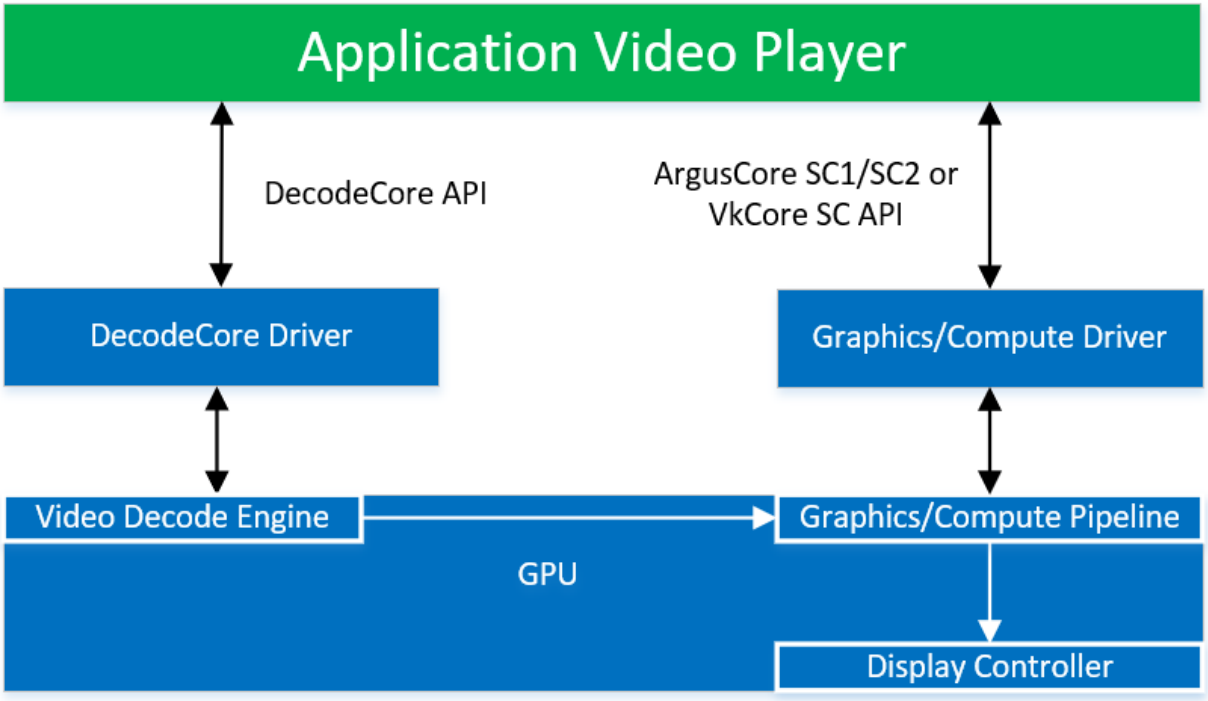
DecodeCore®

Video Decode Drivers for RTOS and Safety Critical Systems

CoreAVI's DecodeCore is a real time and safety critical H.264/H.265/MPEG2/VC-1 video decode driver that enables the hardware video decoder that is built-in modern graphics and system on chip processors. CoreAVI's video decode drivers have been deployed in both airborne and ground control display systems globally, including UAV command and control, 360 degree situational awareness, Diminished Vision Enhancement (DVE), Geographic Information Systems (GIS), moving maps and various sensor warning systems.

DecodeCore enables applications to decode and display compressed video with much lower CPU usage than with a software-only decoder. The video decode drivers operates with CoreAVI's ArgusCore™ SC1/SC2 family of OpenGL graphics drivers and Vulkan®-based VkCore® SC graphics and compute drivers. The driver architecture and API ensures high efficiency and low latency between the video decode hardware and the graphics hardware. The decompressed video is also available as a texture enabling complex hardware accelerated image manipulation and integration with 2D or 3D graphics.



FEATURES & BENEFITS

- Fully thread safe implementation
- Low power and high performance hardware-accelerated video decode of H.264/H.265/MPEG2/VC-1 video streams*
- Fully integrated with CoreAVI's ArgusCore (OpenGL) graphics drivers and Vulkan-based VkCore SC graphics and compute drivers for minimum latency and overhead
- Scalable architecture supports processing and displaying 10+ independent and simultaneous video decode streams
- GPU engine can automatically use the most recently decoded video frame with no CPU utilization
- Decoded video is displayable as a texture, allowing easy integration with a 2D or 3D overlays
- Enables complex shader-based manipulation of the decoded video
- Supports multicore virtualized system configurations
- Supports RTOS, including Wind River® VxWorks®, SYSGO® PikeOS™, QNX® OS, Green Hills® INTEGRITY®, DDC-I Deos™, Lynx Software Technologies LynxOS®, Linux and configurable for proprietary RTOS
- Operates in conjunction with EncodeCore® (CoreAVI's Video Encode driver suite)
- Available with CertCore™ 178 (DO-178C / ED12-C Avionics) Level A safety certification packages

Developed with real time and safety critical capabilities, the product suite enables maximum performance to take full advantage of the advanced capabilities of integrated video decode accelerators on popular GPUs and SoCs, including AMD's Unified Video Decoder (UVD).

SUPPORTED GRAPHICS PROCESSORS

DecodeCore supports a number of popular graphics and system on chip processor families. CoreAVI's R&D and certification teams continue to evaluate GPUs available on the market in order to add new graphics processors to its growing list of supported platforms.

- Temperature Screened AMD Embedded Radeon™ E4690, E8860, and E9171 GPUs
- NXP's i.MX 8 SoC
- Intel's 11th Gen Core i7 SoC

For more information on CoreAVI's DecodeCore, contact Sales@CoreAVI.com.

* Please note that video formats are subject to supported GPUs and all formats may not be supported with all drivers. For more information on video format support contact Sales@CoreAVI.com.