

1 General

1.1

UV

- Automatic/Packed UV Unwrap
 - Option in UV Commands Dialog
 - Option in Set UVW from Projection Dialog
 - Option in Paint Setup Wizard
- Rasterized UV Packing option
- Geometric UV Packing option
- Unified 3D / UV Component Modes
- Edge Selection in UV Editor (Supported Selection Tools: Live, Loop, Ring, Polygon, Lasso, Rectangle)
- Loop / Ring Selection for point/edge/polygon modes
- Soft Selection preview display in UV view
- Mirror Selection Command
- UV Unwrap Command
- UV Weld / Weld and Relax Commands
- Persistent UV Pin selection and Add/Remove/Clear Pin Commands
- Visualization options:
 - Filled / Flipped UV Polygons
 - Multi-color Islands (in UV and 3D)
 - Distortion
 - Seams (in UV and 3D)
 - Connectivity
 - Overlaps
 - Checkerboard / User Defined Preview Texture (in UV and 3D)
- UV Editing mode to explicitly edit UVs in the 3D view
- UV Settings Mode in Attribute Manager
- UV Editor Color Preferences
- When no polygons are selected, Projection options apply to all polygons
- New UV Edit layout

1.2 Modeling

- Extrude Generator can automatically choose direction that best fits the spline orientation
- Normal tag can be created and generated based on phong settings, offers field manipulation
- Command Migration to Mesh Core:
 - New Resolve Non-Manifold Command fixes non-manifold polygons and realigns normals
 - Subdivide command now offers Catmull-Clark, Loop and Opposite Subdivision modes, improved smoothing
 - Select Connected - supports FFD
 - Connect Points / Edges - more consistent and faster
 - Spin Edge - more consistent and faster
 - Collapse - better handling of surface attributes
 - Other Commands Migrated to Mesh Core:
 - Select All
 - Unselect All
 - Invert Selection

- Hide Selected
- Hide Unselected
- Unhide All
- Invert Visibility
- Dissolve
- Change Point Order
- Break Phong Shading
- Unbreak Phong Shading
- Tool Migration to Mesh Core:
 - Move, Scale, Rotate - Improvements to Modeling Axis Along Normal option
 - Improved Loop Selection with additional options
 - Improved Ring Selection with additional options
 - Create Point - new options and faster
 - Close Polygon Hole - new options, improved tessellation
 - Bevel - improved handling of selection and surface attributes / faster
 - Bridge - new options / faster
 - Extrude - improved angle handling and attribute layout
 - Inner Extrude - improved attribute layout
 - Smooth Shift - preserve groups option and improved attribute layout
 - Edge Cut - better offset shifting
 - Brush and Magnet - new options and unified interface
 - Slide - improved speed and quality
 - Iron - improved N-gon handling, preserve boundaries option
 - Stitch and Sew - improved behavior
 - Untriangulate - now a tool rather than command
 - Other Tools Migrated to Mesh Core:
 - Outline Selection
 - Fill Selection
 - Knife (Line, Loop, Path Cut)
 - Polygon Pen
 - Normal Move, Scale and Rotate
 - Array
 - Clone
 - Mirror
 - Set Point Value
 - New Scripting Control for Loop, Ring, Outline and Fill Selection

1.3 Viewport

- Metal support on MacOS
- View Filter Enhancements
 - Geometry Only mode
 - View Filter Presets
 - View Filter Menu can be undocked
 - View Filter Options are all now commands and can be easily toggled via shortcut
- Viewport Renderer mode
 - Renamed (from Hardware OpenGL)
 - Copy Effects from Viewport
 - Adjustable filters per render preset
 - Ignore Hidden Selections option
 - 32-bit Framebuffer option
- Streamlined Viewport preferences

- Simplified viewport hardware options
- Common preferences moved from Configure/View to General Preferences
- Improved organization of view settings
- All parameters local
- Improved outline of tessellated objects
- Background/Foreground Objects work with all shaders
- Improved support for Animate Preview with IBL
- Support for preview of Environment channel tiling
- Improved display of parallel spot within view
- Improved Display of colored edge falloff within view
- Improved shadows from Physical Sky
- Alternative Shadow filter and supersampling in view
- Colored shadows supported in view
- Support for more than 10 shadows displayed within view
- Transparencies better match offline render
- Transparency view clipping can be disabled
- Improved anti-aliasing of bokeh effects
- Improved behavior of SSAO in conjunction with glossy reflections and emissive layers
- Improved performance for multi instances
- SSAO ignores viewport elements like grid
- SSAO maximum samples increased to 256
- VP Tessellation improvements and bugfixed
- Hair color is properly shown within the view
- Bump display supports exposure adjustment
- Specular texture maps are now evaluated in viewport preview
- Screen space reflection evaluates bump
- Gradients now generate bump
- Stick Texture Tag support in viewport
- Improved display of noise, including seed values
- Improved display of texture coordinates on hierarchal objects
- Display Color shader support in view
- More shaders work with perfect sphere
- Improved Support for Fusion shader masking via vertex maps
- Full support of all 3D Gradient spaces within view
- LWF Improvements and Bugfixes
- Handles (on splines and manipulators on objects) drawn as circles

1.4 General Workflow Enhancements

- Copy and Paste animation tracks between objects within the same document
- Toggle last two tools regardless of type with Shift+Space
- Toggle Selection Tool (Space) toggles between any selection tool (including Loop, Ring, Path, etc) and the most recent non-selection tool
- Constraint tag now stores initial state
- Improved selection of spline objects within 3D view
- Improved Spline IK with better undo support
- Improved Mirror Tool
- Ring selection Selector improvements
- Mixamo Rig Template improvements
- Restriction tag now supports 12 inputs
- Render output presets updated to new standards and devices

- Improved support for Input Method Editors (IME) in text input areas, freeing up shortcut usage with Asian languages ([?](#) #269776)

1.5 Customer Journey

- Organizational Accounts
 - Allow users to share their entitlements amongst other users
 - Create named groups to communally share entitlements
 - Add/Remove users to any group created
 - Move entitlements between groups/users in realtime
- LDAP Connections to accounts - allowing company's own sign to be used for Maxon entitlements

1.6 Exchange

- GoZ Bridge
 - Fixed (Migrated from COFFEE to C++)
 - Import/Export Mesh
 - Import Color, Normal, Displacement Maps.
 - Import/Export UVs
 - Import/Export PolyPaint
- glTF
 - Export natively included
- Alembic - instances and render instances
- FBX
 - Importer: The user can choose between Standard and Node-based material types and different Node Spaces
 - Export: Nodes are baked as bitmaps on FBX
- 3rd parties can add their materials with specific node spaces
- Cineware:
 - cache settings were moved from the Preferences to the Project Settings
 - the material baking embeds the new textures in the C4D file
- Substance
 - Lock Ratio
 - 4K-8K Texture support
 - 16bit, 32bit texture support

1.7 SDK

- Changes classic API due to FVP:
 - Symbols rename, removal of OPENGL / introduction of DRAWPORT
 - BaseDraw changes
 - DisplayFilter changes
 - c4d_gl.h removal
- FVP frameworks: exposure to selected partners
- Exchange (Mapper) frameworks: exposed to selected partners
- UV improvements
- Modeling improvements
- Miscellaneous improvements