



NVIDIA and Microsoft Open Next Era of Gaming With Groundbreaking Neural Shading Technology

Next-Generation Games Will Be Accelerated by AI Within Shaders; 100+ DLSS 4 Games and Apps Now Available; 'Half-Life 2 RTX' Demo Released at GDC

NVIDIA today announced ahead of the Game Developers Conference ([GDC](#)) groundbreaking enhancements to NVIDIA RTX™ neural rendering technologies.

NVIDIA has partnered with Microsoft to bring neural shading support to the Microsoft DirectX preview in April, giving developers access to AI Tensor Cores in NVIDIA GeForce RTX™ GPUs to accelerate neural networks from within a game's graphics pipeline.

Neural shading represents a revolution in graphics programming, combining AI with traditional rendering to dramatically boost frame rates, enhance image quality and reduce system resource usage.

"Microsoft is adding cooperative vector support to DirectX and HLSL, starting with a preview this April," said Shawn Hargreaves, Direct3D development manager at Microsoft. "This will advance the future of graphics programming by enabling neural rendering across the gaming industry. Unlocking Tensor Cores on NVIDIA RTX will allow developers to fully leverage RTX Neural Shaders for richer, more immersive experiences on Windows."

In addition, [NVIDIA RTX Kit](#), a suite of neural rendering technologies for game developers, is receiving major updates with Unreal Engine 5 support for the RTX Mega Geometry and RTX Hair features.

Enabling modders to create stunning remasters of classic games, the NVIDIA RTX Remix open-source platform officially released today. Plus, a new playable *Half-Life 2 RTX* demo featuring the latest neural rendering enhancements — such as full ray tracing, NVIDIA DLSS 4 Multi Frame Generation, RTX Neural Radiance Cache, RTX Skin and more — will be available on Tuesday, March 18.

NVIDIA is also celebrating a major milestone with over [100 DLSS 4 games and apps now available](#).

RTX Kit Arrives in Unreal Engine 5

The number of triangles used to create games has increased exponentially over the past three decades. With the introduction of the Unreal Engine 5 Nanite geometry system, developers can build open worlds filled with hundreds of millions of triangles.

As ray-traced game scenes explode in geometric complexity, however, the cost of ray tracing grows exponentially, making it impossible to achieve real-time frame rates. RTX Mega Geometry accelerates ray tracing of scenes with complex geometry, enabling developers to use up to 100x more triangles than today's standard. RTX Mega Geometry is coming to developers from the NVIDIA RTX (NvRTX) branch of Unreal Engine 5.

[NVIDIA GeForce RTX 50 Series GPUs](#) introduced RTX Hair, a linear swept sphere primitive that offers a major advancement for accelerating the ray tracing of hair and fur. Replacing typical triangle primitives, linear swept spheres more accurately represent individual strands of hair, improving image quality and performance in rendering realistic digital humans. RTX Hair is coming to the NvRTX branch of Unreal Engine 5.

At the CES trade show, NVIDIA showcased neural rendering capabilities through its "Zorah" technology demo. At GDC, an updated [Zorah demo](#) built in Unreal Engine 5 features the latest advancements in neural rendering, including RTX Mega Geometry, RTX Hair, ReSTIR Path Tracing and ReSTIR Direct Illumination.

Return to 'Half-Life 2' With RTX Demo

The official release of RTX Remix — featuring DLSS 4 with Multi Frame Generation, a host of new RTX neural rendering technologies and numerous community-requested upgrades — lets modders deliver stunning RTX remasters with even better image quality and higher frame rates.

A year ago, NVIDIA released [RTX Remix](#) in beta, enabling remasters of classic games with fully ray-traced lighting, enhanced materials and the latest RTX technologies.

Over 30,000 modders have since used the platform to mod hundreds of classic titles, and over 1 million gamers have played RTX Remix mods such as NVIDIA Lightspeed Studios' [Portal with RTX](#) and the modder-made [Portal: Prelude RTX](#).

Half-Life 2 owners can experience the capabilities of RTX Remix across the environments of Ravenholm and Nova Prospekt by downloading a free [Half-Life 2 RTX demo](#) from Steam starting March 18.

The remaster is being developed by four of *Half-Life 2*'s top mod teams, working together under the banner of Orbifold Studios. *Half-Life 2 RTX* features full ray tracing, remastered assets, DLSS 4, NVIDIA Reflex, RTX Neural Radiance Cache, RTX Skin and RTX Volumetrics.

Over 100 DLSS 4 Games and Apps Out Now

DLSS 4 was introduced with the release of GeForce RTX 50 Series GPUs, receiving an incredible response from gamers and rapidly adopted by game developers. It is now supported in over 100 games and apps, reaching this milestone two years quicker than DLSS 3 to become the most rapidly adopted NVIDIA game technology of all time.

DLSS 4 debuted Multi Frame Generation, which uses AI to generate up to three additional frames per traditionally rendered frame, working with the complete suite of DLSS technologies to multiply frame rates by up to 8x over traditional rendering. This massive performance improvement on GeForce RTX 50 Series graphics cards and laptops enables gamers to max out visuals at the highest resolutions and play at incredible frame rates.

In addition, *Lost Soul Aside*, *Mecha BREAK*, *Phantom Blade Zero*, *Stellar Blade*, *Tides of Annihilation* and *Wild Assault* will launch with DLSS 4, giving GeForce RTX gamers the definitive PC experience in each title.

About NVIDIA

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