



Comparative Chart

VUE Complete 2016

Compare Versions of VUE

Compare **VUE Complete 2016** with:

[Compare!](#)

- VUE Pioneer 2015
- VUE Esprit 2015
- VUE Studio 2015
- VUE Complete 2015
- VUE Pioneer 2016
- VUE Esprit 2016
- VUE Studio 2016
- VUE Infinite 2016

Only show differences

Lighting	VUE Pioneer 2016	VUE Esprit 2016	VUE Studio 2016	VUE Complete 2016	VUE Infinite 2016
Global Illumination	•	•	•	•	•
Global Radiosity	•	•	•	•	•
Physically accurate Photometric sunlight model	•	•	•	•	•
Photometric model optimizations for dramatic increase in rendering speed	•	•	•	•	•
Fast in-depth computation of reciprocal object lighting for accurate indoor lighting	•	•	•	•	•
Radiosity engine optimized for...	Indoor or infinite scenery	Indoor or infinite scenery	Indoor or infinite scenery	Indoor or infinite scenery	Indoor or infinite scenery
Global ambiance	•	•	•	•	•
Ambient occlusion with user definable occlusion range	•	•	•	•	•
HDRI support	•	•	•	•	•
Photometric lighting produces physically plausible HDR outputs	With RenderUp	•	•	•	•
Image based lighting	•	•	•	•	•
Background and environment mapping	•	•	•	•	•
Sub-Surface Scattering: Absorption	•	•	•	•	•
Sub-Surface Scattering: Multiple Internal Scattering	•	•	•	•	•
Sub-Surface Scattering depth parameter in the Material Editor	•	•	•	•	•

Modulate the Sub-Surface Scattering depth using a function graph	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Easy GI single slider Global Illumination render quality setting	•	•	•	•	•
Illumination baking	-	-	-	-	•
Illumination baking quality adjustable on a global or per object basis (adjustable map resolution and quality boost)	-	-	-	-	•
Adjustment of Global light intensity	•	•	•	•	•
Indirect lighting can be ignored on specific objects	With LightTune	With LightTune	•	•	•
Influence of specific lights can be ignored from the Radiosity solution	With LightTune	With LightTune	•	•	•
Advanced control over the indirect lighting engine	With RenderUp	•	•	•	•
Show illumination samples in final render	-	-	-	-	•
Separate map option for background, IBL and global reflection map channels	With RenderUp	•	•	•	•
Shadow and volumetric light optimization for dramatic increase in rendering speed	•	•	•	•	•
Light gels with realistic projection modes	•	•	•	•	•
Adjustable light shadow density, negative lights	•	•	•	•	•
Enable diffuse and highlight on a per-light basis	With LightTune	With LightTune	•	•	•
Custom light intensity vs. distance profiles	With LightTune	With LightTune	•	•	•
Lights can affect specific objects only	With LightTune	With LightTune	•	•	•
Variable light color based on distance to light	With LightTune	With LightTune	•	•	•
Area light panel for soft, natural lighting	•	•	•	•	•
Higly optimized unbiased Area Light rendering algorithms minimizes noise	•	•	•	•	•
Light emitting objects	•	•	•	•	•
One-click conversion of objects into light sources	•	•	•	•	•
Fast, fake caustics in the shadows of transparent materials. Caustics realistically depend on the Index of Refraction	•	•	•	•	•
Accurate computation of caustics in the shadows of transparent objects	•	•	•	•	•
Realistic optional "spreading" of the light spectrum in caustics (rainbow-prism effect)	•	•	•	•	•
Per-light adjustment of the quality of soft shadows	With LightTune	With LightTune	•	•	•
Complete lens flare system	•	•	•	•	•
Controllable lens flares per light	•	•	•	•	•
Lens flare editor	•	•	•	•	•
Lens flare reflections editor	With LightTune	With LightTune	•	•	•
Polygonal reflections	•	•	•	•	•
Point light, Quadratic point light, Spotlight, Quadratic spotlight,	•	•	•	•	•

Directional light					
Turn Point Lights and Spot lights into Photometric lights	•	•	•	•	•
Photometric light color presets, with corresponding color temperature	•	•	•	•	•
Photometric Lights sorted by category: Black body illuminants, Fluorescent lights, Gaseous lights, Non physical lights.	-	-	-	-	•
Natural light spectrum for Black body illuminants (such as Candle flame, Halogen, Sunlight etc)	-	-	-	-	•
Lens Glare effect simulates internal lens diffusion	•	•	•	•	•
Lights can be disabled with a single click	With DeepAccess	With DeepAccess	•	•	•
Accurate accounting of backlight when computing GI	•	•	•	•	•
Improved handling of highlights in GI by better accounting for the interaction of illumination with bumps at the surface of objects	•	•	•	•	•
Use IES distribution profiles on photometric lights	•	•	•	•	•
Included IES profiles	30	30	30	30	30
Load custom IES profiles	•	•	•	•	•
IES profile viewer allows previewing of light distribution	•	•	•	•	•
Light portals help rendering indoor scenes more efficiently	-	-	-	-	•
Create Light Portals from the Object Toolbar	-	-	-	-	•
Vue can automatically place Light Portals on meshes	-	-	-	-	•

Atmosphere	VUE Pioneer 2016	VUE Esprit 2016	VUE Studio 2016	VUE Complete 2016	VUE Infinite 2016
Atmosphere presets	Over 160	Over 160	Over 160	Over 160	Over 160
Ultra-realistic spectral atmosphere model	•	•	•	•	•
Spectral Atmospheres can use Photometric Lighting	•	•	•	•	•
Photometric Atmosphere lighting intensities match real world	•	•	•	•	•
Included Photometric Atmosphere presets	4	4	4	4	4
Convert any existing Spectral atmosphere into a photometric atmosphere	•	•	•	•	•
Vue automatically adjusts atmospheric settings when switching between non-photometric and photometric models	•	•	•	•	•
Choice of 4 different types of atmosphere models	•	•	•	•	•
Volumetric clouds, lights, materials (visible rays, with optional dust)	•	•	•	•	•
Spectral Volume Cloud layers for extremely realistic cloudscares	•	•	•	•	•

Extremely detailed Spectral 3 cloud system (for cloud layers and MetaClouds)	•	•	•	•	•
Auto-scale clouds with altitude	•	•	•	•	•
Link Volumetric color of clouds to a function graph	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Link Ambient color contribution from sun and sky to a function graph	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Modulate Spectral clouds sharpness global setting with a user-defined function	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Modulate Spectral clouds opacity with a user-defined function	With AdvancedGraph and R3+ update	With AdvancedGraph and R3+ update	With AdvancedGraph and R3+ update	With R3+ update	With R3+ update
Use local coordinates on cloud modulation	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Access local coordinates for color settings on cloud modulation	With AdvancedGraph and R3+ update	With AdvancedGraph and R3+ update	With AdvancedGraph and R3+ update	With R3+ update	With R3+ update
Easily Load/Add Cloud Layers using a single button	•	•	•	•	•
Realistic cloud shadowing on objects as well as internal shadowing	•	•	•	•	•
Automatic detail refining for very close-up clouds	•	•	•	•	•
Cloud anisotropy setting for advanced control of internal light scattering	•	•	•	•	•
Fast indirect lighting in Spectral clouds	•	•	•	•	•
Create spherical cloud layers at the surface of your planets	•	•	•	•	•
Import real-world cloud density data to recreate existing clouds	•	•	•	•	•
Add tornadoes using your favorite paint tool	•	•	•	•	•
Use animated planetary cloud density maps	-	-	-	-	•
God rays in clouds	•	•	•	•	•
Fly through clouds	•	•	•	•	•
Cloud layers near ground simulate fog	•	•	•	•	•
Realistic "peaking" of mountains through clouds	•	•	•	•	•
Create multiple layers of overlapping clouds	•	•	•	•	•
Efficient model for cross-shadowing of objects on clouds	•	•	•	•	•
MetaClouds individual cloud formations	•	•	•	•	•
Library of MetaCloud models	•	•	•	•	•
Predefined cloud shapes	Over 140	Over 140	Over 140	Over 140	Over 140
Unlimited cloud layers	•	•	•	•	•
Customize the shape of MetaClouds	•	•	•	•	•
Customize the shape and look of full cloud layers through outputs in the Function Editor	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Control cloud layers altitude to make them "go over" or circle certain objects	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Stars, rainbows, ice rings...	•	•	•	•	•
Custom "deep space" star maps	•	•	•	•	•

Load images of distant constellations	•	•	•	•	•
Individual lights can illuminate spectral cloud layers and MetaClouds	•	•	•	•	•
Position, scale and rotate cloud layers using the standard manipulation gizmos	•	•	•	•	•
Extract cloud layers portions	•	•	•	•	•
Extracted cloud portions can be moved to different locations in the scene using standard manipulation gizmos	•	•	•	•	•
Extracted cloud portions can be saved for future use	•	•	•	•	•
Button to randomize cloud patterns	•	•	•	•	•
Support for planets with arbitrarily large atmospheres	•	•	•	•	•
Cloud layer dummies can be grouped to facilitate cloud manipulation	•	•	•	•	•
Add or modify cloud layers through Python callbacks	-	-	-	-	•
Automatic Rain atmospheric effect	With EcoSystem and KronosFX	With EcoSystem and KronosFX	With KronosFX	•	•
Automatic Snow atmospheric effect	With EcoSystem and KronosFX	With EcoSystem and KronosFX	With KronosFX	•	•
The heaviness, shape, drop size, speed and falling angle of the precipitation is user controllable	With EcoSystem and KronosFX	With EcoSystem and KronosFX	With KronosFX	•	•
Rain and snow impacts can control materials for water or snow coverage	With EcoSystem and KronosFX	With EcoSystem and KronosFX	With KronosFX	•	•
Motion blur can be added on weather effects	With EcoSystem and KronosFX	With EcoSystem and KronosFX	With KronosFX	•	•
Weather Effects are available for all types of atmospheres	With EcoSystem and KronosFX	With EcoSystem and KronosFX	With KronosFX	•	•
Optional automatic sun softness computation, based on atmosphere parameters	With LightTune	With LightTune	•	•	•
“Improve Low Quality Consistency” parameter to better preview your atmosphere looks while rendering at a lower resolution	With LightTune	With LightTune	•	•	•
Optional Sun Visibility parameter for Spectral Atmospheres	With R3+ update	With R3+ update	With R3+ update	With R3+ update	With R3+ update

EcoSystems	VUE Pioneer 2016	VUE Esprit 2016	VUE Studio 2016	VUE Complete 2016	VUE Infinite 2016
EcoSystem patented technology to easily distribute millions of objects in scenes	•	•	•	•	•
Use preset EcoSystem materials to automatically populate your scenes with millions of objects	•	•	•	•	•
Create EcoSystems from multiple objects	With EcoSystem	With EcoSystem	•	•	•
Create entire forests of trees	With EcoSystem	With EcoSystem	•	•	•
Create forests of trees blowing in the wind	With Zephyr	With Zephyr	With Zephyr	•	•
Scatter millions of animated objects	With EcoSystem	With EcoSystem	•	•	•
Mix EcoSystems with standard materials	•	•	•	•	•
Mix several EcoSystems together depending on environment (slope,	•	•	•	•	•

altitude...)					
Automatic placement of EcoSystem population according to a user defined SmartGraph density function (that can depend on position, altitude, slope...)	With EcoSystem	With EcoSystem	•	•	•
Advanced coloring control to vary the colors of the population over the EcoSystem	With EcoSystem	With EcoSystem	•	•	•
Accurate control over the orientation of the EcoSystem population	With EcoSystem	With EcoSystem	•	•	•
Accurate control over the size and variation in size of the EcoSystem population	With EcoSystem	With EcoSystem	•	•	•
Automatic decay of EcoSystem density near foreign objects	•	•	•	•	•
Optional size reduction and color decay at low EcoSystem densities	With EcoSystem	With EcoSystem	•	•	•
EcoPainter technology: paint instances directly onto objects	With EcoPainter	With EcoPainter	With EcoPainter	•	•
Add, remove and resize EcoSystem instances interactively	With EcoPainter	With EcoPainter	With EcoPainter	•	•
Select individual instances or groups of instances and move/rotate/resize them interactively	With EcoPainter	With EcoPainter	With EcoPainter	•	•
Paint size, color or density of EcoSystems using a pressure sensitive tablet	With EcoPainter	With EcoPainter	With EcoPainter	•	•
Convert EcoSystem instances to real objects for editing, move them back to the EcoSystem later	With EcoPainter	With EcoPainter	With EcoPainter	•	•
Paint EcoSystems as individual material layers or on a global basis	With EcoPainter	With EcoPainter	With EcoPainter	•	•
Paint EcoSystems using standard EcoSystem population rules	With EcoPainter	With EcoPainter	With EcoPainter	•	•
Adjust the population rules of the Global EcoSystem	With EcoPainter	With EcoPainter	With EcoPainter	Optional	Optional
Layered EcoSystems to control individual EcoSystem populations	With EcoSystem	With EcoSystem	•	•	•
Control "affinity" between EcoSystem layers	With EcoSystem	With EcoSystem	•	•	•
Refresh dynamic EcoSystem population previews anytime with Preview button	With EcoSystem	With EcoSystem	•	•	•
Paint EcoSystems from all sides, in any view	With EcoPainter	With EcoPainter	With EcoPainter	•	•
Dynamic EcoSystem population technology for potentially unlimited populations	•	•	•	•	•
Dynamic EcoSystem density adjustments for improved control of density on slopes	With EcoSystem	With EcoSystem	•	•	•
Easily control the intensity of the coloring applied to EcoSystem populations	With EcoSystem	With EcoSystem	•	•	•
Control the intensity of the EcoSystem coloring through the function graph	With EcoSystem and AdvancedGraph	With EcoSystem and AdvancedGraph	With AdvancedGraph	•	•
Multi-processor EcoSystem population	•	•	•	•	•
Ability to drag multiple objects from a browser into the EcoSystem population	With EcoSystem	With EcoSystem	•	•	•
EcoSystem 4 technology	•	•	•	•	•

Advanced flicker reduction algorithms	•	•	•	•	•
Advanced memory management algorithms for large dynamic EcoSystem populations	•	•	•	•	•
Render animated dynamic EcoSystem populations with smooth density variations	•	•	•	•	•
Individually control the phase (animation offset) of animated elements in your EcoSystem populations	With EcoSystem and KronosFX	With EcoSystem and KronosFX	With KronosFX	•	•
Automatic addition of variations of animation phase to SoliGrowth based EcoSystems	With EcoSystem and KronosFX	With EcoSystem and KronosFX	With KronosFX	•	•
Control the animation phase of any type of animated object, including pre-animated meshes	With EcoSystem and KronosFX	With EcoSystem and KronosFX	With KronosFX	•	•
Control animation phase on a per SolidGrowth instance basis through the function graph	With EcoSystem and KronosFX and AdvancedGraph	With EcoSystem and KronosFX and AdvancedGraph	With KronosFX and AdvancedGraph	•	•
When loading an EcoSystem layer, the layer is automatically added to the underlying material instead of being loaded with a transparent sub-material	•	•	•	•	•
EcoSystems can be populated along a spline	With EcoSystem and EcoPainter	With EcoSystem and EcoPainter	With EcoPainter	•	•
Areas defined by Splines can be populated with EcoSystems	With EcoSystem and EcoPainter	With EcoSystem and EcoPainter	With EcoPainter	•	•
Splines can be used as EcoSystem masks	With EcoSystem and EcoPainter	With EcoSystem and EcoPainter	With EcoPainter	•	•
EcoSystem instances can be aligned dynamically along the spline direction	With EcoSystem and EcoPainter	With EcoSystem and EcoPainter	With EcoPainter	•	•
Control EcoSystem spline instances' orientation and variability	With EcoSystem and EcoPainter	With EcoSystem and EcoPainter	With EcoPainter	•	•
EcoSystem instances can be controlled based on the EcoSystem density so that instances can automatically lean out on low density areas	With EcoSystem	With EcoSystem	•	•	•
Stack EcoSystem instances on top of each other	With EcoSystem and / or EcoPainter	With EcoSystem and / or EcoPainter	With EcoPainter	•	•
EcoSystem stacking is accessible from the material editor	With EcoSystem	With EcoSystem	•	•	•
EcoSystem stacking is accessible from the EcoPainter	With EcoPainter	With EcoPainter	With EcoPainter	•	•
Maximum number of stacked instances is user definable	With EcoSystem and / or EcoPainter	With EcoSystem and / or EcoPainter	With EcoPainter	•	•
Invert the EcoSystem selection by a simple click of a button	With EcoPainter	With EcoPainter	With EcoPainter	•	•
Objects can be dropped onto EcoSystem instances using the Drop or Smart Drop options	•	•	•	•	•
EcoPainter settings (brush size, flow etc...) can be set on a per material basis	With EcoPainter	With EcoPainter	With EcoPainter	•	•
Instances color can be reverted directly from the EcoPainter dialog	With EcoPainter	With EcoPainter	With EcoPainter	•	•
VOB files created from a Dynamic Rock or a SolidGrowth plant will automatically generate variations when used in an EcoSystem	With EcoSystem and / or EcoPainter	With EcoSystem and / or EcoPainter	With EcoPainter	•	•

All standard EcoSystem configuration parameters can be used for particle instance population	With EcoSystem and KronosFX	With EcoSystem and KronosFX	With KronosFX	•	•
Create your own EcoPainter brushes using a combination of Effectors	With EcoPainter	With EcoPainter	With EcoPainter	•	•
EcoSystem effectors brush collection (lean, rotate, raise, lower, move etc.)	With EcoPainter	With EcoPainter	With EcoPainter	•	•
EcoPainter brush tool presets	20 with EcoPainter	20 with EcoPainter	20 with EcoPainter	20	20
Rotate EcoSystem Brush effector	With EcoPainter	With EcoPainter	With EcoPainter	•	•
Standalone EcoPainter brush editor dialog	With EcoPainter	With EcoPainter	With EcoPainter	•	•
Publish specific EcoPainter brush parameters directly to the main EcoPainter dialog	With EcoPainter	With EcoPainter	With EcoPainter	•	•
EcoSystem Selection tool directly available in the EcoPainter tool	With EcoPainter	With EcoPainter	With EcoPainter	•	•
EcoSystem Fast population technology to interactively edit EcoSystem populations	With EcoSystem	With EcoSystem	•	•	•
360° EcoSystems: EcoSystems can be populated from all directions including below objects	With EcoSystem	With EcoSystem	•	•	•
All standard population settings are applicable to 360° populations	With EcoSystem	With EcoSystem	•	•	•
EcoSystem Clumping lets you easily control how plants from the same species grow close to one-another	With EcoSystem	With EcoSystem	•	•	•
Amount slider lets you set the global intensity of the EcoSystem clumping effect	With EcoSystem	With EcoSystem	•	•	•
Size slider lets you set the global size of EcoSystem clumps	With EcoSystem	With EcoSystem	•	•	•
Small Item EcoSystem algorithms efficiently create and render vast EcoSystems of very small items (e.g. Gravel, grass...)	•	•	•	•	•
Small items EcoSystems algorithms improves both computation of Static and Dynamic EcoSystems	•	•	•	•	•
Quality setting in the EcoSystem Painter when using PlantFactory vegetation	With EcoPainter	With EcoPainter	With EcoPainter	•	•
Quality setting in the EcoSystem material editor when using PlantFactory vegetation	With EcoSystem	With EcoSystem	•	•	•
Integrated PlantFactory quality setting helps optimize rendering time and system memory resources	With EcoSystem and / or EcoPainter	With EcoSystem and / or EcoPainter	With EcoPainter	•	•
Add/Remove/Clear EcoSystem populations through Python callbacks	-	-	-	-	•
Access global EcoSystem through Python callbacks	-	-	-	-	•
Multi-threaded render initializations for EcoSystems	•	•	•	•	•
Select the number of PlantFactory plant variations to be used in your EcoSystem populations	With EcoSystem OR EcoPainter, with PlantFactory 2016+ species	With EcoSystem OR EcoPainter, with PlantFactory 2016+ species	With EcoPainter, with PlantFactory 2016+ species	With PlantFactory 2016+ species	With PlantFactory 2016+ species
Select specific PlantFactory plant variations to be used in your EcoSystem populations	With EcoSystem OR EcoPainter	With EcoSystem OR EcoPainter	With EcoPainter	•	•

Optimize memory consumption by using baked (static or dynamic) versions of PlantFactory species for your EcoSystem populations	With EcoSystem OR EcoPainter	With EcoSystem OR EcoPainter	With EcoPainter	•	•
Select individual pre-defined PlantFactory 2016+ species variations within the Plant Editor	With EcoSystem OR EcoPainter AND Botanica	With EcoSystem OR EcoPainter AND Botanica	With EcoPainter	•	•
Set multiple Global EcoSystem layers	With EcoPainter	With EcoPainter	With EcoPainter	•	•
Save Global EcoSystems as EcoSystem brush presets	With EcoPainter	With EcoPainter	With EcoPainter	•	•
Global EcoSystem brush presets included in content:	12 with EcoPainter	12 with EcoPainter	12 with EcoPainter	12	12
Use EcoPainter brush preset populations in your standard EcoSystem materials	With EcoPainter	With EcoPainter	With EcoPainter	•	•
Convert referenced assets in the scene to EcoSystem Instances to efficiently save memory	With EcoPainter	With EcoPainter	With EcoPainter	•	•

EcoParticles	VUE Pioneer 2016	VUE Esprit 2016	VUE Studio 2016	VUE Complete 2016	VUE Infinite 2016
Complete particle system custom tailored for Digital Nature	With EcoSystem and KronosFX	With EcoSystem and KronosFX	With KronosFX	•	•
EcoParticles can be added to any material (like a regular EcoSystem)	With EcoSystem and KronosFX	With EcoSystem and KronosFX	With KronosFX	•	•
Speed, direction, collision properties and duration of life of the particles can be easily configured	With EcoSystem and KronosFX	With EcoSystem and KronosFX	With KronosFX	•	•
EcoParticles can be influenced by external influences (wind, gravity etc.)	With EcoSystem and KronosFX (+Zephyr)	With EcoSystem and KronosFX (+Zephyr)	With KronosFX (+Zephyr)	•	•
Effector objects can be added to influence EcoParticles locally or globally (e.g. to create effects such as tornadoes, jittering, attraction etc.)	With EcoSystem and KronosFX	With EcoSystem and KronosFX	With KronosFX	•	•
Rich collection of function nodes to control EcoParticle behaviors	With EcoSystem and KronosFX (+AdvancedGraph)	With EcoSystem and KronosFX (+AdvancedGraph)	With KronosFX (+AdvancedGraph)	•	•
Control physical properties of particles, such as mass, velocity, gravity, collision, wind influence, elasticity, attachment forces and more	With EcoSystem and KronosFX	With EcoSystem and KronosFX	With KronosFX	•	•
Make particles fall, collide, bounce and interact with external forces	With EcoSystem and KronosFX	With EcoSystem and KronosFX	With KronosFX	•	•
Automatic collision maps allow the creation of material and particle effects that depend on collision history	With EcoSystem and KronosFX	With EcoSystem and KronosFX	With KronosFX	•	•
Sub-particles can be emitted over the lifespan of each particle, upon collision or upon death of the particle	With EcoSystem and KronosFX	With EcoSystem and KronosFX	With KronosFX	•	•
Animation specific EcoParticle parameters such as size variation, growth, opacity variation, velocity, flow and more	With EcoSystem and KronosFX	With EcoSystem and KronosFX	With KronosFX	•	•
EcoParticle emitter presets	•	•	•	•	•
EcoParticles can be set to collide with Static EcoSystem instances	With EcoSystem and KronosFX	With EcoSystem and KronosFX	With KronosFX	•	•

Vegetation	VUE Pioneer 2016	VUE Esprit 2016	VUE Studio 2016	VUE Complete 2016	VUE Infinite 2016
Ultra-realistic SolidGrowth vegetation	10+ species	70+ species	70+ species	70+ species	175+ species
Compatible with modified plant species	•	•	•	•	•
Easy-to-Use Plant Editor for plant customization	With Botanica	With Botanica	•	•	•
Resizable Plant Editor	-	-	-	-	•
Instantly create variations of existing plants	•	•	•	•	•
Plant Editor and Leaf Editor let you modify existing plants or create entirely new plant species	With Botanica	With Botanica	•	•	•
Create and save new plant species as stand-alone files for future use in your scenes	With Botanica	With Botanica	•	•	•
Support for SolidGrowth HD extremely detailed plant species	•	•	•	•	•
Native support for PlantFactory .tpf plant species	•	•	•	•	•
Edit PlantFactory plants published parameters directly within the Plant Editor	With Botanica	With Botanica	•	•	•
Open PlantFactory directly from the Plant Editor to fine tune your tpf specie	With Botanica	With Botanica	•	•	•
PlantFactory plants imported in .tpf automatically create variations	•	•	•	•	•
Health and Seasonality parameters for PlantFactory vegetation are animatable directly within the Plant Editor	With Botanica	With Botanica	•	•	•
Changing Health and Seasonality on TPF plants automatically creates Keyframes in the animation timeline	With Botanica and KronosFX	With Botanica and KronosFX	With KronosFX	•	•
Advanced pre-computing of Global Illumination on PlantFactory billboard plants speeds up rendering by up to 20x	-	-	-	-	•
Improved Normal Mapping algorithms on PlantFactory vegetation dramatically boost overall plant rendering quality	-	-	-	-	•
Compatibility with PlantFactory lightweight preset technology	-	-	-	-	•
Access PlantFactory Mesh resolution directly from the Plant Editor	-	-	-	-	•
Access individual PlantFactory plant presets from the Plant Browser	With EcoSystem OR EcoPainter	With EcoSystem OR EcoPainter	With EcoPainter	•	•

Terrains	VUE Pioneer 2016	VUE Esprit 2016	VUE Studio 2016	VUE Complete 2016	VUE Infinite 2016
Solid3D real-time terrain modeling	•	•	•	•	•
Sculpt terrains in all directions	•	•	•	•	•
Create overhangs and grottoes	•	•	•	•	•
Sculpt, inflate, free form and smooth brushes	•	•	•	•	•
Pinch, Plateau, Flatten and UniSlope brushes	•	•	•	•	•
User definable brush tip profile	•	•	•	•	•
Automatic subdivision of terrain geometry when sculpting	•	•	•	•	•

Adaptive subdivision adds polygons only where needed	•	•	•	•	•
Edit terrains in context (view entire scene in editor)	•	•	•	•	•
Option to view terrain clipping planes in editor	•	•	•	•	•
Option to display the terrain with a shiny surface to enhance details	•	•	•	•	•
Constrain painting and effects to clipping zone	•	•	•	•	•
Option to display the terrain in wireframe mode to view polygons	•	•	•	•	•
Create edition "zones" to modify procedural terrains locally	•	•	•	•	•
Create nested "zones" to build massive detail where needed	•	•	•	•	•
Convert a zone of a procedural terrain into another terrain	•	•	•	•	•
Zone extraction optionally creates a void in the source terrain	•	•	•	•	•
Paint material distributions at the surface of terrains	•	•	•	•	•
Paint material distributions with unlimited number of materials	•	•	•	•	•
Use material masks to constrain painting to existing distribution masks	•	•	•	•	•
Material distribution masks independent from material mapping mode	•	•	•	•	•
Import, view and edit distribution maps in the Terrain Editor	•	•	•	•	•
Terrain effects optionally affect material distribution map	•	•	•	•	•
Preset terrain styles	8	8	8	8	8
Updated Terrain styles in Terrain Editor	•	•	•	•	•
Erosion types as terrain Effects	9	9	9	9	9
Geological algorithms as terrain Effects	12	12	12	12	12
Glaciation, alluvium and dissolve erosion effects	•	•	•	•	•
HeightField terrain technology	•	•	•	•	•
HeightField nodes (Erosion, Slope, Convexity, Blur, Terrace and Auto-mapping)	•	•	•	•	•
Heightfield hydrological and thermal erosion presets (Generic, Mountains, Young mountains, Scattered Rock, Rivers, Very Eroded, Flow Channels etc...)	9	9	9	9	9
Access HeightField Erosion presets as terrain presets in the Terrain Editor	•	•	•	•	•
Layout nodes (Area demarcation, Spline Proximity etc)	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Drive terrain material presence with the Heightfield terrain's graph output, directly from within the Terrain Editor	•	•	•	•	•
Blend Terrain with Image automatically modifies the Heightfield Terrain function graph	With R2+ update	With R2+ update	With R2+ update	With R2+ update	With R2+ update
Terrain presets included in content	42	42	42	42	42

Resample Terrain to update terrain resolution without changing its size within the scene.	With R2+ update	With R2+ update	With R2+ update	With R2+ update	With R2+ update
Procedural terrains with infinite details	•	•	•	•	•
Infinite procedural terrains	•	•	•	•	•
Planetary terrain rendering	•	•	•	•	•
Flat, spherical and planetary procedural terrains	•	•	•	•	•
Switch between flat, spherical and planetary terrains (geometry may be affected)	•	•	•	•	•
Optimized render engine allows faster computation and rendering of infinite, spherical & planetary terrains	•	•	•	•	•
Combine image data with procedural functions using dedicated blending nodes	•	•	•	•	•
Ability to switch from one form of terrain to another easily	•	•	•	•	•
Skin terrains	•	•	•	•	•
Symmetrical terrains	•	•	•	•	•
Extract parts of procedural terrains into new terrains	•	•	•	•	•
View bitmap textures in terrain editor to sculpt from photo references	•	•	•	•	•
Pressure-sensitive tablet editing of terrains	•	•	•	•	•
Reset 2D and 3D painting independently	•	•	•	•	•
Customizable brush shape for terrain editing	•	•	•	•	•
Control distribution of materials on terrains from within the procedural terrain altitude function	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Control procedural terrain altitudes based on relationships with other objects	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
The altitude of procedural terrains can be dynamically affected by other objects	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Realistic procedural terrains thanks to dedicated natural effects noise nodes	•	•	•	•	•
Infinite and local procedural terrain style presets to easily create each-time-different terrains of the given style	•	•	•	•	•
Library of procedural terrain presets with associated materials	•	•	•	•	•
Create your own procedural terrain style presets	•	•	•	•	•
Efficient displacement mapping of infinitely detailed procedural terrains	•	•	•	•	•
Displacement mapping optimizations for dramatic increase in detail quality when using high amplitude displacement	•	•	•	•	•
Procedural terrain preview in function editor	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Multi-processor procedural terrain construction	•	•	•	•	•
Stratified terrains thanks to the recursive strata filters	•	•	•	•	•
Rocky mountain fractal	•	•	•	•	•

Full user control over Rocky mountain fractal patterns	•	•	•	•	•
Rocky mountain fractal can be used to drive material distributions	•	•	•	•	•
Decal and Smear terrain brushes	•	•	•	•	•
Retopologize terrains to optimize sculpting over vertical areas like cliffs	•	•	•	•	•
Lock material masks to prevent sculpting in the locked areas	•	•	•	•	•
Create standalone masks (not associated to a material) for precise sculpting/painting	•	•	•	•	•
Global Freeze mask can be used in combination with other masks	•	•	•	•	•
Extend terrain canvas option adds "more terrain" around your terrains	•	•	•	•	•
Automatic Terrain Zone creation when extending the canvas (to preserve the sculpting)	•	•	•	•	•
Contextual terrain brushes influenced by slope, altitude and orientation	•	•	•	•	•
Create custom terrain brushes	•	•	•	•	•
Organize your brushes and create libraries of your favorite ones	•	•	•	•	•
Preset brush settings can be easily overridden	•	•	•	•	•
Easily access your preset brushes with a single click	•	•	•	•	•
Optimized sculpting automatically selects between 2D and 3D effects	•	•	•	•	•
Ability to restrict sculpting to 2D only	•	•	•	•	•
Terrain altitudes are consistent with actual terrain size	•	•	•	•	•
Randomize terrain fractals with a click of a button	•	•	•	•	•
Terrain Editor displays real-world units	•	•	•	•	•
Vector-quantization node to create procedural terrains with terraces	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
New Strata3D node ideal for creating realistic canyon walls and stratified rock formations	•	•	•	•	•
Custom 3D brush that lets you define a specific direction for the displacement applied to the terrain surface	•	•	•	•	•
Preview altitude, slope or orientation constraints directly in the terrain editor	•	•	•	•	•
Brushes can act only on certain levels of details, while leaving others untouched.	-	-	-	-	•
Undo brush affects 3D painting in terrain editor	•	•	•	•	•
Non airbrush mode for 3D painting works like 2D effects	•	•	•	•	•
Brush map images can be inverted in the terrain editor	•	•	•	•	•
Terrain altitude color map can be mapped to the visible range of altitudes	•	•	•	•	•
Terrain effect buttons can be set to repeat a given number of times automatically	•	•	•	•	•

Optionally enable/disable mask rotation when painting in Terrain Editor	•	•	•	•	•
Publishing parameters will refresh terrain geometry automatically	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Level of Detail (LOD) is manually adjustable the for swifter painting in 3D	•	•	•	•	•
Limit the maximum amount of painting in the terrain editor.	•	•	•	•	•
Terrain alpha maps can be exported from within the Terrain Editor	-	-	-	-	•
Built in Road construction tool allows you to directly draw a road path on your terrains	•	•	•	•	•
Road are automatically textured with an asphalt material	•	•	•	•	•
Roads automatically carves or raises the terrain surface to adjust it to your path	•	•	•	•	•
Cyclic Noises and Fractals to generate patterns that repeat seamlessly, in space or time	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
The cycle rate of Cyclic Noises and Fractals can be controlled along each axis	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Fully additive material layering system to preserve the orginal alpha presence of layers	•	•	•	•	•
New material layering system lets you paint multiple layers simultaneously and painting one layer no longer affects underlying layers	•	•	•	•	•
Layers are combined in the function graph using a 'Layer Painting' metanode	•	•	•	•	•
Terrain Fractal 2 node	•	•	•	•	•
Terrain Fractal 2 automatically improves variability of shapes with improved rough areas simulating rocks and cliffs	•	•	•	•	•
Optional Stratification can be applied to Terrain Fractal 2 node to benefit from the Terrain Fractl 2 node internal values	•	•	•	•	•
The presence of material layers (alpha channel) can be previewed in the terrain editor	•	•	•	•	•
The presence of material layers (alpha channel) can be used as a painting mask	•	•	•	•	•
A second UV Channel for 3D sculpted terrains allows precise control UV perturbation	•	•	•	•	•
Easily change the height of Infinite procedural terrains in the Terrain Editor	•	•	•	•	•
Create Terrains from an existing heightmap file through Python callbacks	-	-	-	-	•

Modeling	VUE Pioneer 2016	VUE Esprit 2016	VUE Studio 2016	VUE Complete 2016	VUE Infinite 2016
Primitive and Boolean modeling	•	•	•	•	•
3D Text edition tool	•	•	•	•	•
Customizable text beveling, extrusion... and material effects	•	•	•	•	•

Import Postscript and Illustrator data into the text editor	•	•	•	•	•
Advanced memory management algorithms for handling large polygon meshes	•	•	•	•	•
True Metablobs organic modeling from all Vue Boolean primitives	•	•	•	•	•
Adjustable Metablob envelopes and contribution	•	•	•	•	•
Welding of multiple meshes into a single mesh	•	•	•	•	•
Random rock generator	•	•	•	•	•
Multiple planets (moon and other planets of the solar system)	•	•	•	•	•
Create background Planets with custom picture	•	•	•	•	•
Create billboards that always face the camera (with a 'force vertical' option)	•	•	•	•	•
HyperBlob technology	•	•	•	•	•
Apply standard displacement mapping to HyperBlobs	•	•	•	•	•
User defined level of subdivision on HyperBlobs with automatic intermediate LOD computation according to distance	•	•	•	•	•
Automatic "shaving" technology to delete all disconnected parts from the HyperBlob	•	•	•	•	•
Optional smart Catmull-Clark subdivision of quad-based geometry	-	-	-	-	•
Optional generic Loop subdivision of polygonal meshes	-	-	-	-	•
Control realtime preview and render time level of Catmull-Clark / Loop subdivision	-	-	-	-	•
Automatic mesh subdivision can be limited to a user defined value	-	-	-	-	•
Spline editable objects that can be used for EcoSystem effects, terrain effects, roads and object creation	•	•	•	•	•
Comprehensive spline toolkit that allows you to add, delete or move spline points or configure tangents	•	•	•	•	•
Splines can be automatically aligned at the surface of terrains	•	•	•	•	•
Extrude a defined geometry along a spline, and modify it using properties such as profile presets, profile dimensions, profile dimension ratio along the spline, material, twist (mode and limit), and more	•	•	•	•	•
Splines can engrave or emboss the surface of a terrain following a predefined path (e.g. to create road beds or raised highways)	•	•	•	•	•
Use local rotation gizmos on spline keys to roll your splines e.g to create leaning roads	•	•	•	•	•
Automatic path finder that calculates the optimum route in between your spline keys based on a realistic slope	•	•	•	•	•

user definable distance in between each spline key created with the path finder	•	•	•	•	•
Use spline resampling to automatically drop new spline keys onto the underlying surface, following the original spline path	•	•	•	•	•
Define broken tangents for each spline key	•	•	•	•	•
Add/remove/move spline points or modify spline effects through Python callbacks	-	-	-	-	•
Built in Road Construction toolkit	•	•	•	•	•
Standalone Rock library	70+ Species	70+ Species	70+ Species	70+ Species	70+ Species
Rock templates create a unique rock variation each time you generate a new rock	•	•	•	•	•
Rock technology compatible with the EcoSystem technology	•	•	•	•	•
Rock library available directly in the EcoSystem population list	With EcoPainter	With EcoPainter	With EcoPainter	•	•
Rock library available directly in the Ecopainter tool	With EcoPainter	With EcoPainter	With EcoPainter	•	•
Each rock type used in an EcoSystem automatically generates variations	•	•	•	•	•
Export Rocks to any standard 3D file format	With Exporter	With Exporter	With Exporter	•	•
Export baked HyperBlobs to any standard 3D file format	-	-	-	-	•

Rendering	VUE Pioneer 2016	VUE Esprit 2016	VUE Studio 2016	VUE Complete 2016	VUE Infinite 2016
Stereoscopic Rendering for stills and animations	With RenderUp and R4+ update	With R4+ update	With R4+ update	With R4+ update	With R4+ update
Stereoscopic Rendering User defined Interpupillary Distance	With RenderUp and R4+ update	With R4+ update	With R4+ update	With R4+ update	With R4+ update
User defined Stereoscopic final image layout (top/bottom or left/right)	With RenderUp and R4+ update	With R4+ update	With R4+ update	With R4+ update	With R4+ update
Stereoscopic Rendering Convergence modes for handling parallax:	With RenderUp and R4+ Update: Parallel, Converged and Off-axis	With R4+ Update: Parallel, Converged and Off-axis	With R4+ Update: Parallel, Converged and Off-axis	With R4+ Update: Parallel, Converged and Off-axis	With R4+ Update: Parallel, Converged and Off-axis
Stereoscopic Rendering automatically recognized by Stereo-compliant platforms (such as Youtube) and can be played on stereo compliant devices such as Oculus Rift, HTC Vive, Nvidia 3DVision, Sony PSVR, Google DayDream, Google Carboard etc.	With RenderUp and R4+ update	With R4+ update	With R4+ update	With R4+ update	With R4+ update
Hybrid GPU/CPU interactive Real-Time Path Traced preview in the main view	•	•	•	•	•
Path Tracer available as an offline render preset	With RenderUp	•	•	•	•
Path Traced Spectral Cloud layers	With RenderUp and R3+ update	With R3+ update	With R3+ update	With R3+ update	With R3+ update
Path Traced Soft Shadows	With RenderUp and R3+ update	With R3+ update	With R3+ update	With R3+ update	With R3+ update

Path Traced Blurry Reflections/Refractions	With RenderUp and R3+ update	With R3+ update	With R3+ update	With R3+ update	With R3+ update
Path Traced Translucent materials	With RenderUp and R3+ update	With R3+ update	With R3+ update	With R3+ update	With R3+ update
Path Tracer support for 'Don't cast shadows' and 'Disable Indirect Lighting' material properties	With RenderUp and R3+ update	With R3+ update	With R3+ update	With R3+ update	With R3+ update
Path Traced Normal Mapping	With RenderUp and R4+ update	With R4+ update	With R4+ update	With R4+ update	With R4+ update
AVX optimizations for dramatic increase in rendering speed (requires an AVX compliant CPU)	-	-	-	-	Windows only
Advanced radiosity algorithms that dramatically reduce low frequency blotches	•	•	•	•	•
Generate high-quality indoor and outdoor renders	•	•	•	•	•
Bucket rendering for lower memory requirements and improved spatial coherence when rendering	•	•	•	•	•
Indirect lighting calculation can be easily re-used between "tweak" renders	•	•	•	•	•
Option to update the Indirect lighting "on demand" only	•	•	•	•	•
Illumination Caching compute indirect lighting only once for an entire animation	With RenderUp	•	•	•	•
Illumination Caching dynamically refines the indirect lighting solution	With RenderUp	•	•	•	•
One-click displacement mapping	•	•	•	•	•
Dynamic render-time displacement to handle extremely large "displaced" polygon counts	•	•	•	•	•
Optional dynamic geometry smoothing to avoid sharp polygonal edges	•	•	•	•	•
Automatic camera exposure option compensates for the strong variations in illumination between noon and sunset	•	•	•	•	•
Natural film response	•	•	•	•	•
Post-render exposure control	•	•	•	•	•
Manually adjustable shutter speed, film speed and f-number settings when rendering with Photometric lighting	•	•	•	•	•
Post-render Color Channel editor	-	-	-	-	•
Adjust color curves separately or altogether	-	-	-	-	•
Tone mapping options including Photographic Exposure, Linear Exposure, Reinhard and False color profiles	With RenderUp	•	•	•	•
Tone Mapping options allow customization of profiles from Post-render and Camera Option dialogs	With RenderUp	•	•	•	•
Automatic de-activation of Tone-Mapping when saving/exporting HDR pictures	With RenderUp and R3+ update	With R3+ update	With R3+ update	With R3+ update	With R3+ update

Use an image or animation as a backdrop for your renders	With KronosFX	With KronosFX	With KronosFX	•	•
Option to apply the effect of the atmosphere to the Camera Backdrop	-	-	-	-	•
Rendering Presets	Preview, final, superior – With RenderUp: OpenGL, broadcast, ultra, Path Tracer, user settings	OpenGL,Preview, final, broadcast,superior, ultra, Path Tracer, user settings	OpenGL,Preview, final, broadcast,superior, ultra, Path Tracer, user settings	OpenGL,Preview, final, broadcast,superior, ultra, Path Tracer, user settings	OpenGL,Preview, final, broadcast,superior, ultra, Path Tracer, user settings
Render size limitation	Full HD, with logo – With RenderUp: limited by memory only, without logo	Limited by memory only	Limited by memory only	Limited by memory only	Limited by memory only
HDTV render preset	•	•	•	•	•
Pictures larger than screen resolution can be rendered to screen	•	•	•	•	•
Custom render size	•	•	•	•	•
Option to lock custom aspect ratios when selecting render resolution	With RenderUp	•	•	•	•
Navigation inside the rendered picture using pan controls	•	•	•	•	•
Alpha and Z depth directly computed during the render process	•	•	•	•	•
Ray-traced depth of field	With RenderUp	•	•	•	•
Realistic Hybrid 2.5D depth of field	•	•	•	•	•
FastHybrid depth of field technology	•	•	•	•	•
FastHybrid depth of field technology allows hidden object become visible through the blur	•	•	•	•	•
Ray-traced [soft] shadows	•	•	•	•	•
Advanced soft shadow computation to produce perfectly smooth soft shadows	•	•	•	•	•
Ray-traced [blurry] reflections and refractions	•	•	•	•	•
Blurry reflection and refraction settings for each material independently	•	•	•	•	•
Fake [blurry] reflections using reflection maps	With RenderUp	•	•	•	•
AccuShadows shadow mapping technology for faster [soft] shadows	With LightTune	With LightTune	•	•	•
Multi pass rendering (separates renders into the different rendering components - shadow, diffuse, ambient, etc.)	-	-	-	-	•
Multi pass rendering components rendered in High Dynamic Range	-	-	-	-	•
Optimized handling of semi-transparent materials to prevent background color to bleed within object mask color data	-	-	-	-	With R4+ update
Create separate pictures for Diffuse, Specular, Shadows, Ambient, Refractions, Reflections, Background, Indirect Lighting, Post-process...	-	-	-	-	•

Per layer, per object or per material multi-pass masks (fully anti-aliased)	-	-	-	-	Color and alpha
Embed alpha channel for each mask pass (when the output format supports it)	-	-	-	-	With R4+ update
Velocity pass in rendering buffer	-	-	-	-	•
Create a separate color and alpha mask of clouds	-	-	-	-	•
Generate color and alpha masks for Global EcoSystem instances	-	-	-	-	•
Create layers for additional render information such as Z depth, object ID, material ID, global alpha mask, normal vectors...	-	-	-	-	•
Export all channels and masks into a convenient Photoshop PSD multi-channel, multi-mask file	-	-	-	-	•
Export multi-pass renders as a EXR 32 bit files with each pass stored in high dynamic range format.	-	-	-	-	•
EXR passes available in full floating point, 32-bit unsigned integer or 16-bit (half format) precision	-	-	-	-	•
World Point Position pass available in the multipass options	-	-	-	-	•
Apply the render exposure (which combines the camera exposure and the automatic exposure) to relevant multi-pass layers	-	-	-	-	•
Full support of G-Buffer compositing information	-	-	-	-	•
Store all anti-aliasing and rendering channel samples on separate G-Buffer layers	-	-	-	-	•
Render occluded objects (on a per object or global basis) to render hidden parts of the scene	-	-	-	-	•
Render export as RLA or RPF for advanced compositing options	-	-	-	-	•
Exclude ground from Alpha map option	With RenderUp	•	•	•	•
Objects can be easily hidden from render	With DeepAccess	With DeepAccess	•	•	•
Hide objects from render and disable lights by clicking their icon in World Browser	Optional	Optional	Optional	Optional	Optional
Hide objects from render through Python callbacks	-	-	-	-	•
Global and per-material reflection maps	With RenderUp	•	•	•	•
Rendering in unlimited color depth	•	•	•	•	•
Optional details in render information panel	With RenderUp	•	•	•	•
Panoramic rendering with adjustable rotation angle	•	•	•	•	•
Spherical panoramic rendering	With RenderUp	•	•	•	•
Multi-processor panoramic rendering	•	•	•	•	•
360 VR Panorama Render Option	With RenderUp and R2+ update	With R2+ update	With R2+ update	With R2+ update	With R2+ update

Automatic (optional) leveling of Camera when rendering a 360 VR Panorama	With RenderUp and R2+ update	With R2+ update	With R2+ update	With R2+ update	With R2+ update
360 VR Panorama automatically recognized by 360 compliant social platforms (e.g. Youtube or Facebook 360)	With RenderUp and R2+ update	With R2+ update	With R2+ update	With R2+ update	With R2+ update
Stereoscopic 360 VR Panoramas	With RenderUp and R4+ update	With R4+ update	With R4+ update	With R4+ update	With R4+ update
180 VR Panorama Render Option	With RenderUp and R4+ update	With R4+ update	With R4+ update	With R4+ update	With R4+ update
180 VR Panorama automatically recognized by 180 compliant social platforms (e.g. Youtube or Facebook 360)	With RenderUp and R4+ update	With R4+ update	With R4+ update	With R4+ update	With R4+ update
Stereoscopic 180 VR Panoramas	With RenderUp and R4+ update	With R4+ update	With R4+ update	With R4+ update	With R4+ update
Rendering in all views (including orthogonal rendering)	With RenderUp	•	•	•	•
Render in views can be set to a different quality than normal rendering	With RenderUp	•	•	•	•
Stand alone renderer handles rendering while you work on the scene	With RenderUp	•	•	•	•
Network rendering of animations	With HyperVue	With HyperVue	•	•	•
Network rendering of pictures	With HyperVue	With HyperVue	•	•	•
Rendering across hybrid network of computers (OS X and Windows)	With HyperVue	With HyperVue	•	•	•
Fail-safe HyperVue network rendering	With HyperVue	With HyperVue	•	•	•
Interactive Network Rendering	With HyperVue	With HyperVue	•	•	•
Advanced Caching technology to optimize responsiveness of network rendering	With HyperVue	With HyperVue	•	•	•
Number of render nodes (RenderCow) licenses included in product	5 with HyperVue	5 with HyperVue	5	5	5
Maximum number of render nodes	Up to 5 with HyperVue	Up to 5 with HyperVue	Up to 5	Up to 5	Unlimited (through RenderCow pack expansions)
SmartCow automatic node detection and activation	With HyperVue	With HyperVue	•	•	•
Hotplug render nodes to add/remove nodes during render	With HyperVue, on MacOS X and Windows	With HyperVue, on MacOS X and Windows	MacOS X and Windows	MacOS X and Windows	MacOS X and Windows
NewCow automatic updating of render nodes	With HyperVue	With HyperVue	•	•	•
Rendercows can be paused directly from the tray icon	With HyperVue	With HyperVue	•	•	•
Customizable command-line render launching sequence	-	-	-	-	•
RenderNode optional stand alone renderer for integration in large render farms	-	-	-	-	•
RenderCows can be configured to use any number of cores	-	-	-	-	•
Rendercow CPU affinity is automatically synchronized with the Windows task manager	With HyperVue	With HyperVue	•	•	•

Render area can be temporarily disabled	•	•	•	•	•
You can lock the render area to avoid accidental modifications	•	•	•	•	•
Render blow-up option	With RenderUp	•	•	•	•
Geometry anti-aliasing	•	•	•	•	•
User definable geometry anti-aliasing	With RenderUp: up to 64 rays/pixel	Up to 64 rays/pixel	Up to 64 rays/pixel	Up to 64 rays/pixel	Up to 1024 rays/pixel
HyperMipMap material anti-aliasing (including procedural materials)	With RenderUp	•	•	•	•
User definable anti-aliasing strategies to optimize speed vs. Smoothness	With RenderUp	•	•	•	•
Energy Conservative AntiAliasing	With RenderUp	•	•	•	•
GPU anti-aliasing accelerates AA of thin polygon meshes	-	-	-	-	•
Advanced render memory management algorithms to allow the rendering of very large images	With RenderUp	•	•	•	•
Post processing to adjust color, contrast, saturation, gamma...	•	•	•	•	•
Ability to load/save independent post-processing settings	•	•	•	•	•
Create custom render effects using user-defined python callbacks	-	-	-	-	•
Ability to resume an interrupted render	•	•	•	•	•
Generate detailed network rendering logs	-	-	-	-	•
Real-life camera aberrations (cushioning and barreling)	-	-	-	-	•
Abort rendering on mouse-click in render area	Optional	Optional	Optional	Optional	Optional
Easy-to-use camera mapping for retro projection of renders onto simplified geometry	-	-	-	-	•
The total amount of RAM allocated to displacement mapping is adjustable	With RenderUp	•	•	•	•
Images can be saved to disk at regular (user definable) intervals during render	With RenderUp	•	•	•	•
Dual destination render option (e.g. display to screen while rendering to disk)	With RenderUp	•	•	•	•
Generate detailed log files during network rendering	-	-	-	-	•
Generate render diagnosis buffers to optimize your renders and avoid bottlenecks	-	-	-	-	Optional
Display per-pixel render time, number of sub-rays, anti-aliasing samples, shadow rays, recursion, final gather samples, etc.	-	-	-	-	•
Render displacement on arbitrarily large terrains	•	•	•	•	•
Improved rendering of indirect lighting in preview mode	•	•	•	•	•

Automatic adjustment of render buckets to optimize rendering of small images on multi-core systems	•	•	•	•	•
Full input, output and display gamma control	-	-	-	-	•
Customize input gamma on a per-texture basis	Set input gamma to 1 or 2,2	Set input gamma to 1 or 2,2	Set input gamma to 1 or 2,2	Set input gamma to 1 or 2,2	•
Easily override default output gamma	-	-	-	-	•
Quick calibration tool to easily adjust the display gamma setting	-	-	-	-	•
Anti-aliased Z-depth buffer	With RenderUp	Optional	Optional	Optional	Optional
Accurate accounting of cloud radiosity in indirect illumination	•	•	•	•	•
Relighting technology allows real-time adjustment of lights after rendering	•	•	•	•	•
Adjust contribution of sunlight without re-rendering	•	•	•	•	•
Adjust contribution of the Atmosphere without re-rendering	•	•	•	•	•
Advanced adaptive precision computation for the rendering of skymaps	•	•	•	•	•
Render algorithms for thin translucent and backlit materials with realistic shadows	•	•	•	•	•
Advanced flicker reduction algorithms	•	•	•	•	•
Advanced shadowing algorithms help remove undesired shadow artifacts on terrains and meshes	•	•	•	•	•
Advanced bicubic interpolation algorithms produce smooth gradients	•	•	•	•	•
Efficient Pause and Resume Render options with the stand alone Batch Renderer	•	•	•	•	•
Optional addition of an information strip under the rendered picture	-	-	-	-	•
Frame labeling can display information such as scene file name, render time, author, etc...	-	-	-	-	•
Mixed materials alpha channel can be edited	•	•	•	•	•
Edge-based anti-aliasing to complement the previous color-based anti-aliasing scheme	With RenderUp	•	•	•	•
Edge-based anti-aliasing can be individually used and fine tuned using its Quality slider	With RenderUp	•	•	•	•
Dramatic changes in the structure of internal scene processing allows for faster rendering	Up to 30% faster compared to Vue 10	Up to 30% faster compared to Vue 10	Up to 30% faster compared to Vue 10	Up to 30% faster compared to Vue 10	Up to 30% faster compared to Vue 10
Improved statistical samples distribution allows for a quicker Depth of Field and Motion Blur computation	•	•	•	•	•
Physical Water shading engine	•	•	•	•	•
Set absorption and scattering parameters for body of water	•	•	•	•	•

Physical water shader produces photoreal underwater caustics	•	•	•	•	•
Underwater caustics focus can be adjusted to make them appear at maximum sharpness at specific depth	•	•	•	•	•
Easily create visible shafts for underwater lights	•	•	•	•	•
Physical transparency model that accurately reproduces how light interacts with particles of matter inside transparent materials	•	•	•	•	•
When rendering in radiosity, Vue warns you if there are luminous materials in the scene	•	•	•	•	•
Point lights can create dark shadows even in Environment Mapping mode.	•	•	•	•	•
Load a video or an image sequence to the environment map control in the Atmosphere editor.	•	•	•	•	•
Shadow parameters (cast shadows, receive shadows, only shadow, etc ...) can be controlled per-object.	With LightTune	With LightTune	•	•	•
Non Photo Realistic (NPR) presets	With RenderUp	•	•	•	•
Non Photo Realistic (NPR) full edition	With RenderUp and AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Vertical and Horizontal film offset	-	-	-	-	•
Deeper Dynamic Range when using Spectral Atmospheres for HDR rendering	With R3+ update	With R3+ update	With R3+ update	With R3+ update	With R3+ update
Set and get Color, Alpha and Depth channels saving locations through Python callbacks	-	-	-	-	With R3+ update

Materials	VUE Pioneer 2016	VUE Esprit 2016	VUE Studio 2016	VUE Complete 2016	VUE Infinite 2016
Material presets	Over 550	Over 550	Over 550	Over 550	Over 550
Level(s) of material Edition	3, 4 With AdvancedGraph	3, 4 With AdvancedGraph	3, 4 With AdvancedGraph	4	4
Basic material editor with possibility of importing images as textures and bump maps	•	•	•	•	•
Advanced procedural material creation/mixing	•	•	•	•	•
Advanced Material Editor	•	•	•	•	•
SmartGraph function Editor	•	•	•	•	•
Optimized Function Editor design improves efficiency while creating complex graphs	•	•	•	•	•
Function Editor can be displayed horizontally or using the old vertical design	•	•	•	•	•
Consistent unit system in Function Editor	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Function Editor displays real-world units	•	•	•	•	•
Option to reset material to default with each creation	•	•	•	•	•

Control all material parameters via function graphs	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Advanced SmartGraph input nodes: screen position, angle of incidence, distance to camera, distance on ray, depth in object, distance to object below, incident light angle, light direction, light color, reflected direction, etc	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Time dependent noises (including animated 'Open Ocean' water node)	With KronosFX	With KronosFX	With KronosFX	•	•
Math nodes in the Function Editor	48	48	48	48	48
Browse material hierarchy inside material editor, with direct access to sub-materials and layers	•	•	•	•	•
Sort Materials by names in the Material tab of the World Browser	With DeepAccess	With DeepAccess	•	•	•
Layered material system	•	•	•	•	•
Change material name and scale directly in the material editor when using layered materials	•	•	•	•	•
Add names and comments to SmartGraph nodes	•	•	•	•	•
Individual access to identical material zones	•	•	•	•	•
Change material settings for several materials simultaneously	•	•	•	•	•
Stack layers according to alpha, slope, altitude and orientation	•	•	•	•	•
Alpha (non refractive) transparency channel	•	•	•	•	•
Color and alpha map editor	•	•	•	•	•
Rendering of Poser characters using the Poser shading tree	With 3DImport	•	•	•	•
Perfect blending of lighting and GI with Poser shading tree	With 3DImport	•	•	•	•
Optional texture mip-mapping	•	•	•	•	•
Global control over the level of mip-mapping	With RenderUp	•	•	•	•
16 bit texture support	•	•	•	•	•
Materials can be mixed seamlessly	•	•	•	•	•
Mixed material can be set to react to environment properties (slope, altitude and orientation...)	•	•	•	•	•
Mixed materials can react to environment and alpha controls	•	•	•	•	•
Material mapping modes (World and Object mapping)	standard, cylindrical, spherical, parametric	standard, cylindrical, spherical, parametric	standard, cylindrical, spherical, parametric	standard, cylindrical, spherical, parametric	standard, cylindrical, spherical, parametric
Easy access to all materials in scene	•	•	•	•	•
Direct access to all materials inside multi-material objects	•	•	•	•	•
Direct access to all texture maps and imported objects	With DeepAccess	With DeepAccess	•	•	•
World Browser option to show only the materials of the selected objects	With DeepAccess	With DeepAccess	•	•	•
World Browser option to show only the materials names	With DeepAccess	With DeepAccess	•	•	•

World Browser option to hide materials of EcoSystem Specimens	With DeepAccess	With DeepAccess	•	•	•
Rotoscoping (Use animations as texture maps)	With KronosFX	With KronosFX	With KronosFX	•	•
Forbid animation option in Material Editor	With KronosFX	With KronosFX	With KronosFX	•	•
Detailed function output observer	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Detailed node previews in function editor	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Baking of procedural materials as texture maps	With Exporter	With Exporter	With Exporter	•	•
Adjustable maximum ray depth and Total Internal Reflections	With RenderUp	•	•	•	•
Anti-aliasing can be disabled for given materials	•	•	•	•	•
Receive shadows material option	•	•	•	•	•
Shadow only material option	With RenderUp	•	•	•	•
Backlight option (for one-sided materials only) for realistic backlighting of opaque materials	•	•	•	•	•
Mixed/Layered materials displayed as hierarchies in World Browser	With DeepAccess	With DeepAccess	•	•	•
Material layers can be hidden/shown directly from the World Browser	With DeepAccess	With DeepAccess	•	•	•
Volumetric materials	•	•	•	•	•
Volumetric materials with internal volumetric color and shading	•	•	•	•	•
Hypertextures	•	•	•	•	•
Luminous and Glowing materials	•	•	•	•	•
Easy highlighting of sub-materials and layers to visualize the influence of each material in the final render	•	•	•	•	•
Ability to map textures only once, controllable independently for each axis	•	•	•	•	•
Control materials based on the properties of other objects	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Highly realistic natural material effects thanks to dedicated noise and coloring nodes	•	•	•	•	•
Easily control bump or displacement amplitude based on slope	•	•	•	•	•
Option to re-evaluate contribution of materials based on displaced surfaces	•	•	•	•	•
"Foam" output in Open Ocean node to easily control the distribution of foam on water surfaces	•	•	•	•	•
Separate bump and displacement channels	•	•	•	•	•
Constrained displacement (horizontal, vertical, etc)	•	•	•	•	•
Ability to control the direction of displacement through the material graph	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Displacement smoothing to eliminate noisy displacement artifacts	•	•	•	•	•
Normal mapping	•	•	•	•	•
Recursive strata and constrained strata filters for stratified effects	•	•	•	•	•

Direct access to the alpha channel in the Advanced Material editor	•	•	•	•	•
Per material texture anti-aliasing quality boost	•	•	•	•	•
Per material simplification of sub-ray effect calculation	•	•	•	•	•
Planetary mapping node with ability to set location of origin (latitude and longitude)	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Material mapping can be absolute, relative to sea, by object or by material	•	•	•	•	•
Sea level input node in graphs	•	•	•	•	•
External dependency inputs can provide dimensions in real-world units	•	•	•	•	•
Multi-materials let you change all the materials of an object in one single operation	•	•	•	•	•
Drag-drop and copy-paste multi-materials between objects	•	•	•	•	•
Move groups of keypoints in the color map and filter editors	•	•	•	•	•
Invert entire color maps or filters	•	•	•	•	•
Copy paste keypoints in color maps or filters	•	•	•	•	•
Control the hue, saturation and brightness of entire color maps or groups of keypoints	•	•	•	•	•
Improved HLS node that outputs steamlined data with other image editing applications	•	•	•	•	•
Assign colors to graph nodes for improved readability	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Mixed materials can be used as layers	•	•	•	•	•
Button to randomize material fractals	•	•	•	•	•
Altitude node produces altitudes in the range of -1 to 1 on each object	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Material Editor displays real-world units	•	•	•	•	•
Interactive texture placement tool that allows the accurate positioning of textures onto objects	•	•	•	•	•
Interactive texture placement tool allows scaling and rotation of textures maps onto objects	•	•	•	•	•
Right-Clicking on the EcoSystem list allows access to the materials used by the species	With DeepAccess	With DeepAccess	•	•	•
Ability to create matte shadow materials	-	-	-	-	•
Ability to create reflection materials	-	-	-	-	•
Matte Shadow and Reflection materials generate all necessary information for compositing of shadows and reflections on real world footage	-	-	-	-	•
Materials can be made visible only to primary and shadow Rays (i.e. no reflections/refractions)	-	-	-	-	•
Altitude node handles Object height unit	•	•	•	•	•
Select the mapping mode for all Projected Texture Maps independantly from general material mapping mode	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•

Select the mapping mode for Projected Animation Map nodes independantly from general material mapping mode	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Improved mapping of materials in world and parametric coordinates and in OpenGL preview	•	•	•	•	•
Bake the environment mapping result into a material layer of the Terrain Editor, to touch it up using the painting brushes	•	•	•	•	•
Control the strength of normal maps	•	•	•	•	•
Dynamic rock templates contain unique, parametrically defined materials that are completely user controllable	•	•	•	•	•
Easily adjustable Color, bump, highlights, and EcoSystem variations in Parametric Rock materials	•	•	•	•	•
Rock convexity material node allows for precise customization of the rock based on its inherent geometry	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Image combiner node allows to combine several projected texture maps	•	•	•	•	•
New Image Sampler and Multi-Image Sampler nodes	•	•	•	•	•
Terrain Color Pattern node produces smooth and rough variation of colors similar to the distribution of rocks on a sedimentary soil.	•	•	•	•	•
Material layers can be shared throughout the scene	•	•	•	•	•
Shared materials can be easily associated to any other material in the scene to easily create global effects such as a layer of snow	•	•	•	•	•
Modifications applied to a shared material layer are automatically carried over to all materials that share this layer	•	•	•	•	•
Switching Material layers keeps the original environment settings	•	•	•	•	•
Natural Grain color production mode automatically produces realistic color variations for terrains, ground and other natural elements of the scene	•	•	•	•	•
Access more Natural Grain parameters from the Color Production output in the Function Editor	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Set Reflective Materials to be more or less sensitive to the light's angle of incidence (e.g. to create metallic car paint)	•	•	•	•	•
Render thin, one-sided surfaces (e.g. window glass), with reflectivity depending on the viewing angle BUT without refraction	•	•	•	•	•
Double-sided materials let you define two different materials: one per side of each face	•	•	•	•	•
Set the minimal reflectivity of a material at a given viewing angle	•	•	•	•	•
Grouped Materials allow you to store many materials (layers) in one single material file	•	•	•	•	•

Add global alpha and environment properties to Grouped Materials	•	•	•	•	•
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Animation	VUE Pioneer 2016	VUE Esprit 2016	VUE Studio 2016	VUE Complete 2016	VUE Infinite 2016
Animation output resolution	Limited to 720 pixels wide, 1920 With KronosFX	Limited to 720 pixels wide, 1920 With KronosFX	Limited to 720 pixels wide, 1920 With KronosFX	Limited to 1920 pixels wide	Limited by memory only
Camera animation	•	•	•	•	•
Animate objects, materials, atmospheres, clouds, waves...	•	•	•	•	•
Import animated Poser characters	With 3DImport	•	•	•	•
Intuitive Animation wizard for easy animation setup	•	•	•	•	•
OpenGL rendering of animations for quick proofing	With KronosFX	With KronosFX	With KronosFX	•	•
Dynamic Motion Reaction™ easy secondary movement setup	•	•	•	•	•
Option to ignore time spline when computing motion (e.g. to look forward even when moving back)	•	•	•	•	•
Customizable Dynamic Motion Reaction effects	•	•	•	•	•
Easy setup of cloud movement using direction and speed of movement controls	•	•	•	•	•
Rigged Mesh support	•	•	•	•	•
Control animation phase on pre-animated mesh EcoSystems through the function graph	With EcoSystem and KronosFX	With EcoSystem and KronosFX	With KronosFX	•	•
Full support for Inverse Kinematics	•	•	•	•	•
Animated post-processing effects	•	•	•	•	•
Camera switcher lets you switch cameras during render (ideal for storyboarding)	•	•	•	•	•
Spin and vibration effects	•	•	•	•	•
Twinkling stars	•	•	•	•	•
Automatic synchronization of cameras and lights	-	-	-	-	With 3DS Max, Cinema 4D, Maya, LightWave & Softimage XSI
Synchronization data incorporated into scene for easy retrieval	-	-	-	-	•
Save synchronization data to file for manual loading into Vue	-	-	-	-	•
Animation export as AfterEffects	-	-	-	-	•
Import motion tracking information	-	-	-	-	•
Dynamic Motion blur anti-aliasing reduction	-	-	-	-	•
Timeline with animation preview	•	•	•	•	•
Easily change the duration of an entire animation	With KronosFX	With KronosFX	With KronosFX	•	•
Allow clipping of time slider to animation duration	With KronosFX	With KronosFX	With KronosFX	•	•
Animation properties in the Timeline	•	•	•	•	•
Spline time control	•	•	•	•	•

Field interlacing, non-square pixels, flicker reduction	With KronosFX	With KronosFX	With KronosFX	•	•
Enhanced time spline editor	With KronosFX	With KronosFX	With KronosFX	•	•
Indirect lighting evaluation mode that reduces pulsation effects	With RenderUp	•	•	•	•
Automatic keyframe creation	•	•	•	•	•
Auto-keyframing can be disabled	With KronosFX	With KronosFX	With KronosFX	•	•
Copy-pasting of animation keyframes	With KronosFX	With KronosFX	With KronosFX	•	•
Keyframes can be created for single properties only	With KronosFX	With KronosFX	With KronosFX	•	•
Ability to add property keyframes by double-clicking in the property timeline	With KronosFX	With KronosFX	With KronosFX	•	•
Ability to add property keyframes by double-clicking in the animation curves	With KronosFX	With KronosFX	With KronosFX	•	•
Graph display of animated parameter values in Timeline	With KronosFX	With KronosFX	With KronosFX	•	•
Accurate control over tangents and tension of animated parameters curves	With KronosFX	With KronosFX	With KronosFX	•	•
High precision animation curve control	With KronosFX	With KronosFX	With KronosFX	•	•
Access to individual coordinates in animation graph	With KronosFX	With KronosFX	With KronosFX	•	•
Step, linear and smooth interpolation modes	With KronosFX	With KronosFX	With KronosFX	•	•
Automatic ease-in/ease-out keyframe option	With KronosFX	With KronosFX	With KronosFX	•	•
Animate rotation using quaternions or Euler angles	With KronosFX	With KronosFX	With KronosFX	•	•
Action safe and title safe frames and field grids (user configurable)	-	-	-	-	•
Motion-blur on animated mesh deformations	-	-	-	-	•
Fast Hybrid 2.5D™ motion blur	•	•	•	•	•
Accurate dithered motion blur	-	-	-	-	•
Adjustable and animatable amount of motion blur	-	-	-	-	•
Separate animation channel for camera exposure	•	•	•	•	•
Automatic simulation of breeze on plants	With Zephyr	With Zephyr	With Zephyr	•	•
Strong wind effects defined on individual plants or groups of plants	With Zephyr	With Zephyr	With Zephyr	•	•
Advanced breeze customization with OpenGL preview	With Zephyr	With Zephyr	With Zephyr	•	•
Animated wind intensity and direction	With Zephyr	With Zephyr	With Zephyr	•	•
Omni and directional ventilators for local modifications of plants	With Zephyr	With Zephyr	With Zephyr	•	•
Ventilators can be made to influence EcoSystems	With Zephyr	With Zephyr	With Zephyr	•	•
Plant geometry key framing for spectacular animated life cycles	With Botanica	With Botanica	•	•	•
Ability to mark objects as never becoming animated	With KronosFX	With KronosFX	With KronosFX	•	•
Object linking and tracking - forward dynamics	•	•	•	•	•
"Scene graph" approach allows advanced relationships between objects	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•

Access and control object properties using SmartGraph	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Save and reload entire object graphs in a single file	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Object graphs can express dimensions in real-world units	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Object graph parameters can be published for access at top interface level	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Direct access to published object graph parameters at top interface level	•	•	•	•	•
Published object graph parameters can be animated directly in the TimeLine	•	•	•	•	•
Option to show materials in the Timeline	With KronosFX	With KronosFX	With KronosFX	•	•
Published material parameters can be animated directly in the TimeLine	•	•	•	•	•
Loose forward dynamics for "real world" linking and tracking	•	•	•	•	•
"PID" and "Delay" controllers in SmartGraph for improved realism in object interactions	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Option to output temporary images when network rendering an animation as independent frames	-	-	-	-	•
Optional display of time code on frames (on a separate layer when rendering as multi-pass)	-	-	-	-	•
Automatically hide time code when rendering to final or better	-	-	-	-	•
Option to disable or customize padding of frame files	-	-	-	-	•
Time display as	SMPTE - KronosFX adds frame # and time	SMPTE - KronosFX adds frame # and time	SMPTE - KronosFX adds frame # and time	SMPTE, frame #, time	SMPTE, frame #, time
Optional automatic illumination baking of meshes	-	-	-	-	•
Motion blur on tree deformation	-	-	-	-	•
Separate animation range and render range	-	-	-	-	•
EcoSystem populations can be made to evolve over time	With EcoSystem	With EcoSystem	•	•	•
Create custom rigged mesh animations	•	•	•	•	•
Animate cloud layers using the standard animation tools	•	•	•	•	•
All cloud material settings can be animated in the Material editor (density, cloud modulation, etc...)	•	•	•	•	•
Control animation phase on EcoSystems made of any kind of animated objects	With EcoSystem and KronosFX	With EcoSystem and KronosFX	With KronosFX	•	•
Compatible with MDD animated file format	-	-	-	-	•
Refreshing of MDD Geometry can be disabled to avoid slowdowns while scrubbing through the animation	-	-	-	-	•
Manage object animation functions through Python Callbacks	-	-	-	-	•

User Interface	VUE Pioneer 2016	VUE Esprit 2016	VUE Studio 2016	VUE Complete 2016	VUE Infinite 2016
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Group/Ungroup related dialogs together to save space and customize your interface at will	-	-	-	-	•
Automatically re-open grouped/tabbed subdialogs when re-opening master dialogs (Terrain Editor, Material Editor, Function Graph ...)	-	-	-	-	•
Function Editor and Terrain Editor sub-parts can be re-organized	-	-	-	-	•
World Browser and Object Properties tabs can be re-organized	-	-	-	-	•
Use up to 16 viewports	-	-	-	-	With R2+ update
Fully dockable user interface allows you to create the workspace that best suits your workflow	-	-	-	-	•
Totally redesigned content browser	•	•	•	•	•
Search content in your collection using the search tool	•	•	•	•	•
Productive, uncluttered interface layout	•	•	•	•	•
Neutral interface with stylized design	•	•	•	•	•
Customizable interface colors via presets	•	•	•	•	•
Fully customizable interface colors	-	-	-	-	•
Automatic adjustment of interface shortcuts and colors to mimic other 3D applications in your toolkit	-	-	-	-	•
Updated navigation shortcut to recent other 3D applications	-	-	-	-	•
Adjustable panning, rotation, etc shortcuts in editors	-	-	-	-	•
Re-posing of Poser meshes directly inside Vue	With 3DImport	•	•	•	•
Direct re-posing of rigged meshes	•	•	•	•	•
Access polygon mesh options for Rigged meshes	•	•	•	•	•
Rig mesh reposing can use Inverse Kinematics solver	•	•	•	•	•
Support for mesh morphs	•	•	•	•	•
Select and manipulate bones directly in views	•	•	•	•	•
Manipulate bones numerically using the Skeleton editor	•	•	•	•	•
Support for wired helpers	•	•	•	•	•
Highly optimized mesh skinning for fast refresh during animation scrubbing	•	•	•	•	•
Efficient memory management: multiple instances of identical objects are stored only once in memory	•	•	•	•	•
Automatic object instantiation	•	•	•	•	•
Interactive alignment tool	•	•	•	•	•
Accurate alignment and drop operations	•	•	•	•	•
Quick color selection tool with customizable color presets	•	•	•	•	•
Improved low saturated colors in the Color Selector for more natural colors	•	•	•	•	•
Custom previews can be used to represent saved items	•	•	•	•	•
Perspective camera view	-	-	-	-	•

Frame selected objects menu command can be applied to the perspective camera	-	-	-	-	•
Duplicate the Perspective camera to a new camera object through a command in the Display menu	-	-	-	-	•
Secure Active Camera option lets you change point of view without affecting the render camera	-	-	-	-	•
Easily set the render camera to match the perspective view using the Copy to Camera option in the Perspective View and Camera Control Center	-	-	-	-	•
Easily switch back and forth between Main Camera and Perspective views	-	-	-	-	•
Add Camera menu option in the Objects menu	•	•	•	•	•
Drag items (e.g. objects, materials...) into your scene from the non-modal browsers	•	•	•	•	•
Unified light editor	•	•	•	•	•
Place an image in the background of the OpenGL views for reference	•	•	•	•	•
Change axis conventions	-	-	-	-	•
Change order of rotations	-	-	-	-	•
Change the size of the animation preview in the Timeline	With KronosFX	With KronosFX	With KronosFX	•	•
Merge scenes	•	•	•	•	•
Repeat last operation to create an array (extend or subdivide)	•	•	•	•	•
Alt + move object creates a copy of the object	•	•	•	•	•
Customizable view navigation shortcuts	-	-	-	-	•
Gizmo object manipulators (optional)	•	•	•	•	•
Adjustable gizmo size	•	•	•	•	•
Spherical abstraction gizmos	•	•	•	•	•
Dynamic spherical terrain unwrapping allows easy object placement	•	•	•	•	•
Local, global, camera and parent manipulation modes	•	•	•	•	•
Multiple object renaming	•	•	•	•	•
View option menu commands with optional shortcuts	-	-	-	-	•
Gizmo option menu commands with optional shortcuts	-	-	-	-	•
Animation option menu commands with optional shortcuts	-	-	-	-	•
Quick Render option menu commands with optional shortcuts	-	-	-	-	•
Fully multi-threaded interface for fast response	•	•	•	•	•
One view/4 view layout	•	•	•	•	•
Real-time scene preview	•	•	•	•	•
Multi-threaded Render Scene Preview, uses the same render engine as the main renderer for faster and more precise previews	•	•	•	•	•
World Browser scene management	•	•	•	•	•

Internal optimization in the World Browser allows massive performance gain for large scenes containing hundreds of materials	With DeepAccess	With DeepAccess	•	•	•
Organize objects in layers	8 layers max/ unlimited with DeepAccess	8 layers max/ unlimited with DeepAccess	Unlimited layers	Unlimited layers	Unlimited layers
Enhanced World Browser with direct access to materials, texture maps and imported objects for efficient management of complex projects	With DeepAccess	With DeepAccess	•	•	•
Display material hierarchies with direct access to sub-materials	With DeepAccess	With DeepAccess	•	•	•
Easy replacement of textures throughout the entire scene	With DeepAccess	With DeepAccess	•	•	•
Library tab in World Browser shows all objects used several times	With DeepAccess	With DeepAccess	•	•	•
Easily modify all instances of a reference object using the Library tab	With DeepAccess	With DeepAccess	•	•	•
Scatter-replicate tool	•	•	•	•	•
Scatter replicate tool creates variations of plants, terrains, rocks...	•	•	•	•	•
Replication tool with configurable position/size/orientation offset	•	•	•	•	•
Random scattering and replication of objects	•	•	•	•	•
Automatic instantiation of scattered/replicated objects	•	•	•	•	•
Optimized Extrapolation/Interpolation commands by creating references instead of hard copies	•	•	•	•	•
Summary of materials to quickly access all materials in the scene	•	•	•	•	•
Resizable material summary	•	•	•	•	•
Material Summary shows all materials on several rows	•	•	•	•	•
Material previews can be resized in the Material Summary	•	•	•	•	•
Drop button to easily set objects on the surface of underlying objects	•	•	•	•	•
Smart drop rests the dropped object on the surface of the underlying object	•	•	•	•	•
Undo-Redo	Three operations – With DeepAccess: multiple undo-redo on 64bit OS	Three operations – With DeepAccess: multiple undo-redo	Multiple undo-redo	Multiple undo-redo	Multiple undo-redo
Centralized Undo-Redo include editor-specific operations	•	•	•	•	•
Ability to reorganize the view panes	-	-	-	-	•
Resizable viewports	•	•	•	•	•
Dockable Timeline	•	•	•	•	•
Access to all G-Buffer channels and layers in interface	-	-	-	-	•
Save individual G-Buffer channels directly from the interface	-	-	-	-	•
Access to all render passes and masks	-	-	-	-	•

Access to vertical and horizontal camera fields of view	-	-	-	-	•
Trackball-type camera operations and advanced camera management grouped into Camera Control Center	•	•	•	•	•
Split Camera Control Panel: Scene preview and Camera Controls	•	•	•	•	•
Dock each part of the Camera Control Panel independantly	-	-	-	-	•
Each camera possesses a target object for easier aiming and setting of focus point	•	•	•	•	•
Camera targets can be linked to other objects in the scene (e.g. to automatically keep that object in focus)	•	•	•	•	•
All cameras can appear on screen	With DeepAccess	With DeepAccess	•	•	•
Camera group manager in World Browser	With DeepAccess	With DeepAccess	•	•	•
Resizable World Browser and Scene Preview	With DeepAccess	With DeepAccess	•	•	•
Sort objects by size, name or type	With DeepAccess	With DeepAccess	•	•	•
Lock or hide entire layers	•	•	•	•	•
Lock or hide entire layers from the World Browser or from a menu command	With DeepAccess	With DeepAccess	•	•	•
Lock or hide independent objects in the World Browser	With DeepAccess	With DeepAccess	•	•	•
Python scripting	-	-	-	-	•
Run Cornucopia3D third party Python scripts	•	•	•	•	•
Compatible with Python version	2.7	2.7	2.7	2.7	2.7
Directly access frequently used scripts	•	•	•	•	•
Python console for direct input of Python commands	-	-	-	-	•
Python functions to add, modify and remove EcoSystem instances	-	-	-	-	•
Python nodes that can execute Python code inside graphs, with user definable inputs and outputs	-	-	-	-	•
Picture printing with user definable DPI resolution	•	•	•	•	•
User-definable startup scene	-	-	-	-	•
Welcome dialog	•	•	•	•	•
Consistent Real-world unit system throughout the entire application (Material Editor, Terrain Editor, Function Editor...)	•	•	•	•	•
Real units for object sizes	•	•	•	•	•
Display measurements as real-world units (metric or Imperial)	•	•	•	•	•
Coherent display of real-world units	•	•	•	•	•
Set internal units to change the overall scale of scenes	-	-	-	-	•
Centered or relative to opposite corner object resizing	•	•	•	•	•
Mesh splitting by material	•	•	•	•	•
Object decimation for faster scene setup	-	-	-	-	•

Spotlight view through for accurate aiming (OpenGL only)	With LightTune	With LightTune	•	•	•
Full-screen mode	With DeepAccess	With DeepAccess	•	•	•
List of default folders when searching for texture maps	-	-	-	-	•
Option to recursively search for texture maps in texture folders	-	-	-	-	•
Optional independent panning and zooming of views	-	-	-	-	•
Non-modal object editors	•	•	•	•	•
Objects can be locked or hidden individually in OpenGL views	•	•	•	•	•
Baking of objects to polygons (including Boolean operations)	-	-	-	-	•
Incorporation of texture maps in scenes	•	•	•	•	•
User-definable keyboard shortcuts	-	-	-	-	•
Use the "Windows" keyboard keys for shortcuts	-	-	-	-	•
Use the "Command" and "Control" keyboard keys on MacOS for triggers and shortcuts	-	-	-	-	•
Emulate right button click through "Control+LMB" shortcut	-	-	-	-	•
"Only show active layer" preview option	•	•	•	•	•
Object replacement by other objects	With DeepAccess	With DeepAccess	•	•	•
When replacing plants, use the geometry of the replaced plants to generate the new plants	With DeepAccess	With DeepAccess	•	•	•
Automatic detection and creation of new browser collections	•	•	•	•	•
Ability to lock browser collections to avoid accidental modifications	•	•	•	•	•
Cloud layers can be easily hidden/restored	With DeepAccess	With DeepAccess	•	•	•
Linear and angular snapping grids when moving and rotating objects	•	•	•	•	•
Customizable linear and angular grid snapping when moving and rotating objects	-	-	-	-	•
Multiple scene file backup tool	-	-	-	-	•
Macro recording and playback to automate repetitive tasks	-	-	-	-	•
Easily access frequently used macros using Macro QuickLaunch dialog	-	-	-	-	•
Easily access recently created macros	-	-	-	-	•
Content files accessible from all system accounts	•	•	•	•	•
Easily change the location of your content folder after installation	•	•	•	•	•
Rename individual render passes (e.g. "Maple Tree 527" -> "Hero Tree")	-	-	-	-	•
Disable/bypass Visual Browsers completely (e.g. when browsing images)	•	•	•	•	•
Intelligent re-titling of files when saving under new filename	•	•	•	•	•
Use preset MetaNodes to easily assemble elaborate SmartGraph graphs	•	•	•	•	•

Group parts of SmartGraph graphs as MetaNodes	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
"Publish" specific MetaNode parameters for easy access from the level above	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Build your own MetaNodes library of commonly used graph snippets	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Create custom interfaces by publishing function graph parameters	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Control published function graph parameters at top interface level	•	•	•	•	•
Ability to fix the altitude of the camera above the ground	•	•	•	•	•
Freeze all camera attributes (including animation key frames)	With DeepAccess	With DeepAccess	•	•	•
Press "Ctrl" to slow down the controls in the Camera Control Center	•	•	•	•	•
Dedicated water editor to easily create and adjust infinite water planes	•	•	•	•	•
Go from still to stormy waters with a single slider	•	•	•	•	•
Easily add true displacement to the water surface	•	•	•	•	•
Customize the look of water surfaces using the MetaWater materials	•	•	•	•	•
Run several instances of Vue simultaneously	-	-	-	-	•
Support for 3Dconnexion tracking devices (SpaceNavigator, SpaceExplorer, etc)	With DeepAccess	With DeepAccess	•	•	•
Automatic renaming of Standalone- and HyperVue-generated frames if overwriting	With HyperVue	With HyperVue	•	•	•
Automatic renaming of RenderNode-generated frames if overwriting	-	-	-	-	•
Global EcoSystem visible as proxy object in World Browser	With EcoPainter	With EcoPainter	With EcoPainter	•	•
Select and delete Global EcoSystem instances with one click	With EcoPainter	With EcoPainter	With EcoPainter	•	•
Format specific options accessible through a special button in Save file box, and no longer prompted for each time	•	•	•	•	•
Adjustable separator in Timeline to change width of animated items list	•	•	•	•	•
Material preview option which displays materials mapped onto a small terrain object	•	•	•	•	•
Name of atmosphere appears in Atmosphere editor caption	•	•	•	•	•
Name of edited function appears in Function editor caption	•	•	•	•	•
Visual motion browser lets you select rig poses or animations visually	•	•	•	•	•
Preview motions/poses before applying them	•	•	•	•	•
Typical motions directly accessible from skeleton rig editor	•	•	•	•	•
Customizable camera altitude locking (above terrains, above other objects, etc)	•	•	•	•	•

Default views are automatically adjusted according to internal units	•	•	•	•	•
Automatic Smart-Saving technology that saves your scene in the background	•	•	•	•	•
User defined Auto-Save time intervals	•	•	•	•	•
Auto saved backup files are accessible directly through the application menu	•	•	•	•	•
Push-button scene snapshot technology	•	•	•	•	•
Scene snapshots are no longer deleted automatically when the maximum number of auto-saved files is reached	•	•	•	•	•
User-triggered scene snapshots are differentiated from Vue's AutoSave file in the "Revert to Snapshot" menu	•	•	•	•	•
Set VUE to automatically create a Scene Snapshot after each render	•	•	•	•	•
Scene snapshot preview in OS browser is automatically created after the render	•	•	•	•	•
Non destructive texture resizing in the Link tab of the World Browser	With DeepAccess	With DeepAccess	•	•	•
Option to restore full size version of downsampled images	With DeepAccess	With DeepAccess	•	•	•
Option to dump all texture maps to a specific folder	-	-	-	-	•
Double-click texture map in World Browser to view at full resolution (using external viewer)	With DeepAccess	With DeepAccess	•	•	•
Choose a specific external image viewer from the Operations tab of the Options dialog.	With DeepAccess	With DeepAccess	•	•	•
Missing textures are identified as broken links	With DeepAccess	With DeepAccess	•	•	•
Automatic range adaptation in Function Graph	•	•	•	•	•
Slopes can be expressed in the -180°;180° range	•	•	•	•	•
Manually adjustable EcoSystem population threshold before triggering a warning	With EcoSystem	With EcoSystem	•	•	•
Freely move layers up and down in the World Browser (even if they are closed)	•	•	•	•	•
Edit fields automatically expand to accomodate large numbers when editing	•	•	•	•	•
Edit fields display rounded values (but retain original values)	•	•	•	•	•
Ruler indicating the scale in each viewport	•	•	•	•	•
Ability to orbit and pan the camera simultaneously	•	•	•	•	•
When nothing is selected in the scene, orbiting is done around the object in front of the camera	•	•	•	•	•
Brush picture is visible when painting with a pinned mask in Terrain Editor	•	•	•	•	•
Move Infinite terrains using the manipulation gizmos	•	•	•	•	•
Import settings are preserved when importing multiple objects of the same type	With 3DImport	•	•	•	•

"From main View" aspect ratio in render options to render to screen using the same aspect ratio as the main view	With RenderUp	•	•	•	•
Select the slot into which a material snapshot will be saved	With DeepAccess	With DeepAccess	•	•	•
The scatter/replicate dialog now remembers previously entered parameters, which can easily be restored	•	•	•	•	•
Save a render area as a full sized image, so that it can be easily overlaid in post	-	-	-	-	•
Render area include alpha info if the format permits	-	-	-	-	•
The aspect ratio can now be set on a per camera basis inside a single Vue scene	With RenderUp	•	•	•	•
When changing the aspect ration in an animated scene that contains cameras with various aspect rations, Vue will offer to automatically switch all cameras used in the animation to the new aspect ratio	With RenderUp	•	•	•	•
EcoPainter dialog can now be folded to a more compact version	With EcoPainter	With EcoPainter	With EcoPainter	•	•
Optimize EcoPainter dialog display using unfoldable sections	With EcoPainter	With EcoPainter	With EcoPainter	•	•
Resize the EcoPainter Dialog	With EcoPainter	With EcoPainter	With EcoPainter	•	•
Easily replace any texture file with another file simply by renaming the filename in Library tab of the World Browser	-	-	-	-	•
The RenderCow dialog shows the IP address it is using in the About menu	With HyperVue	With HyperVue	•	•	•
Change the priority of pending batch rendering tasks	-	-	-	-	•
Drag and drop bitmaps directly into the 4 views and in the material editor	•	•	•	•	•
Object preview identifies pre-animated meshes by displaying a corresponding icon	•	•	•	•	•
Render Stack with comparison tools	With DeepAccess	With DeepAccess	•	•	•
Resize the Render Stack to fit the selected render	•	•	•	•	•
Render Stack can be set to store in a global or per-scene stack	With DeepAccess	With DeepAccess	•	•	•
Stacking of your renders is done automatically or on demand	•	•	•	•	•
Stacked renders are stored with alpha, depth, relighting and diagnosis passes	With DeepAccess	With DeepAccess	•	•	•
Stacked renders are stored with G-Buffer and Multi-pass passes	-	-	-	-	•
The size of the stack on your hard drive is fully controllable	•	•	•	•	•
Interactively pan and zoom in and out of the render in the render display dialog- even as it is being computed	•	•	•	•	•
Easily compare different versions of a render using the render comparison tool	With DeepAccess	With DeepAccess	•	•	•
It is possible to Zoom in and out while comparing two renders	With DeepAccess	With DeepAccess	•	•	•

Difference tool to show differences between 2 renders	With DeepAccess	With DeepAccess	•	•	•
Difference Boost tool to dynamically exaggerate differences	With DeepAccess	With DeepAccess	•	•	•
Ability to create Lightweight Clones of your renders to compare different post-processing options	With DeepAccess	With DeepAccess	•	•	•
Cloning process only duplicates all post-processing options (including Relighting information) while remaining non destructive for other buffers	With DeepAccess	With DeepAccess	•	•	•
Each render in the stack can be removed individually	•	•	•	•	•
The Automatic stacking of renders can be optionally disabled when rendering an area	•	•	•	•	•
The Automatic stacking of renders can be optionally disabled when rendering in preview mode.	•	•	•	•	•
Merge Render Areas in a final render directly from the Render Stack	-	-	-	-	•
Apply previous camera settings to the current camera from the Render Stack	With DeepAccess	With DeepAccess	•	•	•
Flip renders horizontally within the Render Stack to evaluate composition and other aspects of your renders	With DeepAccess	With DeepAccess	•	•	•
Easily name renders in the Render Stack	With DeepAccess	With DeepAccess	•	•	•
Move the render display dialog while Vue is rendering	•	•	•	•	•
Replace multiple objects simultaneously	•	•	•	•	•
Drag-drop objects into a scene drops the object at the position of the mouse cursor	•	•	•	•	•
Copy/cut/paste/delete cameras like other objects, through the world browser	•	•	•	•	•
Set shortcuts to move the camera along the horizontal or vertical axis in the OpenGL view, when using Main camera view	-	-	-	-	•
Set shortcuts to move the camera along the horizontal or vertical axis in the OpenGL view, when using Perspective view	-	-	-	-	•
Save/reload camera as .Vob files	•	•	•	•	•
Enable or disable dialogs to popup or set callbacks with dedicated Python functions	-	-	-	-	•
Set physical position of sun in sky according to date, time and location on Earth	•	•	•	•	•
Select location on Earth using list of predefined cities, by latitude/longitude or simply by pin-pointing the location on a map	•	•	•	•	•
Menu items show icons or thumbnails for better clarity	•	•	•	•	•
Easily identify Recent scenes and Snapshots (manual or auto-saved) using thumbnails directly in the menu	•	•	•	•	•

Colored axis coordinate (X,Y,Z) input fields helps you to immediately visualize the directions of the coordinates of the selected object	•	•	•	•	•
Improved display of Material Editor Tabs to directly show which channels are used	•	•	•	•	•
Easier access and edition of multi-material thanks to sub-menu hierarchy display.	With R2+ update	With R2+ update	With R2+ update	With R2+ update	With R2+ update
Edit multiple nodes in the Function Editor in one go	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Interactive slider changes option affects the mouse wheel for more dynamic visual display of your modifications in real-time.	With R2+ update	With R2+ update	With R2+ update	With R2+ update	With R2+ update
Compatible with HiDPI screens	•	•	•	•	•
Improved 4K/HiDPI display compatibility	With R4+ update	With R4+ update	With R4+ update	With R4+ update	With R4+ update
Scenes and assets thumbnail previews in Windows Explorer	•	•	•	•	•
Major performance/responsiveness /stability improvements	With R3+ update	With R3+ update	With R3+ update	With R3+ update	With R3+ update
Higher quality display in Render Scene preview for soft shadows	With R3+ update	With R3+ update	With R3+ update	With R3+ update	With R3+ update
Better handling of editor window manipulations	With R3+ update	With R3+ update	With R3+ update	With R3+ update	With R3+ update
Change software language directly from Option menu	With R3+ update	With R3+ update	With R3+ update	With R3+ update	With R3+ update
Better responsiveness and faster computation of Procedural Terrain within the Terrain Editor	With R4+ update	With R4+ update	With R4+ update	With R4+ update	With R4+ update

Real-Time Preview	VUE Pioneer 2016	VUE Esprit 2016	VUE Studio 2016	VUE Complete 2016	VUE Infinite 2016
High-speed OpenGL real-time preview engine	•	•	•	•	•
Choice of 3 OpenGL engines: shader based, fixed pipeline and software provide optimal quality/compatibility options	•	•	•	•	•
Shader-based OpenGL engine maximizes efficiency and visual accuracy on high-end GPUs	•	•	•	•	•
Completely threaded OpenGL architecture makes the best of multi-core systems	•	•	•	•	•
Fully customizable OpenGL previewing options	•	•	•	•	•
Realistic OpenGL preview of plants, planets, lens-flares, texture map atmosphere... with instant and detailed feedback	•	•	•	•	•
Dual-resolution OpenGL preview for faster response	•	•	•	•	•
Preview specular highlights in real time	•	•	•	•	•
OpenGL preview of EcoSystem instances as billboards, boxes or full geometry	With EcoSystem	With EcoSystem	•	•	•
Preview EcoSystem instances as shaded billboards	•	•	•	•	•

Optimized previewing of EcoSystems billboards	•	•	•	•	•
User definable radius around the camera in which EcoSystem instances appear at full resolution	With EcoSystem	With EcoSystem	•	•	•
Dynamically populated EcoSystems around the camera can be viewed in viewports	With EcoSystem	With EcoSystem	•	•	•
Control minimum size and maximum number of dynamic EcoSystem instances previewed	-	-	-	-	•
Dynamic filtering of EcoSystem shaded billboards to improve accuracy and reduce flickering in realtime preview	•	•	•	•	•
Adjust EcoSystem display quality on individual population elements	With EcoSystem	With EcoSystem	•	•	•
Control displaying at full quality of EcoSystem instances near the camera on individual population elements	With EcoSystem	With EcoSystem	•	•	•
Limit overall EcoSystem instance preview quality with a single command for faster navigation in complex projects	With DeepAccess	With DeepAccess	•	•	•
Textured OpenGL preview	•	•	•	•	•
OpenGL Preview of Boolean operations	•	•	•	•	•
OpenGL Preview of Metablobs	•	•	•	•	•
Threaded previewing of procedural terrains with dynamic LOD	•	•	•	•	•
Normal Mapping accurately displayed in OpenGL Preview	•	•	•	•	•
Anti-aliased real-time OpenGL preview	•	•	•	•	•
Automatic selection of preview color based on procedural material color	•	•	•	•	•
Show objects as box, wireframe, shaded or smooth shaded	•	•	•	•	•
Axis preview in viewports	•	•	•	•	•
OpenGL and rendered plant preview in Plant Editor	With Botanica	With Botanica	•	•	•
Automatic caching of shaded billboard data for faster vegetation preview	•	•	•	•	•
Sky preview with clouds	•	•	•	•	•
Realistic MetaCloud preview	•	•	•	•	•
Realistic sun shadows	•	•	•	•	•
High accuracy of realtime OpenGL sun shadows	•	•	•	•	•
Colored EcoSystem instance preview	•	•	•	•	•
Dynamic plant display optimization	•	•	•	•	•
Decimated object preview for faster previewing	•	•	•	•	•
Minimum setting for preview frame rate (dynamic preview simplification to maintain frame rate)	-	-	-	-	•
Control over OpenGL clipping planes	-	-	-	-	•
Selected objects appear with a red wireframe	•	•	•	•	Optional
Parts of selected objects that use the current material appear highlighted	•	•	•	•	Optional
Selection wireframe always appears on top of other objects that are in front	Optional	Optional	Optional	Optional	Optional

Selected objects are "ghosted" in red	•	•	•	•	•
Selection wireframe color is user definable	-	-	-	-	•
Highlighted material selection wireframe color is user definable	-	-	-	-	•
Bone highlight color is user definable	-	-	-	-	•
High quality texture and terrain previewing	•	•	•	•	•
Rendered images can be displayed in the background of all viewports	•	•	•	•	•
Camera mapping preview in real time preview	-	-	-	-	•
OpenGL viewports reflect camera exposure and gamma settings	•	•	•	•	Optional
Planes are visible from all sides in the OpenGL views	•	•	•	•	•
Accurate OpenGL display of materials in world coordinates	•	•	•	•	•
Status bar can display poly count, free system resources, and used GPU resources	•	•	•	•	•
Ability to hide all layers in the World Browser	•	•	•	•	•
Ability to copy-paste objects into hidden or locked layers	•	•	•	•	•
Manual deletion of empty layers in World Browser	•	•	•	•	•
Easily restore default installation folders at install time	•	•	•	•	•
Optimized Full Quality Near Camera option for faster high quality previewing	•	•	•	•	•
Optimized handling of complex group hierarchies	•	•	•	•	•
Adaptive grid level that changes scale with the level of zoom	With DeepAccess	With DeepAccess	•	•	•
More detailed grid display/division options	With DeepAccess	With DeepAccess	•	•	•
Gradual movement of the camera away from objects when using mousewheel	•	•	•	•	•
Mouse zoom towards point under pointer	•	•	•	•	•
Mouse wheel automatically zooms view beneath mouse pointer	•	•	•	•	•
Nudge step proportional to zooming level	•	•	•	•	•
Optional updating of animated mesh geometry when scrubbing animations	•	•	•	•	•
Turn on and off various settings of the atmosphere preview (such as lens flares, planets, clouds, etc) directly via the application menu	-	-	-	-	•
Set an animation preview to loop	•	•	•	•	•
Scroll through scrollable areas using mouse wheel	•	•	•	•	•
Default OpenGL engine set to Shader 4	•	•	•	•	•

Import/Export	VUE Pioneer 2016	VUE Esprit 2016	VUE Studio 2016	VUE Complete 2016	VUE Infinite 2016
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Static Poser scene import	With 3DImport	•	•	•	•
Support for Poser dynamic clothes and hair	With 3DImport	•	•	•	•
Animated Poser scene import	With 3DImport	•	•	•	•
Support for multiple Poser SDKs	With 3DImport	•	•	•	•
Maximum supported Poser version	With 3DImport: Poser Pro 11 (SR1) and Poser Pro GameDev	Poser Pro 11 (SR1) and Poser Pro GameDev	Poser Pro 11 (SR1) and Poser Pro GameDev	Poser Pro 11 (SR1) and Poser Pro GameDev	Poser Pro 11 (SR1) and Poser Pro GameDev
Option to limit the resolution of your character's bitmaps during import	With 3DImport	•	•	•	•
Convert objects from Max into Vue format (requires 3DS Max)	-	-	-	-	•
Unrigged objects are exported from Max as standard Vue meshes	-	-	-	-	•
Compatible with Cornucopia3D cost-effective locked content	•	•	•	•	•
Cornucopia3D items are identified in the Visual Browsers using a small icon	•	•	•	•	•
Cornucopia3D content display options in Visual Browsers: "All", "Best Selection" or "None"	•	•	•	•	•
Import options dialog to control imported object position and sizing	•	•	•	•	•
When loading objects, option to automatically drop them to the ground	•	•	•	•	•
Motion tracking import	-	-	-	-	MatchMover (RZML, RZ3), Boujou & SynthEyes (MS)
2D Import	BMP, BUM, DEM, GIF, HDR, Jpeg, Pict, PNG, PSD, TGA, TGD, Tiff, Vistapro DEM	BMP, BUM, DEM, GIF, HDR, Jpeg, Pict, PNG, PSD, TGA, TGD, Tiff, Vistapro DEM	BMP, BUM, DEM, GIF, HDR, Jpeg, Pict, PNG, PSD, TGA, TGD, Tiff, Vistapro DEM	BMP, BUM, DEM, GIF, HDR, Jpeg, Pict, PNG, PSD, TGA, TGD, Tiff, Vistapro DEM	BMP, BUM, DEM, EXR, GIF, HDR, IFF, Jpeg, PCX, Pict, PNG, PSD, RLA, RPF, TGA, TGD, Tiff, Vistapro DEM
Animated 2D import	With KronosFX: Sequence of pictures, MOV (Macintosh only), AVI (Windows only)	With KronosFX: Sequence of pictures, MOV (Macintosh only), AVI (Windows only)	With KronosFX: Sequence of pictures, MOV (Macintosh only), AVI (Windows only)	Sequence of pictures, MOV (Macintosh only), AVI (Windows only)	Sequence of pictures, MOV (Macintosh only), AVI (Windows only)
Use FFMPEG library to load/save animations	•	•	•	•	•
Vector data import	Postscript and Illustrator up to 3.2	Postscript and Illustrator up to 3.2	Postscript and Illustrator up to 3.2	Postscript and Illustrator up to 3.2	Postscript and Illustrator up to 3.2
Exposure and contrast controls in HDRI images	-	-	-	-	•
Textured model imports as	With 3DImport: 3DS, 3DMF, COB, DAE, DEM, DXF, LWO, OBJ, PZ3, PZZ, RAW, SHD, VRML, DTED, SDTS/DDF, GeoTIFF	3DS, 3DMF, COB, DAE, DEM, DXF, LWO, OBJ, PZ3, PZZ, RAW, SHD, VRML, DTED, SDTS/DDF, GeoTIFF	3DS, 3DMF, COB, DAE, DEM, DXF, LWO, OBJ, PZ3, PZZ, RAW, SHD, VRML, DTED, SDTS/DDF, GeoTIFF	3DS, 3DMF, COB, DAE, DEM, DXF, LWO, OBJ, PZ3, PZZ, RAW, SHD, VRML, DTED, SDTS/DDF, GeoTIFF	3DS, 3DMF, COB, DAE, DEM, DXF, LWO, OBJ, PZ3, PZZ, RAW, SHD, VRML, MDD, DTED, SDTS/DDF, GeoTIFF
Import PlantFactory 3D Plants as	.TPF, .VOB	.TPF, .VOB	.TPF, .VOB	.TPF, .VOB	.TPF, .VOB
Textured and animated Collada file import	With 3DImport	•	•	•	•
Support for rigged Collada meshes	With 3DImport	•	•	•	•

Daz Collada import supports morph targets	With 3DImport	•	•	•	•
Collada IK information is automatically imported when converting characters to Vue's rigged mesh format	With 3DImport	•	•	•	•
2D Export	Tiff, TGA, Pict, BMP, GIF, Jpeg, PNG, BUM	Tiff, TGA, Pict, BMP, GIF, Jpeg, PNG, BUM	Tiff, TGA, Pict, BMP, GIF, Jpeg, PNG, BUM	Tiff, TGA, Pict, BMP, GIF, Jpeg, PNG, BUM	Tiff, TGA, Pict, BMP, GIF, EPX, PSD, Jpeg, PNG, PCX, IFF, RLA, RPF
Save high dynamic range images	•	•	•	•	•
Export 48 bit color images	With RenderUp	•	•	•	•
High Dynamic Range 2D Export	HDR	HDR	HDR	HDR	HDR, EXR
32 bit resolution, floating point EXR import and export	-	-	-	-	•
Embed alpha information in Tiff and PNG formats	With RenderUp	•	•	•	•
Object export (with textures)	With Exporter	With Exporter	With Exporter	•	•
Optimized object and texture map exports	With Exporter	With Exporter	With Exporter	•	•
Textured object export as	With Exporter: 3DS, C4D, COB, DXF, LWO, OBJ	With Exporter: 3DS, C4D, COB, DXF, LWO, OBJ	With Exporter: 3DS, C4D, COB, DXF, LWO, OBJ	3DS, C4D, COB, DXF, LWO, OBJ	3DS, C4D, COB, DXF, LWO, OBJ
Scene export	-	-	-	-	3DS, LWS
Sky exports as sky-boxes or sky-domes	With Exporter	With Exporter	With Exporter	•	•
Multi-threaded sky map export dramatically speed up the export process	With Exporter	With Exporter	With Exporter	•	•
Camera animation export (e.g. to After Effects)	-	-	-	-	Maya MA
Object animation export (motion, orientation, size)	-	-	-	-	3DS, MOT
User-definable mesh and texture map resolution for exports	With Exporter	With Exporter	With Exporter	•	•
Automatic re-importing of externally modified texture maps and 3D objects	With DeepAccess	With DeepAccess	•	•	•
Objects can be marked as not being exportable	-	-	-	-	•
Advanced unwrap algorithms for low-distortion UV mapping	With Exporter	With Exporter	With Exporter	•	•
Advanced vertex merging algorithms allow fast and smooth exporting of terrain meshes	With Exporter	With Exporter	With Exporter	•	•
Multiple UV layers support	up to 4 layers	up to 4 layers	up to 4 layers	up to 4 layers	up to 4 layers
Multiple UV layers can be accessed via the function graph	With AdvancedGraph	With AdvancedGraph	With AdvancedGraph	•	•
Save a deformed mesh (without animation) by simply selecting and saving the sub-object	•	•	•	•	•
Import a 2D vector graphic file to create Vue splines	•	•	•	•	•
Automatic creation of multiple splines if the imported 2D vector graphic defines multiple curves	•	•	•	•	•
Import geometry from Zbrush using the GoZ standard	-	-	-	-	•
Export any geometry as tris from VUE directly to Zbrush using the GoZ standard	-	-	-	-	•

Export terrains as quads from VUE directly to Zbrush using the GoZ standard	-	-	-	-	•
Import scenes, objects, camera paths and synchronization data as Alembic (ABC) files.	-	-	-	-	•
Import all objects included in an Alembic File	-	-	-	-	•
Import instantiated objects from Alembic	-	-	-	-	•
Export scenes, objects and camera paths as Alembic (ABC) files.	-	-	-	-	•
Alembic supported version	-	-	-	-	Up to 1.7.3 with R4+ update
Multi-threaded map export dramatically speed up the export process	With Exporter	With Exporter	With Exporter	•	•
Import geo-located terrains as DTED, SDTS/DDF, and GeoTIFF	With 3DImport	•	•	•	•
Export VUE scenes to LumenRT	With Exporter	With Exporter	With Exporter	•	•
Automatic detection of global scale factor (from file format and source software) when importing scenes or assets	With 3DImport	•	•	•	•
Export original maps for meshes with Uvs	With Exporter	With Exporter	With Exporter	•	•
Export objects as Collada	With Exporter	With Exporter	With Exporter	•	•
Optional export of texture maps available when exporting in Alembic	-	-	-	-	•

System Resource Management	VUE Pioneer 2016	VUE Esprit 2016	VUE Studio 2016	VUE Complete 2016	VUE Infinite 2016
Robust threading architecture	•	•	•	•	•
Texture virtualization allows rendering with extremely high resolution texture maps	•	•	•	•	•
Geometry virtualization allows rendering of polygon-intensive objects	•	•	•	•	•
"Purge Memory" command to cleanup memory and reduce fragmentation	•	•	•	•	•
Automatic memory monitoring system attempts to preserve scene integrity after memory allocation failures	•	•	•	•	•
Optional compatibility mode minimizes hardware compatibility issues	•	•	•	•	•
Degraded display mode (dynamic simplification of OpenGL preview when resources become critically low)	-	-	-	-	•
Optional limit on OpenGL polygon count	-	-	-	-	•
Automatic suspension of mesh simplification, Boolean/Metablob preview and background draw threads when system resources become critically low	-	-	-	-	•
Automatic software updating (optional)	•	•	•	•	•
Video-board compatibility checking	•	•	•	•	•
Automatic checking of OpenGL driver compatibility	•	•	•	•	•
Option to clear OpenGL data before rendering	-	-	-	-	•

Embedded error-reporting feature to help reduce time-to-fix	•	•	•	•	•
User definable maximum video board memory usage	With DeepAccess	With DeepAccess	•	•	•
Automatic configuration of OpenGL options for optimized previewing on your video board / driver	•	•	•	•	•
OpenGL monitoring system that will continuously check OpenGL activity and video resource usage, and will attempt to intercept any OpenGL driver issues before they happen	•	•	•	•	•
OpenGL monitoring system automatically backs up your scene before issuing a warning when the system detects that the OpenGL driver is misbehaving	•	•	•	•	•
Updates are downloaded in the background	•	•	•	•	•
Up to 4x faster scene saving	With R3+ update	With R3+ update	With R3+ update	With R3+ update	With R3+ update
Up to 2x smaller file size	With R3+ update	With R3+ update	With R3+ update	With R3+ update	With R3+ update
3 scene saving modes: Default, Consolidated Archive, Network Rendering	With R3+ update	With R3+ update	With R3+ update	With R3+ update	With R3+ update
Selection of OpenCL devices for Path Tracing: All Available Devices, GPU Devices Only, or CPU Devices Only	With RenderUp and R4+ update	With R4+ update	With R4+ update	With R4+ update	With R4+ update
Support for CPUs with more than 64 cores	-	-	-	-	With R4+ update: On Windows

Miscellaneous	VUE Pioneer 2016	VUE Esprit 2016	VUE Studio 2016	VUE Complete 2016	VUE Infinite 2016
Multi-processor rendering	Up to 2 CPUs - With RenderUp: 8 CPUs – 4/12 CPUs with R3+ update	8 CPUs - 12 CPUs with R3+ update	8 CPUs - 12 CPUs with R3+ update	8 CPUs - 12 CPUs with R3+ update	Unlimited number of CPUs
Hundreds of preset atmospheres, objects, materials...	•	•	•	•	•
Terrainscapes preset terrain material library	•	•	•	•	•
64 bit version optimized for Windows and Mac OS X Cocoa	•	•	•	•	•
Floating licenses	-	-	-	-	With optional License Server
Licenses can be used as floating licenses when installed in the optional License Server	-	-	-	-	•
License Server can run as a service	-	-	-	-	•
Automatic detection of License Server	-	-	-	-	•
License valid for commercial use	-	•	•	•	•
RenderNodes can be set to only render a portion of a picture	-	-	-	-	•
The scene render size can be overwritten directly via a RenderNode command line	-	-	-	-	•
Rendernodes can be set to render the GI Prepass only	-	-	-	-	•
Rendernodes can load a pre-computed GI Prepass	-	-	-	-	•

Command line options to set color/alpha /depth passes for both stills and animations rendering	-	-	-	-	With R3+ update
Adjust the time after which the beep sounds when rendering completes	With DeepAccess	With DeepAccess	•	•	•
Improved accuracy of the evaluation of remaining render time in HyperVue	With HyperVue	With HyperVue	•	•	•
Automatic activation system avoids juggling with multiple forms and serial numbers - requires an internet connection during activation	•	•	•	•	•
Automatic activation system requires a Cornucopia3D account	•	•	•	•	-
Automatic activation system requires an e-on user account	-	-	-	-	•
Compatible with MacOS 10.10 (Yosemite)	•	•	•	•	•
Compatible with MacOS 10.12 (Sierra)	•	•	•	•	•
Download Extra Content on the fly from the Sample Scene/Object browser	•	•	•	•	•
Content provided with the software is stored in system-wide folder instead of User specific location (usefull when multiple users use the same computer)	•	•	•	•	•
Inline help	Online Wiki or included PDF Manual	Online Wiki or included PDF Manual	Online Wiki or included PDF Manual	Online Wiki or included PDF Manual	Online Wiki or included PDF Manual
Direct access to Wiki or PDF using Help key (set your preference between Wiki and PDF in User Preferences)	•	•	•	•	•
PDF Manual	1110 pages	1110 pages	1110 pages	1110 pages	1237 pages
Media	~1.2GB zip file	Application: ~1.3 GB zip file - Extra Content downloadable on the fly	Application: ~1.3 GB zip file - Extra Content downloadable on the fly	Application: ~1.3 GB zip file - Extra Content downloadable on the fly	Application: ~1.4 GB zip file - Extra Content downloadable on the fly

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