

# NVIDIA® GELATO™



## Gelato Pro 2.2 and Gelato 2.2 GPU-Accelerated Final-Frame Renderer

### Render Everywhere

NVIDIA® Gelato® rendering software allows anyone with NVIDIA hardware to quickly create stunning images. A GPU-accelerated, non-real-time renderer, Gelato was originally designed for the creation of 3D visual effects and animation in feature films but is a powerful tool for any number of industries, including film & broadcast, CAD, architecture, and print.

### Available at No Cost

Gelato is available at no cost from NVIDIA; the Gelato Pro version, with advanced productivity and scalability features and a comprehensive support plan is available for purchase.

### Speed Without Sacrificing Price

Gelato is built on the principle of never compromising on the quality of the rendered image. Gelato uses NVIDIA graphics processing units (GPUs) to perform general purpose computations

and not just as a way to fill pixels on the display. It renders images quickly and is robust and powerful enough to render the most complex scenes while avoiding the typical GPU generated images.

Gelato seamlessly leverages the advances found in the latest GPU hardware while protecting your investment in production tools and digital assets by insulating them from hardware changes.

Gelato is designed for easy integration into any workflow and production pipeline and can be used by both the technically sophisticated and by the artistically inclined. It ships with simple, yet powerful, C++ and Python APIs, as well as with the plug-ins for Autodesk® Maya® and 3ds Max®.

### Gelato Pro 2.2

Gelato Pro 2.2 is geared for professionals with large scale pipelines or projects. It includes the core Gelato

renderer, plus NVIDIA Sorbetto™ interactive relighting, DSO shadeops, multithreading, and network parallel rendering.

Sorbetto is a feature set that allows you to change any lighting parameter you wish and re-render the frame in record time. Best of all, Sorbetto performs this relighting on the final pixels.

The image you work with in Sorbetto is always identical to the final rendered image and you do not need to alter or specially prepare your scene to use Sorbetto. Sorbetto uses the same geometry, shaders, procedurals, and GPU as a regular Gelato render. Sorbetto functionality is exposed in the Maya plug-in (and soon in the 3ds Max plug-in) and in the C++ API, so it can be used with any existing lighting tool in your pipeline.



# Gelato Pro 2.2 and Gelato 2.2 | GPU Accelerated Final Frame Renderer

Best of all, Gelato Pro is backed by the top rendering engineers in the industry. NVIDIA's High-Quality Rendering Team has decades of experience in film production and in developing renderers used to create stunning images for movies and TV. Gelato Pro comes with a support package that includes all product updates and upgrades.

## Select Feature Comparison

	Gelato	Gelato Pro
GPU acceleration	✓	✓
Highest quality images	✓	✓
Raytracing, incl. global illumination and ambient occlusion	✓	✓
High-order geometry support	✓	✓
Fully programmable shading	✓	✓
Sorbetto interactive relighting		✓
DSO shadeops		✓
Multithreading		✓
Network parallel rendering		✓
Native 64-bit support		✓
Comprehensive support package		✓

## NVIDIA Gelato 2.2 Features and Specifications

### Superb Image Quality

- Unlimited image resolution
- Unlimited antialiasing
- Volume shadows
- High-quality motion blur
- Depth of field
- Automatic adaptive tessellation
- Fast, high-quality raytracing
  - Ability to handle multiple reflection rays with improved anti-aliasing\*
- Image output: 8-bit, 16-bit, and float
- Output image channels for any value computed in shader

### Geometry Support

- NURBS, bicubic, and bilinear patches
- Polygon meshes
- Subdivision surfaces
- Curves (hair)
- Wide curves (feathers and ribbons)
- Particles
- Procedural geometry plug-ins
- Arbitrary user-specified vertex variables

### Programmable Shading & Lighting

- Caustics
- More accurate subsurface scattering techniques\*
- True displacement on all primitive types
- Layered surface and light shaders
- Antialiased texture, environment, and

### shadow maps

- Atmospheric effects
- Unlimited number of lights
- Fog Lights: volumetric support of spotlights\*
- Global illumination
- Ambient occlusion
- Ray-traced reflections, refractions and shadows
- Average-Z shadow maps
- Cube-face shadow maps
- Sample shaders and shader function library
- Variable-length shader array parameters\*
- Mesh per-face attributes\*
- Enhanced texture converter to replicate and re-order color channels\*

### High Performance

- GPU-accelerated
- Efficient handling of complex scenes
- Efficient memory use

### Production-ready

- Fully selective lighting
- Preview mode
- Holdout matte objects
- Fast stereo rendering
  - Off-axis projection mode\*
  - Parallel projection mode\*
  - Toe-in projection mode
  - Improved anaglyph (red/blue) display in iv
- No eyesplits

- User-priority bucket order (spiral/crop window)
- Interleave utility (field rendering)
- Open, documented, royalty-free formats

### Components

- Gelato rendering engine
- C++ API
- Plug-ins for scene file formats:
  - Python scene description
  - Gelato byte-stream scene description
  - RIB scene file I/O plug-in (available as 3rd party freeware)
- Mango™ plug-in for Alias Maya
  - Maya Hair support
- Amaretto™ plug-in for Autodesk 3ds Max
- Wide variety of image and texture I/O plug-ins
- Tools:
  - Image viewer
  - Shader compiler
  - Image files to textures converter
  - Shader developer libraries

### System Requirements

- NVIDIA GPU, one of the following:
  - NVIDIA Quadro FX
  - NVIDIA GeForce 5200 or higher
- Microsoft® Windows® XP or Linux 2.4 kernel or later
- 1 GB RAM (recommended)

## NVIDIA Gelato Pro 2.2 Features and Specifications (Includes all Gelato 2.2 features)

### Programmable Shading & Lighting

- DSO Shadeops

### Sorbetto Interactive Relighting

- Rapidly recompute changes to lighting
- All Sorbetto functions exposed in the Gelato API; not dependent on any particular modeling or animation software
- No special preparation required; works with any Gelato scene
- Relighting on "final pixels," including full antialiasing, motion blur, transparency, displacement, and production shaders. Always identical to the final rendered image.
- Adjust lighting interactively
  - Add/delete lights
  - Move/reorient lights
  - Change any light shader parameter
  - Change light linking
- Adjust camera parameters interactively\*
  - Depth of field\*
  - Stereo controls\*
- Recompute reflections and shadows automatically
- Recompute changes to camera parameters (DOF, filters and Stereo)
- Recompute dynamic shadows\*
- Selective relighting: recompute lighting for a crop window or specified object for even faster results
- Interruptible—make changes on the fly before the last render is finished
- Supported by Mango™ plug-in for Maya and soon by Amaretto™ plug-in for 3ds Max
  - Maya 64-bit support

### Production-ready

- Network parallel rendering
- Floating or node-locked licenses
- Cross-platform licensing
- Unparalleled support from NVIDIA's High-Quality Rendering Team

### High Performance

- Multithreaded
- Native 64-bit support

### System Requirements

- NVIDIA Quadro FX graphics board
- 2 GB RAM (recommended)

\* updated for version 2.2

## Where to buy NVIDIA Gelato

To inquire about Gelato Pro 2.2 or download Gelato 2.2 at no charge, please visit [www.nvidia.com/gelato](http://www.nvidia.com/gelato)

