



## EGL\_EXT\_Compositor

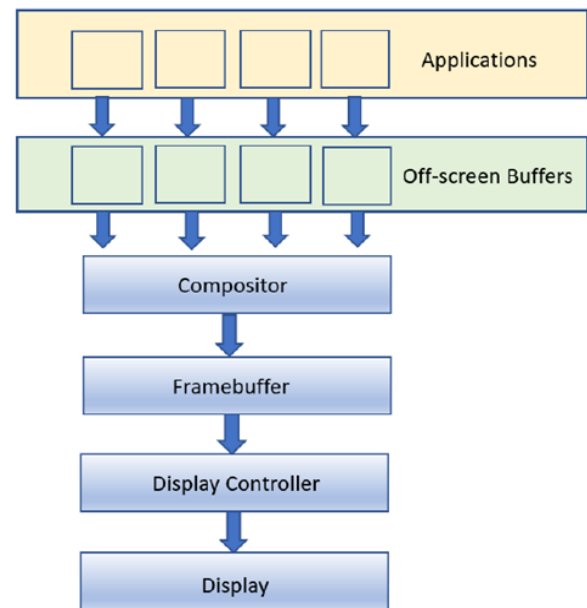
### FACE-aligned Safety Critical Compositor

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 **VkCore® SC** 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 & 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*