

# **NVIDIA Debuts AI-Enhanced Real-Time Ray Tracing for Games and Apps With New DLSS 3.5**

NVIDIA SteerLM, Half-Life 2 RTX: An RTX Remix Project, DLSS, Reflex and Xbox PC Game Pass titles on GeForce NOW make news at Gamescom.

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The latest advancements in AI for gaming are in the spotlight today at Gamescom, the world's largest gaming conference, as NVIDIA introduced a host of technologies, starting with DLSS 3.5, the next step forward of its breakthrough AI neural rendering technology.

DLSS 3.5, NVIDIA's latest innovation in AI-powered graphics is an image quality upgrade incorporated into the fall's hottest ray-traced titles, from Cyberpunk 2077: Phantom Liberty to Alan Wake 2 to Portal with RTX.

But NVIDIA didn't stop there. DLSS is coming to more AAA blockbusters; emotion is being added to AI-powered non-playable characters (NPCs); Xbox Game Pass titles are coming to the GeForce NOW cloud-gaming service; and upgrades to GeForce NOW servers are underway.

The biggest news? The introduction of Ray Reconstruction in DLSS 3.5, a groundbreaking feature that elevates ray-traced image quality for all GeForce RTX GPUs, outclassing traditional hand-tuned denoisers with an AI network trained by an NVIDIA supercomputer.

The result improves lighting effects like reflections, global illumination, and shadows to create a more immersive, realistic gaming experience.

Denoising is used in ray-traced computer graphics to fill in missing pixels to more efficiently composite a final image. NVIDIA DLSS 3.5 is trained on 5x more training data than DLSS 3, so it can recognize different ray-traced effects and make smarter decisions about when to use temporal and spatial data.

DLSS, first released in February 2019, has gotten a number of major upgrades improving both image quality and performance.

Ray Reconstruction is now included as part of DLSS 3.5, which offers a suite of AI rendering technologies powered by Tensor Cores on GeForce RTX GPUs for faster frame rates, better image quality, and great responsiveness.

DLSS 3.5 includes Ray Reconstruction, Super Resolution, Deep Learning Anti-Aliasing and Frame Generation.

NVIDIA announced that upcoming blockbusters Alan Wake 2, Cyberpunk 2077: Phantom Liberty and Portal with RTX will use NVIDIA DLSS 3.5 this fall.

DLSS 3.5 also improves image quality in real-time 3D creator applications and allows 3D creator professionals to showcase a higher-quality image without spending minutes or hours for the final render.

Ray Reconstruction will be included in upcoming releases of D5 Render, Chaos Vantage and NVIDIA Omniverse, a development platform for connecting and building 3D tools and applications.

DLSS is now featured in over 330 games and apps. And this fall's biggest blockbusters will launch with DLSS 3, including Call of Duty: Modern Warfare III, PAYDAY 3 and Fortnite.

In addition, Call of Duty: Modern Warfare III, PAYDAY 3, Alan Wake 2, Cyberpunk 2077: Phantom Liberty and more will launch with NVIDIA Reflex, which reduces system latency so gamers' actions

occur quicker, providing a competitive edge in multiplayer matches and making single-player titles more responsive and enjoyable.

And Reflex is already increasing gamers' competitiveness in the latest editions of wildly popular franchises, with APEX Legends Season 18 and Overwatch 2 Invasion .

NVIDIA Reflex is now used by over 50 million players each month. It's available in 9 of the top 10 competitive shooters, including the Counter-Strike 2 beta, and is activated by 90% of GeForce gamers in over 70 supported titles.

Half-Life 2 RTX: An RTX Remix Project is an in-development community remaster of one of the highest-rated games of all time , Valve's Half-Life 2 . Being developed by four of Half-Life 2 's top mod teams using RTX Remix , Half-Life 2 RTX will feature full ray tracing, DLSS 3, Reflex and RTX IO.

Bringing more AI to gaming, NVIDIA Avatar Cloud Engine (ACE) introduces NeMo SteerLM. This new training technique enables developers to customize the personality of NPCs for more emotive, realistic, and memorable interactions.

ACE is a custom AI model foundry that aims to bring intelligence to NPCs through AI-powered natural language interactions.

GeForce NOW also gets new games as Ultimate members connect to more powerful servers.

NVIDIA announced GeForce RTX 4080 SuperPODs are now fully deployed throughout North America and Europe, bringing exclusive access to RTX 4080-class servers to Ultimate members.

Those servers will be kept plenty busy.

Coming soon, GeForce NOW members can stream AAA titles Alan Wake 2 , Cyberpunk 2077: Phantom Liberty DLC , PAYDAY 3 and Party Animals at launch from the cloud gaming service.

As part of NVIDIA and Microsoft's collaboration to bring more choice to gamers, Microsoft Store integration will be added to GeForce NOW in the coming days.

Members will soon be able to stream over ten supported Xbox PC Game Pass titles at GeForce RTX 4080 quality across devices of their choice. More games from Xbox's PC Game Pass library will be added to GeForce NOW on a regular basis.

Head to the cloud and stream new titles joining later this week, including DOOM 2016 from Bethesda .

DLSS 3.5 is being demonstrated in NVIDIA's booth (hall 2.1, booth A10) at Gamescom in Cologne, Germany, August 23-27.

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