

EGL_EXT_Compositor

FACE-aligned Safety Critical Compositor

CoreAVI's EGL_EXT_compositor extension for EGL is the industry's first Future Airborne Capability Environment (FACE)-aligned safety critical compositor for Vulkan® SC, OpenGL® SC 1.0.1 and OpenGL SC 2.0.

EGL_EXT_compositor is included in CoreAVI's VkCoreGL® SC1 and VkCoreGL SC2 graphics and compute driver, as well as ArgusCore™ SC1 and ArgusCore SC2 graphics driver library suites. The extension minimizes application effort enabling composition of multiple windows within a multi-partition graphics system. It provides a standard windowing API for FACE alignment and can be used in mixed assurance level situations, making it an ideal choice for embedded avionics, defense, automotive, rail, and industrial. applications.

FEATURES AND BENEFITS

The EGL_EXT_compositor:

- Provides safety critical graphics capabilities up to the most stringent levels.
- Allows for off-screen asynchronous updates.
- Ensures information assurance by preventing any non-primary contexts and surfaces from rendering to the display.
- Allows management and control of GPU allocation to specific contexts including how much GPU memory a specific application is allowed to use.
- Allows each application to draw into its own off-screen window, providing a level of security that ensures one application won't be overwritten with other applications' video data, or provide back-channel access through a shared framebuffer.
- Prevents one application from drawing over another application unless the system designer allows it.
- Ensures that Vulkan or OpenGL graphics cannot be rendered to the display without express instructions from the compositing application, nor can they interfere with any other rendering contexts.
- Is fully supported in hypervisor environments when used with HyperCore™, enabling secure and independent virtualized GPU partitions to render graphics on the same displays.
- Allows system designers to mirror off-screen windows to multiple windows on physical displays without having to invoke multiple applications.

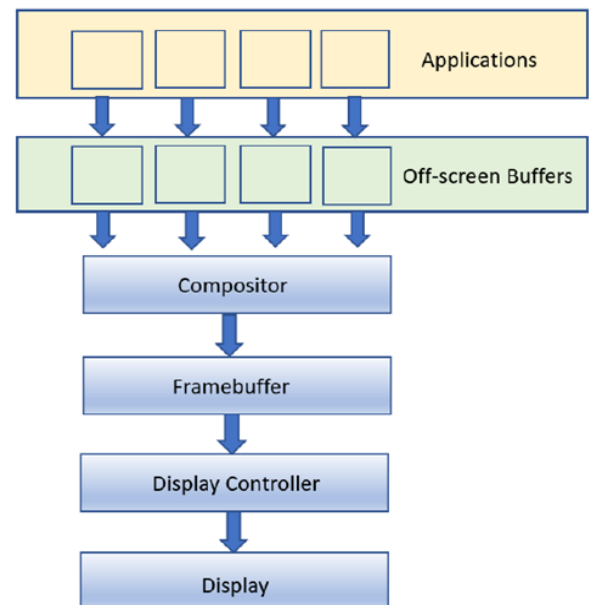


Figure 1: Composition into the Framebuffer: Path of Information from Applications to Display