



Performance
Seeing Things *Differently*



Performance
GPU

Hardware-independent OpenGL rasterizer with memory management and 2D API Interface

Rendering HW obsolescence obsolete

Performance is ushering in the next era of graphics rendering by eliminating the need for hardware GPUs altogether.

Performance's software **GPU** is a customized OpenGL software rendering library for embedded applications in commercial and military displays, medical devices and automotive systems.

By eliminating dependence upon static, bulky hardware components, Performance's software **GPU** sets the standard in the next generation of avionics and medical device displays. Dedicated hardware Graphics Processor Units are quickly outdated and made obsolete by subsequent product and technology releases. Our Software GPU removes the headache of hardware obsolescence by removing hardware from the graphics processing equation.

***Performance satisfies
market-driven needs with
real software solutions.***

**Portable, low cost
custom solutions**



Sample of an avionics standby graphic

Performance's software **GPU** provides a means to render graphics through software rather than a dedicated hardware Graphics Processor Unit (GPU). Our software **GPU** is an OpenGL rasterizer with built in memory management and an interface to the most commonly utilized 2D OpenGL SC 1.0 APRs. It is ANSI C compliant and hardware independent. Additionally, Performance offers off-the-shelf safety critical certification kits designed to reduce time, risk, and costs.

Portable

Meeting **ANSI C standard** (compiled with any ANSI C compiler)

Customizable

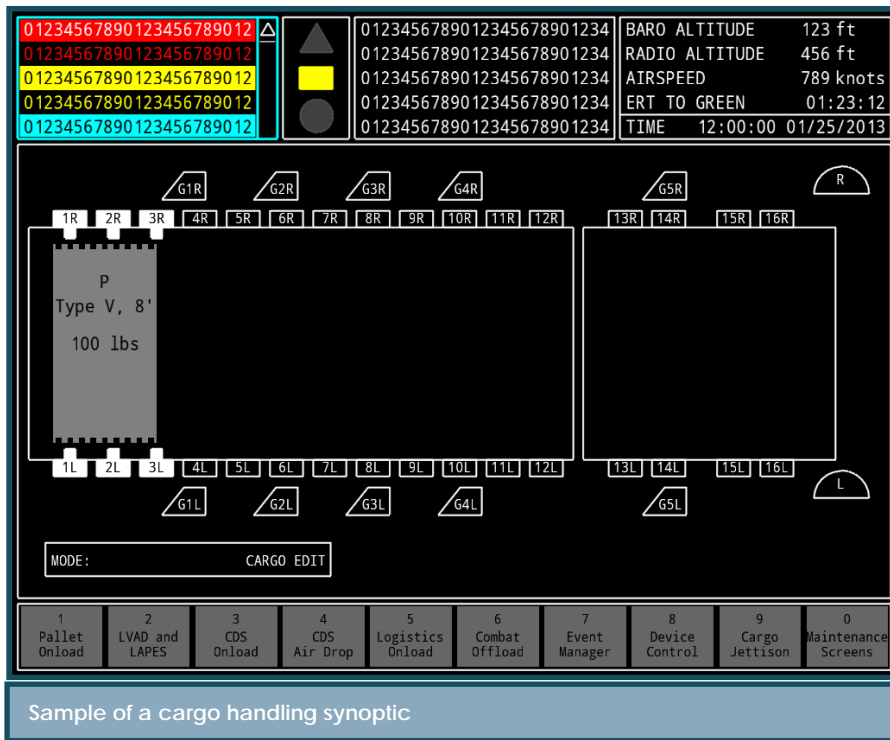
Performance can provide customized solutions to meet specific customer proprietary rendering interfaces.

Certifiable

Certified Software GPU meeting **DO178C** level C.

Automated test scripts provided for on-target structural coverage credit.

Available certification kits include all DO178C artifacts, software, test and Performance's support.



HW independent

Enables OpenGL rendering without HW GPU, eliminating HW obsolescence.

Eliminating the need for a HW GPU gives you the flexibility to process display graphics without hardware limitations.

Why a software GPU?

Display technology is diverse and advances so rapidly that by the time a system can be designed, certified and released into the market it is often obsolete in consumer electronics terms. Performance has developed a better way. Rather than investing in lifetime buys of unique components, you can now get a low cost virtual graphics processor unit designed for easy portability across platforms.

With an existing displays application there are two simple steps to integration:

- Compile the software GPU for target platform
- Use the software GPU memory manager to set up frame buffer

Our Software GPU is an OpenGL rasterizer with built in memory management and an interface to the most commonly utilized 2D OpenGL SC 1.0 APIs. It is a hardware independent solution that will save our customers the headaches and costs associated with hardware GPU's in display systems.

Why is our Software GPU the best obsolescence solution for you?

- Most cost effective solution in the market
- Optimized for runtime performance—ask us about benchmarking
- Compact footprint improves efficiency
- Interfaces are flexible & customizable
- Low impact growth path
- Support for large frame buffers
- Fully supported by us

About Performance Software

Performance is a veteran owned software and systems engineering business specializing in product development, embedded avionic services, and full life-cycle solutions certifiable to **DO-178B/C Level A-D**. Performance develops software and other innovative technologies for avionics, energy, and healthcare markets. Headquartered in Phoenix, Arizona, Performance operates additional offices in Seattle, Clearwater, Grand Rapids, New Orleans and the Philippines. Performance is an **AS9100 registered** organization.