per-sprite texturing using the "file" 2d texture node. See doc section 5.4.5 "Rendering Sprites with Distinct Textures" for details.
- Fixed possibly illegal RIB fragment file names;
- Now refusing to do a "reload shader" or a "replace shader with file" on a referenced shader node. It is cleaner to either fix the reference file or do a duplicate in this case.
- Fixed some issues in the substitution of <output_var> tag.

9.0.73 - 2010-11-11

3Delight

- Fixed shadow() shadeop.

3Delight For Maya

- Fixed MEL error related to the Particles system variable gadgets in the geo attribs nodes.
- Fixed possible error when displaying some geometry modifiers attributes in the AE.
- Shader swatch preview rendering is now using only 1 thread.

9.0.72 - 2010-11-04

3Delight

- Fixed a crash with procedural geometry which contains inline archives.

3Delight For Maya

- Fixed small specular issue with mia_material and mia_material_x shaders.

9.0.71 - 2010-11-01

3Delight

- Fixed subsurface() not working when there is no "rgb" display.
- Fixed some crashes when using the Sx API with multiple threads. The "render:nthreads" option is now recognized and should be used to tell 3Delight if the number of threads exceeds the number of cores.

3Delight For Maya

- useBackground shading node now catches shadows computed by the "Occlusion" portion of the global illumination options.
- Fixed global illumination environment reflections and refractions. All of the "reflection" 3Delight Shading Attributes now also affect the environment reflections. So, environment "blur" and "samples" are now controlled per surface shader just like for regular reflections.

3Delight

- Fixed a crash with outputchannel() in light shaders when shooting photons.

3Delight For Maya

- Fixed incorrect pixel samples output for Light Attribs nodes lacking a "Shading Rate" attribute and set to produce deep shadow maps.
- Several improvements in the global illumination section of the render pass.
- Re-scaled the "Environment Intensity" attribute to produce more natural results.
- AOVs produced by the global illumination section now listed in the displays section.
- "Render Photon Maps" now have an "Automatic" setting. Currently used to auto-render photon maps depending on the selected global illumination effect.

9.0.68 - 2010-10-12

3Delight

- Fixed filtering of archives read through RiReadArchive from a Ri filter.

9.0.67 - 2010-10-05

3Delight

- Fixed the orientation of disk type particles.
- Shadeops which return ray lengths now take the zthreshold into account.
- Fixed a rare case of broken particle motion blur.
- Fixed some artifacts in subsurface() with "smooth" enabled.

9.0.66 - 2010-09-27

3Delight

- Fixed bad error message about textures introduced in 9.0.63.
- gather("samplepattern", ...) can now return two stratified random variables that are suitable for sampling.

3Delight For Maya

- Ignore pfxHair and FurFeedback nodes from bounding box computation when Maya is in batch mode. This can help with RIB archive bboxes and directional light shadow map framing in some cases.
- Fixed possible maya crash when displaying some option menus.
- Fixed right-click menu on RenderMan shader swatches on Maya 2011.
- Slight improvement to directional light shadow map framing in some cases.

9.0.65 - 2010-09-22

3Delight

- Fixed "bias" parameter of various shadeops so only the value -1 triggers the use of Attribute "trace" "bias".
- Fixed gather of "surface:Oi" when hitmode is "primitive".

3Delight For Maya

- Now also considering objects with animated "visibility", "overrideVisibility" or "lodVisibility" attributes for hypershade shader translation.
- Displaying most standard Maya surface shading nodes in the AE now offers a "3Delight Shading Attributes" entry in the "Attributes" menu of the AE. It allows adding shading attributes; currently these are related to reflections.
- Light sources now have "Emit Photons" enabled by default. "Emit Photons" attribute of the Light Attribs node is also on by default. Area, directional, point and spot lights shaded with hypershade shaders and non-quadratic decay will not emit photons.
- "Number of photons" render pass attribute is now 50 000 by default. Note that "Render Photon Maps" is still off by default.

9.0.64 - 2010-09-15

3Delight

- Added "min" and "max" queries to textureinfo(). This will only work on textures converted with tdlmake 9.0.64 and newer.
- Added "scattering" and "absorption" parameters to subsurface().
- Fixed rendering of particles when pixel aspect ratio is not 1.
- Relaxed restriction on transformations before RiProjection.

9.0.63 - 2010-09-09

3Delight

- Co-shaders now always see the built-in variables (P, N, etc) of the surface shader, even if they were called from a light shader.
- isoutput() shadeop will now test variables by name when given a string.
- option() and attribute() shadeops can now output data of unknown size to a resizable array.

3Delight For Maya

- Fixed several gadget enable / disable refresh issues on linux with Maya pre-2011.
- Fixed gadget synchronization when a given render pass is displayed in more windows than simply the AE.
- Performance improvements to the 3delight relationship editor. Its response times are faster when adding / deleting nodes. It is no longer updated when not displayed.
- Fixed user-defined shader nodes which were not always correctly displayed in the relationship editor.
- Fixed issue where render man shader assignations to a fur feedback node were ignored.
- Fixed issue with ignored shapes in "object set to render" when the set only contained some kind of parent nodes (like joints).
- Fixed Maya fur output variables as controlled in the geo attribs node's Geometry Maya fur section.
- Added "Base Ambient Color", "Tip Ambient Color" and "Specular Sharpness" maya fur output variables. They are exported by default and are used by the "maya_fur" shader.
- Added support for Maya 2011 fluid container lighting parameters: Light Type, Light Brightness, Light Color, Ambient Brightness, Ambient Color, Point Light XYZ and Directional Light XYZ.

9.0.62 - 2010-08-31

3Delight

- Optimized the generation of photon maps. The process should be faster and lead to smaller global maps in most cases.
- Fixed network cache operation in multi-frame RIBs. Only the first frame got correct network caching options.
- Fixed some shader compiler bugs with continue and return statements.

3Delight For Maya

- Introducing revised Maya fur support that more closely resembles Maya fur renderings and uses less memory.
- Removed the delightShapeSet node hiding in most outliner editors introduced in 9.0.35 as it could slow down Maya too much with larger scenes.
- Added "-3dfmshave" flag to command line rendering to control if shave nodes should be rendered with the 3dfmShave plugin or not.
- Fixed name filters in 3delight relationship editor.
- General documentation update.
- Fixed issue when setting shadow map viewing application preference.
- Avoid crashing when scene contains 2d fluid containers.
- Now supporting auto-scaling fluid containers.

9.0.61 - 2010-08-23

3Delight

- Fixed output of "z" with the raytrace hider.
- Fixed various photon mapping issues. Note that the output from the photonmap() shadeop will in most cases now be 3 times brighter. Scenes should be adjusted.

9.0.60 - 2010-08-19

3Delight

- Fixed generation of photon maps when displacement is used.
- Fixed poor sampling patterns with some motion blurred objects. Note that this changes hider noise for all images.
- Fixed attribute "hider" "composite" with the raytrace hider.

3Delight For Maya

- Fixed the useBackground shader with the raytrace hider.

9.0.59 - 2010-08-13

3Delight For Maya

- Fixed incorrect current frame time when rendering only the current frame in Maya 2011 with a global time warp defined.
- Fixed some issues with the "Render Current Frame" maya operation when 3Delight is set as the current renderer.
- When a rendering is launched via Maya's "Render Current Frame", 3Delight now uses the same camera as the other renderers unless a camera is specified in the render pass specified in the Maya Render Settings window.
- Added "Sample Motion" and "Extreme Motion Depth Of Field" attributes in the render pass' motion blur section.

9.0.58 - 2010-08-09

3Delight

- Fixed licserver which was crashing on windows since 9.0.55.
- Fixed a bug which caused getvar(null, ...)oud occlusion return values when there is no valid point cloud.

3Delight For Maya

- Fixed refraction computations of hypershade nodes to handle total internal reflections.

9.0.88 - 2011-02-27

3Delight

- The OS X packages now require OS 10.5.
- Removed the limit on the number of variables collected by gather().

- Uninitialized variables in shaders are no longer initialized to zero by 3Delight.
- Deep shadow maps without mipmaps can now have an arbitrary resolution.
- Fixed some performance issues with shaders using huge arrays.
- Fixed the last value of a varying primvar on bezier curves which are very small on screen.

9.0.87 - 2011-02-18

3Delight

- Fixed some occasional single sample holes in surfaces.
- Fixed orientation of normals when using CSG difference.
- The Gx API now returns the default s and t values for parametric surfaces when none are provided as primitive variables.

9.0.86 - 2011-02-15

3Delight

- Fixed a crash with photon mapping and shared instances.
- Fixed a performance issue with the network cache when it is too small and there are many files in it.
- Fixed point based occlusion()/indirectdiffuse() from within Sx API.
- Fixed use of search paths for point cloud files in subsurface().
- Fixed RslPlugin crashing in the construct() method of a objectshader loaded by the Sx API.

3Delight For Maya

- Added and to fail in some shaders.
- Added basic support for AOVs in the raytrace hider.
- Fixed RiDisplay when called inside RI filters: the "type" field was sometimes changed by 3Delight to internal nomenclature.

3Delight For Maya

- Fixed issue that could cause a "division by 0" expression error when loading a scene. The error can be ignored or the scene should now be re-saved.
- Fixed output uniform parameters of rendermanCode node.

9.0.57 - 2010-08-04

3Delight

- Improved quality of subsurface "smooth" option.

9.0.56 - 2010-08-03

3Delight

- Added RxTransform() API.
- Fixed the attributes which are available when running interior shaders.

3Delight For Maya

- Fixed issue when trying to use a display's view button in the render pass AE.
- Fixed bug with command line interface "-pdd" flag.
- Fixed issues when using the command line render tool with a render pass that does not contain a "layer to render" attribute.
- It is now possible to specify command line render flags that modify attributes that do not exist on the render pass selected for rendering.
- Relationship editor's "Show" menus can now be teared off from the menu bar.

9.0.55 - 2010-07-29

3Delight

- Improved quality of subsurface "smooth" option.
- Fixed a bug in point cloud based subsurface.
- Fixed some crashes in shaderdl.

9.0.54 - 2010-07-27

3Delight

- Fixed some crashes with blobbies.
- illuminance() now always lists light in the order they were declared during scene description.

3Delight For Maya

- Fixed issue when rendering a RIB archive node with a shader collection.
- Fixed command line rendering "-y" flag that was ignored in some cases.
- Fixed bug with GI panel on some polygonal meshes.
- Fixed issue when the render pass selected for rendering in the Render Settings is deleted.

9.0.53 - 2010-07-23

3Delight

- Adding a 'smooth' option to subsurface(). When enabled, this option fixes some aliasing issues that may arrise when the mean free path is too short relative to surface tesselation.
- Fixed a crash in PtcCreatePointCloudFile().

9.0.52 - 2010-07-21

3Delight

- Fixed a quality issue with bake3d(). Most visible when used with subsurface() on subdivision surfaces.
- Fixed a crash when using some class shaders with particles.
- Fixed the distribution of photons generated by illuminance().

9.0.51 - 2010-07-19

3Delight

- Fixed rayinfo() in interior shaders run on rays.
- occlusion() and indirectdiffuse() now support the "filenames" parameter.

3Delight For Maya

- Command line rendering flags (using Maya's "Render" command) to adjust render pass attributes now work with passes that were created without those attributes.
- Fixed some Display gadgets updates to keep multiple windows editing the same render pass in sync.
- Fixed "Duplicate Display" operation that was broken in 9.0.50
- User-defined init procedure is now called when creating a "Basic" or a "Full" render pass.
- Fixed broken "Hide Attributes" menu items for shader nodes.
- Fixed issues with RIB archive nodes & minimal attribs render passes.
- Fixed old bug were using the "Generate RIB archive" feature of a render pass could result in incorrect shaders/attribs in the archive.

9.0.50 - 2010-07-14

3Delight

- Fixed use of RslPlugin in shaders loaded from the Sx API.
- Fixed behavior of isoutput(Ci).

3Delight For Maya

- Introducing preliminary interface for minimal attribs render passes.
- Fixed issues with several option menus when renaming a render pass in the AE.
- "Copy Tab" button in the render pass AE now works.
- It is now possible to edit the render pass selected for rendering in the Maya render settings window.
- "Add / Remove Attributes" button now displays a new window when left-clicked, more convenient when adding or removing several attributes. The popup menus that add and remove attributes are still offered when right-clicking the button.

9.0.49 - 2010-07-10

3Delight

- Fixed retrieval of displaced "P" after calling SxCallShader.
- Added support for Matte objects to the raytrace hider.
- Fixed an occasional bug with transform shadeops.

9.0.48 - 2010-07-09

3Delight

- Parameters passed to SxCallShader are now correctly transmitted to co-shaders.

9.0.47 - 2010-07-08

3Delight

- SxGetWritableParameterInfo was replaced by similar SxGetParameter which retrieves a shader's output from the parameter list given to SxCallShader instead of the shader itself. This allows the same shader instance to be used by several threads, provided different parameter lists are given.
- SxCallShader now uses the lights and co-shaders from the current context instead of receiving them as parameter lists. This yields usage more similar to the Ri interface.
- Fixed some message passing errors with the Sx API.
- The context parameter of SxCreateParameterList is no longer optional.
- Fixed behavior of occlusion()/indirectdiffuse() when using the raytrace hider.

3Delight For Maya

- Fixed issues with assignation of atmosphere and interior shaders in the relationship editor.

9.0.46 - 2010-07-05

3Delight

- Fixed behavior of Attribute "sides" "doubleshaded" with procedurals.
- textureinfo(..., "exists", 0) no longer displays an error message on missing textures.
- Improved texture() blur quality.

9.0.45 - 2010-07-01

3Delight

- Changed third parameter of DspyImageQuery declaration from size_t to int. Source code of display drivers may need to be updated but compiled drivers should continue to work fine.
- occlusion() and indirectdiffuse() now support a varying coneangle efficiently.

3Delight For Maya

- Fixed a MEL error related to RIB fragments code.
- Fixed some issues with shader node AE display.

9.0.44 - 2010-06-21

3Delight

- Fixed a crash in the Sx API when a shader fails to load.
- Fixed some crashes in the Sx API not all variables are provided for a shader or co-shader.

3Delight For Maya

- Fixed issue with the assignment panel's collection option menu with a scene containing a lot of collections.

9.0.43 - 2010-06-17

3Delight

- Fixed use of displacement shaders with Sx API.
- Improved pointcloud loading times.

3Delight For Maya

- Fixed several glitches in the 3Delight relationship editor: creating / deleting new nodes would not provoke a refresh, "Show" menu options were broken for maya < 2011.
- Fixed some file dialog issues with maya 2011.

9.0.42 - 2010-06-09

3Delight

- Fixed incorrect default initialization of string class members.
- Fixed a bug with constant array class members.

3Delight For Maya

- Fixed major slowdown caused by 3dfm sometimes when operations that create or remove a lot of nodes occur.

9.0.41 - 2010-06-06

3Delight

- Fixed shaderinfo output for shaders with parameters of type 'shader'. Note that the Slo API now sets svd_valisvalid to 0 for all dynamic array parameters as they have no valid initial value.
- Fixed calling of void methods with struct arguments.
- Fixed calling of non void method when return value is not used.
- Calling a void method as if it were returning a value now correctly prints an error.
- Reduced memory use of the subsurface() shadeop significantly.

3Delight For Maya

- It is now possible to define custom string expansion via DL_userGetExpandedString().

9.0.40 - 2010-06-02

3Delight

- Fixed a performance issue with some scenes rendering very dense particles.
- getvar() will now fetch variables directly from the geometric primitive if given a null shader handle.
- Fixed gather "samplepattern" which was broken in 9.0.21.
- Fixed Hider parameters being unparseable in Rif filters.
- Added the ability for the exr display driver to add arbitrary attributes it receives as parameters to the openexr header.

3Delight For Maya

- Maya 2011 bezier curves are now treated like other NURBS curves and will be rendered if a geo attribs node that contains "Output NURBS Curve" attribute is assigned to them.

9.0.39 - 2010-05-31

3Delight

- Introducing the Gx API. This API allows evaluation of RenderMan geometry, including subdivision surfaces. Refer to section 9.2.2 in the User's Manual for details.

9.0.38 - 2010-05-30

3Delight For Maya

- Fixed possible important slowness when dealing with hypershade networks that contain a lot of connections.
- Fixed issue that prevented rendering a scene with shave nodes without using the "3dfmShave" plugin using the "Render" command line utility.
- 3dfmShave plugin now outputs a "uniform float index" primitive variable, one unique float per hair, similar to what shaveWriteRib does.
- Fixed specular reflections computed through the GI tab: they were not affected by the coordinate system.
- Fixed issue that prevented using RIB fragments with Shave nodes when 3dfmShave plugin was loaded.

9.0.37 - 2010-05-26

3Delight

- Added support for shader type parameters which allow passing a co-shader as a parameter to another shader.
- structs can now be used as as parameter to co-shader method calls.
- Added support for "transmission" type for the "raytype" parameter of ray tracing shadeops.
- Changed handling of string parameters for rsl plug-ins. This may require slight changes for plug-ins which output string parameters. Any code wh with procedurals.
- textureinfo(..., ich was using the ASSIGN_STRING macro will at least need to be recompiled. Plug-ins using the new APIshould use the k_RixGlobalTokenData interface.
- Fixed shading of some very small cubic curves.

3Delight For Maya

- The GI tab now properly handles the properties of the surface when applying diffuse and specular components. For example, a diffuse materail (such as lambert) will not be affected by reflections from the environment.
- Added missing 3dfmShave plugin for Maya 2010 in OsX pacakges.
- Fixed possibly incorrect shave node samplings when rendering without the "3dfmShave" plugin loaded. Number of samples is still limited to 2.
- Added support for the following "Shave Globals" toggles when rendering with "3dfmShave" plugin: Export Root / tip colors, Normals, W Coords, UVs, Vert Colors, Opacity, and UV Set.
- Shave primitive variables exported with 3dfmShave plugin now have the same name as the primitive variables produced by "shaveWriteRib". The previous names ("skin_normal", "hair_opacity") will be produced if the "_3DFM_SHAVE_OLD_PRIMVARS" environment variable is defined.
- The shave shape's "Tip Fade" attribute is now supported when rendering with 3dfmShave. Note that it is "on" by default in shave shapes, and was previously ignored by 3dfmShave.
- Fixed "View" button for render log in the render pass AE.

9.0.36 - 2010-05-15

3Delight

- The Sx API has been modified to treat the shaded points as independant by default. A grid topology can still be specified if desired. SxCreateShaderParameterList was removed, SxCreateParameterList is now used for all parameter lists. This will require slight source changes and recompilation of code which uses the Sx API.
- trace() now handle AOVs that caused them to contain the IBL GI effect.

9.0.77 - 2010-12-16

3 attribute is now supported when rendering with 3dfmShave. Note that it is Delight

- Added the -idf option to renderdl.
- Fixed some rare cases where shadow() would return NaN values.
- Fixed DtexPixelGetPoint() returning bad data with some shadow maps.

3Delight For Maya

- Global Illumination effects are now applied by surface shaders; this fixes issues with shaded transparency and the GI effects.
- Global illumination environment reflections and refractions are output to aov_env_specular.
- Photon emission from hypershade surface shaders now take into account diffuse intensity, specular intensity and incandescence, when relevant.
- Fixed issue with Maya volumesLights and useBackground hypershade node.
- Fixed issue with Maya Fur that could cause a s a varying "samplecone" efficiently.
- Added '%h' format specifier to printf() and format() shadeops to allow printing shader handles.

3Delight For Maya

- Added "Sample Motion on Integer Frames" toggle in the render pass which will force number of samples = 2 and will sample the scene only at either (t-1, t) or (t, t+1) when "motion blur position" is set to "end on frame" or "start on frame", respectively.

3Delight

- Fixed warnings in network cache caused by excessively long filenames.
- Fixed cube environment maps with non default fov.

3Delight For Maya

- Added entries in the outliner editors' "Show Objects" menu for render passes, attribs nodes, and shader nodes.
- delightShapeSet nodes should not be shown anymore in the relationship editors (they used to be visible in some of them, such as the light linker editor).

lodVisibility * GI panel has support for AOV isolation and bug fixes.

9.0.34 - 2010-05-07

3Delight

- Improved memory use of point cloud based subsurface.
- Modified Sx API to allow the use of co-shaders. SxCreateShaderInfo is also removed: SxCreateShader is now used to create all shaders. This will require slight source changes and recompilation of code which uses the Sx API.
- Sx contexts now inherit attributes from their parent context.
- Fixed possible crash when reading TIFF files on linux.
- Improved rays' distribution in ray-tracing functions.

9.0.33 - 2010-05-05

3Delight

- Fixed texture3d() when called with only uniform parameters.
- A gather loop may now use an array of vectors as a distribution.
- The subsurface() shadeop can now accept an array of point cloud file names with the "filenames" parameter.

3Delight For Maya

- Fixed possible crash in Maya 2011 when the current selection changes.
- "3Delight Geometry Modifiers" attributes are now created "hidden" to avoid automatic gadget creation in the Attribute Editor's "Extra Attributes" section.

9.0.32 - 2010-04-29

3Delight

- Fixed handling of dynamic array shader parameters.
- Added -binary and -gzip options to ribdepends. Fixed packaging of 3dfm fluid files.

3Delight For Maya

- Fixed light attributes node gadgets sensitivity issues on linux.

9.0.31 - 2010-04-27

3Delight

- Data layout for raw display drivers has changed slightly on 32-bnormalize flag has been replaced with tdlmake entry in the it systems. These display drivers will need to be recompiled.
- Fixed behavior of zthreshold option.
- Improved non raster oriented dicing.
- Fixed 'caller' and 'this' special variables in coshaders.
- Fixed a crash when calling coshaders from construct().
- Fixed missing subsurface wh which prevent you from using the new algorithm as the old one may eventually be deprecated and removed.

9.0.95 - 2011-04-06

3Delight For Maya

- Fixed issue with mia_material_x when using raytraced reflection aovs.
- Fixed issues with some option menus that are used to connect nodes to an attribute.

9.0.94 - 2011-04-01

3Delight

- Fixed rendering of motion blurred curves specified with uniform or raster space width.

3Delight For Maya

- Added en used with multi-segment motion blur defined inside a procedural.

3Delight For Maya

- Fixed MEL error that could occur when a render pass node is displayed in the AE.

_9.0.30 - 2010-04-21_

3Delight

- Fixed a crash in the 64-bit license server.

_9.0.29 - 2010-04-16_

3Delight

- Fixed non raster oriented primitive tesselati-concaton with alternate cameras.
- Fixed photon casting for solar lights. It was not working properly since version 9.0.19.

_9.0.28 - 2010-04-14_

3Delight

- Fixed a crash with class based lightsources having float members.

3Delight For Maya

- Adding Global Illumination tab. Still in development.

_9.0.27 - 2010-04-12_

3Delight

- Fixed creation of deep shadow maps in multi-process mode.
- Improved the speed at which renders stop from i-display.
- Fixed gather of "volume:Ci".

3Delight For Maya

- Restored the call to DL_userRenderPassAEtemplate in the render pass AE template.

_9.0.26 - 2010-04-08_

3Delight

- Added support for using OpenEXR image files directly as textures. The files should ideally be tiled and mipmapped (as done by exrmaketiled). Plain files will also work but might suffer from slow or poor texture filtering, as for plain TIFF files. The files must contain RGB or RGBA data. Note for 64-bit windows users: if you are using our dll from OpenEXR installation, you should download it again as it has been updated and the old one will not work.
- Fixed passing of uniform parameters to shaders through the parameter list given to SxCallShader().
- subsurface() now correctly deal with varying "diffusemeanfreepath", "albedo", "ior" and "scale".

3Delight For Maya

- Fixed issue with per-display pixel filter override that could crash maya.
- All render pass MEL script attributes now correctly define "string $render_pass" as the variable holding the render pass name for the MEL script execution.
- Fixed issues with shader nodes display in the AE after the "Copy Tab" button was used.

_9.0.25 - 2010-04-01_

3Delight

- Fixed occasional black rectangles with multi-camera rendering.
- Worked around some name resolution delays on systems with strange network setup.
- Fixed issues with writing brick maps larger than 2 GB on some systems.
- Fixed a bug with texture lookups that slowed down texture access on systems with many cores. Important gains are to be expected on such systems if rendering time is mostly spent in texture access.

3Delight For Maya

- Added "Particle Size Scale" attribute in the geo attribs node.

_9.0.24 - 2010-03-30_

3Delight

- Coshaders now correctly receive primitive variables from geometry.

3Delight For Maya

- Fixed "Displays" and "RIB Fragments" sections of the Render Pass AE which would not be correctly resized in some cases.

- Fixed issue when attempting to remove a RIB fragment that would appear not to work.

9.0.23 - 2010-03-29

3Delight

- Added a "coordsystem" parameter to subsurface() to control the coordinate system where point based subsurface is done. Note that the default is now "world" instead of "current" to match bake3d() so this **will break existing shaders** using point based subsurface.
- The outputchannel() shadeop now supports all types except strings. It can also output arrays.

9.0.22 - 2010-03-26

3Delight

- Improved dicing of some subdivision meshes.

3Delight For Maya

- "Duplicate display" is available again via popup menu in render pass AE.

9.0.21 - 2010-03-23

3Delight

- Fixed spline() shadeop to work with all kinds of arrays.
- Fixed gather construct when collecting arrays.
- Made subsurface() ignore NaN input.

3Delight For Maya

- Fixed collection, clipping planes and layer to render AE gadgets that were not listing relevant nodes.
- Fixed "Camera" frame layout not always displayed in the render pass AE (Linux).
- Fixed gadgets that were always insensitive in the render pass AE (Linux).
- Fixed "Use Resolution from Render Globals" toggle that was not doing anything when turned off in the render pass AE (all platforms).

9.0.20 - 2010-03-18

3Delight

- Fixed point based occlusion() and indirectdiffuse() sometimes returning NaN.

9.0.19 - 2010-03-16

3Delight

- Fixed mipmaps not being computed correctly by tldmake with sRGB color space.
- Fixed class members being incorrectly considered as arrays in some contexts.
- Improved photon map generation speed.

9.0.18 - 2010-03-11

3Delight

- Fixed a bogus warning when using the push and outputchannel shadeops.
- The license server can now be set with Option "licensing" "server". If this is not used it is still read from rendermn.ini as before.
- Improved responsiveness of the "stopcallback" so renders abort more quickly.

3Delight For Maya

- "Streak" particles can now output particle variables like the other particle types.

9.0.17 - 2010-03-05

3Delight For Maya

- Fixed issue when rendering several fur descriptions that are using IFF maps.

9.0.16 - 2010-03-04

3Delight

- Added ability to specify more than one dice camera (using the "dice" "referencecamera" attribute).
- Fixed Slo_GetArgByName().

3Delight For Maya

- Fixed possible issue with automatically generated file names whose length could be too long.
- Fixed issue when rendering fur feedback shape nodes that have identical names but different parents.
- Improved cycle detection in hypershade networks.

9.0.15 - 2010-02-19

3Delight

- Added "areachannel" and "radiositychannel" parameters to occlusion() and indirectdiffuse().
- Added "areachannel" and "radiancechannel" parameters to subsurface(). The default channel for radiance is changed to "_radiance_t".

3Delight For Maya

- RenderMan Shader preview and swatches now have a backplane to help visualization of transparency.
- Fixed old issue that could override a light attrib node's "generate with motion blur" value. Note: scenes never saved after october 2007 that are relying on deep shadow map with implicit "generate with motion blur" being on will need to have this attribute added and configured in their light attribs nodes.

9.0.14 - 2010-02-17

3Delight

- Added Slo_HasMethod() and Slo_GetMethodNames().

9.0.13 - 2010-02-13

3Delight

- The Sx library now shares the renderer's license when possible.
- Adding the outputchannel() shadeop which dynamically adds output variables to shaders.

9.0.12 - 2010-02-11

3Delight

- Improved performance of the raytrace hider.
- Added progressive rendering capability to the raytrace hider.
- All ray tracing shadeops now recognize the "hitsides" parameter. It may be used to control which sides of a surface a ray can hit.
- Fixed bake3d() behavior at ray intersections.

3Delight For Maya

- Fixed error when rendering with a light attribs node that does not have the "shadow objects" attribute.
- Area light nodes now behave like point lights regarding shadow maps.

9.0.11 - 2010-02-04

3Delight

- Fixed a crash when restoring some saved attributes (RiResource).
- shaderdl now supports repeating an array initializer like { 2.0, ... } instead of having to specify { 2.0, 2.0, 2.0, 2.0 } the exact number of times.
- Fixed a crash on Windows when using high oversampling with environment maps.
- The gather construct now supports the "samplebase" parameter.
- Added the "usedmipmap" output to the texture() shadeop. This allows easy visualization of where textures have unused detail.

3Delight For Maya

- Fixed issue where creating some nodes would not refresh properly the relationship editor (like group nodes).
- Fixed issue where "samples" attribute would not be displayed in the AE for light attribs node.

9.0.10 - 2010-01-26

3Delight

- The network cache now correctly detects network drives on Windows.
- Fixed a bug introduced in 9.0.8 which caused small black holes in some renders.

3Delight For Maya

- Light attribs nodes are now minimal attribute nodes (they are created empty and you add the attributes you need).

9.0.9 - 2010-01-17

3Delight

- Fixed memory leaks in area lights and with light source declared before RiWorldBegin
- The "a" render channel is now considered as being "alpha".
- Fixed architectural's shader environment lookup.

9.0.8 - 2010-01-14

3Delight

- Fixed memory use problem in renders with some very slow buckets.

- Option "trace" "specularthreshold" is now disabled by default. Rays can now be tagged as specular or diffuse using the 'raytype' option. The option is available to trace(), gather(), occlusion() and indirectdiffuse(). As a general rule, avoid using specular threshold as it is deprecated.

3Delight For Maya

- Avoided possible Maya crash caused by some node creation.

9.0.7 - 2010-01-12

3Delight

- Improved behavior of aggregate shadow maps which overlap.
- Added –searchpath-debug option to shaderdl to display traces of the search for dso shadeops.
- RiDisplayChannel variables are varying by default.

3Delight For Maya

- Fixed flippedNormal output of samplerInfo node.
- Fixed random corruption of maya fur in multithread renders.
- Now ignoring shaveHair render stats attributes since they are not shown in the AE.

9.0.6 - 2010-01-06

3Delight

- Fixed RiGetContext and RiContext in a procedural context.
- Added support for structures in the shader compiler.

3Delight For Maya

- Hypershade networks without a single known node now produce no .sl/sdl instead of a shader with no useful code in it.

9.0.5 - 2010-01-05

3Delight

- Fixed ribdepends to track Shader commands (coshaders).
- The 'licserver' utility can now read license keys that are split over several lines.
- 3Delight can now produce and use textures larger than 4GB.
- Fixed a crash in point based indirectdiffuse/occlusion with some shaders.

9.0.4 - 2009-12-29

3Delight

- Fixed a crash with coshader method calls with array parameters introduced in 9.0.4.

9.0.3 - 2009-12-28

3Delight

- Fixed reporting of displacement bounds for shaders with a displacement method.
- OS X installer now updates the environment for zsh users as well.
- Fixed handling of arrays of length 0 in C API and RIB.
- Fixed subsurface behavior with very small scale.

9.0.2 - 2009-12-17

3Delight

- Fixed spline() shadeop with "solvebspline", "solvebezier" and "solvehermite".
- Fixed thread safety issue with procedural's Free function.

9.0.1 - 2009-12-15

3Delight

- User procedurals inside inline archives are now correctly delayed.
- Fixed "shader" space in coshader methods.
- Fixed OS X ppc build.

3Delight For Maya

- Fixed custom shader node listing in the assignment panel.

9.0.0 - 2009-12-10

3Delight

- Point-based occlusion and indirect-diffuse now benefit from "irradiance" "shadingrate" controls. This makes the algorithm about two times faster in the default case.
- Point-based occlusion quality has been improved: concave geometry corners render much better (also fixes "white line" problem).
- Fixed a problem with multi-camera rendering: objects invisible to the main camera could disappear in secondary cameras.
- Fixed minor problem with blobby rendering in multi-camera: shading rate was not properly computed.
- Fixed a bug in photon map generation.

3Delight For Maya

- Added a "facing ratio" aov.
- "particle width space" attribute has new "Object" default value that matches 3Delight.
- Added support for per particle system string attributes.
- Fixed relationship editor's shaders and attribs contextual menu that could be broken with custom shader nodes.
- Fixed issue when registering custom shader nodes in batch mode.
- Added misss_* shaders.
- Dropped support for maya 8.0.