

# HyperCore™ GPU Virtualization Manager

## FEATURES AND BENEFITS

- Designed as a modular architecture to support a variety of different multicore and multi-partitioned configurations
- Allows sharing of a single GPU, or multiple GPUs, across multiple guest operating systems
- Hypervisor level module has deterministic and bounded execution time
- Efficient GPU management and user defined prioritizations
- Real time watchdog module available to ensure partition integrity and GPU health monitoring
- Minimal CPU overhead
- Implemented without the use of spin locks ensuring deterministic scheduling of user rendering partition
- Supports RTOS, including Wind River VxWorks, SYSGO PikeOS, Green Hills INTEGRITY, DDCI-Deos, Lynx Software MOSAic, Linux and configurable for proprietary RTOS
- Fully integrated with CoreAVI's VkCore® SC (Vulkan) graphics and compute driver, ArgusCore™ (OpenGL) graphics, and DecodeCore® video decode drivers
- Supports use of TrueCore™ GPU health monitoring in dedicated partitions
- Available with CertCore™ 178 (Avionics DO-178C / ED12-C Level A) safety certification packages

## INTRODUCTION

CoreAVI's HyperCore GPU Virtualization Manager is designed to enable the virtualization of graphics/video capabilities using one or more graphics processors being utilized by multiple instances of independent partitions or guest operating systems.

HyperCore allows multiple guest operating systems to share a single graphics processor as if they were using it exclusively on their own. This feature allows multiple rendering partitions, on multiple guest operating systems, operating on multiple CPU cores to share a single GPU resource. The HyperCore module allows users to set GPU prioritization and most efficiently virtualize and display graphics/video content on systems deploying an RTOS hypervisor and multicore platforms.

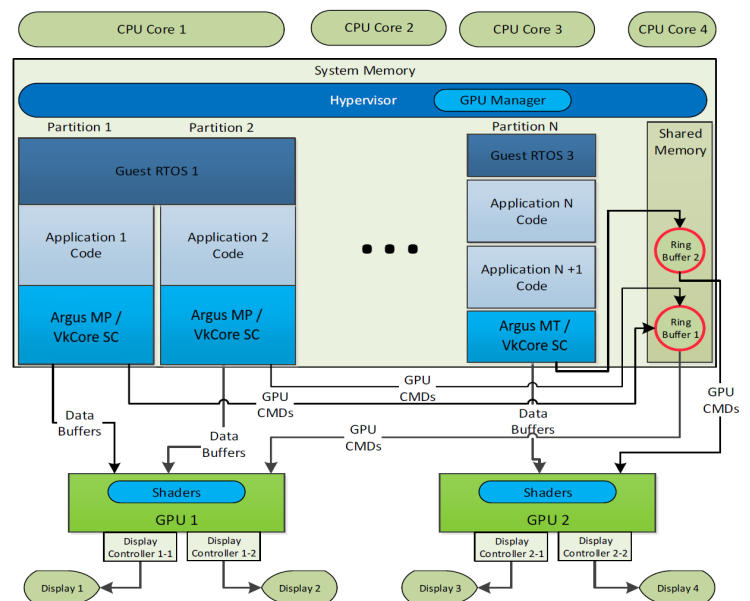


Figure 1: HyperCore GPU Virtualization Manager