DirectX 12 Renderer

> [Completed] The DirectX 12 renderer is live on Secura Horizon and Secura Origins since v1.12.0. See [v1.12.0 Live Update](/link/205). Run the launcher before you log in.

What's New

The game client now draws the world with **DirectX 12** by default. The launcher delivers it automatically.

- **Smoother edges.** Anti-aliasing is on by default (4x), so jagged edges on buildings, characters and the horizon look cleaner. Edge smoothing was improved and now also applies when the in-game **Post-processing** option is on.
- **Softer leaves and fences.** Leaf and fence edges are softened when anti-aliasing is on.
- **Sharper distant textures.** 16x anisotropic filtering is on by default, so ground and wall textures stay crisp at a distance.
- **Bloom works.** The in-game **Bloom** option now works under DirectX 12 just as it does under DirectX 9.
- **Faster loading.** Loading into the game world is a little faster under DirectX 12 than under DirectX 9 on our test machine.
- **Lower processor use.** In our measurements the game uses less processor time under DirectX 12 than under DirectX 9.
- **More graphics controls.** The setup program now has ten DirectX 12 controls, including render scale, vertical sync, a frame rate limit, sharpening, ambient occlusion, soft shadows and HDR rendering (see below).
- **In-game graphics menu.** The same DirectX 12 controls are now in the game under **Options, Graphics**, so you can change them without leaving the game.
- **Soft shadows and HDR rendering (optional, off by default).** Two new settings for those who want to experiment; with them off the game looks the same as before.
- **You choose.** All of them can be changed in the game's setup program, and your choices are remembered across launcher updates.
- **Brighter personal light.** The light you carry at night and in dark places is brighter and reaches further, on foot and on a mount. Turn it on and off the same way you always have, with your existing toggle-light key binding.
- **Objects appear from further away.** Buildings, trees and other things in the world load in from a greater distance, and an object no longer shows up as an empty gap while its best-looking version loads; you see a good version straight away.

- **Characters always at full detail.** Characters are always drawn at their highest detail, with no lower-detail versions swapped in.
- **Smoother frame rate around many name labels.** Busy places with lots of name labels over heads and objects run more smoothly.
- **Also in this client build:** idle players are no longer disconnected (see Idle Players Are No Longer Disconnected), and the client is 64-bit (see 64-Bit Game Client).

How to Change It

1. Close the game and open the setup program (`SwgClientSetup`) from the launcher or the game folder.
2. Open the **Graphics** page. The DirectX 12 controls are in the right-hand column.
3. Choose your settings (table below).
4. Accept the changes and start the game.

Control	Choices	Default
Renderer	DirectX 9, DirectX 12	DirectX 12
Anti-aliasing	Off, 2x, 4x, 8x	4x
Anisotropic filtering	Game default, 2x to 16x	16x
Render scale	50% to 200%	100%
Vertical sync	Game default, Off, On	Game default
Frame rate limit	Game default, 60 to 240	Game default
Sharpening	Off, Low, Medium, High	Off
Ambient occlusion	Off, Low, Medium, High	Off
Soft shadows	Off, Low, High	Off
HDR rendering	Off, On	Off

Changing them in the game

Open **Options**, then **Graphics**. The page starts with a **DirectX 12** section; your older graphics settings follow under **Classic settings**. The in-game menu and the setup program change the same settings, so each shows what the other set. Some choices (Renderer, anti-aliasing, render scale, soft shadows, HDR rendering and a few others) take effect after you restart the game; others, such as vertical sync, the frame rate limit, anisotropic filtering and sharpening, apply right away. If DirectX 9 is selected, the DirectX 12 controls are greyed out except Renderer.

What the new controls do

- **Render scale** draws the 3D world at a lower or higher resolution while the interface stays sharp. Values above 100% give a cleaner image at a performance cost; values below 100% trade sharpness for speed.
- **Vertical sync** "Game default" follows the older **Disable Vsync** checkbox.
- **Sharpening** makes world textures crisper without touching interface text.
- **Soft shadows** softens the edges of shadows. It only has a visible effect when the game's more detailed (volumetric) shadows are turned on; the default simple shadows look the same.
- **HDR rendering** draws the world with a wider range of brightness internally, so very bright effects can blend more smoothly. In ordinary scenes it looks the same. It does not turn on HDR output on an HDR monitor: the picture sent to your screen is still standard. Off by default.
- **Ambient occlusion** adds subtle contact shading where surfaces meet. It is off by default. It is not available when Post-processing is on and anti-aliasing is off; the game simply does not apply it in that combination.

What You Might Notice

- With the defaults the game looks the same as before apart from the improvements above. This is by design.
- The edges of leaves and fences are only softened when anti-aliasing is on.

Requirements

- 64-bit Windows 10 or 11.
- A graphics card that supports DirectX 12.
- DirectX 9 remains available for everyone else.

Automatic Safety

- If your computer cannot run DirectX 12, the game uses DirectX 9 by itself.
- If DirectX 12 fails to shut down cleanly twice in a row, the game switches to DirectX 9 and tells you once. Choosing DirectX 12 again in the setup program tries it again.
- If the game files are only partly updated, the game shows a message asking you to run the launcher again instead of crashing.

Known Limits

- Leaf and fence edges are softened only when anti-aliasing is on.
- If the graphics device is lost (for example a graphics driver update while you play), the game closes rather than recovering.
- This has been tried on a limited range of graphics cards. Please report problems on our Discord and include your graphics card model.
- Full-detail characters and the larger load distance may cost some frame rate in crowded places on slower computers. Tell us how it feels.

FAQ

The game looks the same. Mostly yes, by design. The new renderer reproduces the old picture, plus smoother edges and sharper distant textures. The new optional controls (sharpening, ambient occlusion, render scale, soft shadows, HDR rendering) are there if you want to change the look.

Do I need to restart after changing a setting? Renderer, anti-aliasing, smooth foliage edges, render scale, soft shadows and HDR rendering need a restart. Vertical sync, frame rate limit, anisotropic filtering and sharpening apply immediately. Ambient occlusion applies immediately only if it was already on when the game started.

Is HDR rendering the same as HDR on my monitor? No. It changes how the game draws the picture internally; the image sent to your display is still standard (SDR).

Soft shadows changed nothing. Soft shadows only affect the game's volumetric shadows. If you use the default simple shadows, there is nothing to soften.

How do I go back to DirectX 9? Open the setup program, go to the Graphics page and set Renderer to DirectX 9. You can also do this in the game under Options, Graphics (restart required).

It crashed. After two failed DirectX 12 shutdowns in a row the game switches itself to DirectX 9. Please report it and tell us your graphics card model.

Is this on Live? Yes, since v1.12.0. Run the launcher to get it.

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