

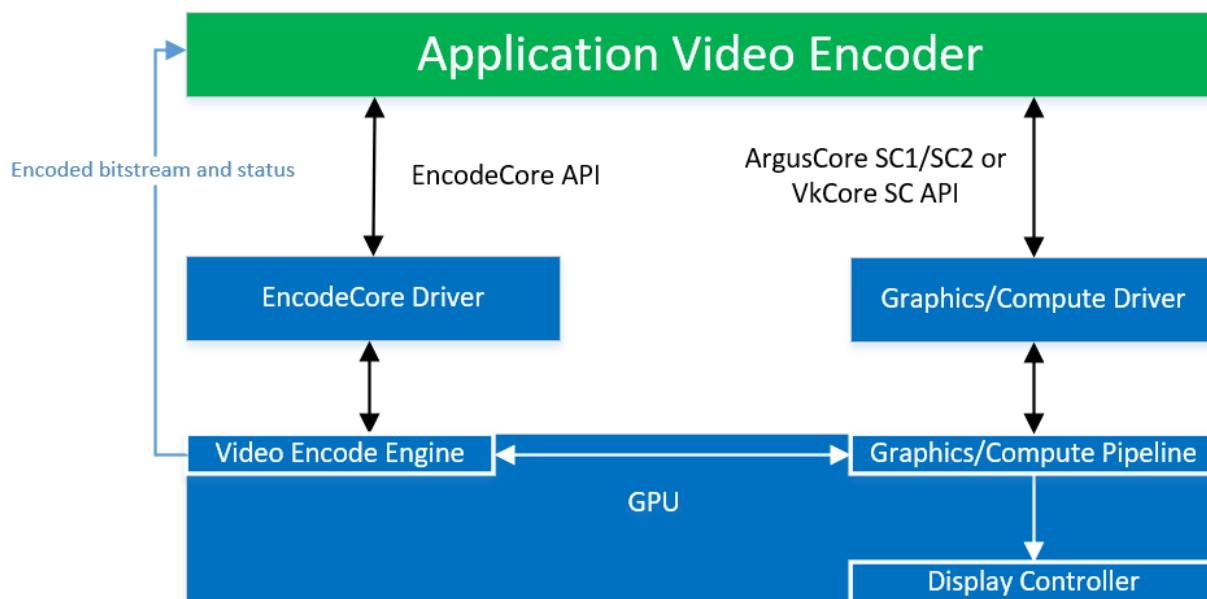
EncodeCore®

Video Encode Drivers for RTOS and Safety Critical Systems

CoreAVI's EncodeCore is a real time and safety critical H.264/H.265 video encode driver that enables the hardware video encoder that is built-in modern graphics and system on chip processors. This driver allows applications to encode raw video images with much lower CPU usage and power consumption than would be possible with a software-only encoder. CoreAVI's video encode drivers are deployed in airborne display systems to encode the graphics/video output enabling applications requiring recoding, low bandwidth transmission and other capabilities where compressed video is required.

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 graphics hardware and the video encode hardware. The resulting compressed video is made available on the host single board computer as raw H.264/H.265 data. The raw data can then be packaged by the application into a desired format that can be transmitted, recorded and played back on video players supporting the packaged format.

In addition, the video encode driver can convert video data stored on the host single board computer into raw H.264/H.265 data.



FEATURES & BENEFITS

- Fully thread safe implementation
- Fully integrated with CoreAVI's ArgusCore (OpenGL) graphics drivers and Vulkan-based VkCore SC graphics and compute drivers for minimum latency and overhead
- Supports multiple independent (16+ streams) simultaneous video encode files and/or streams simultaneously
- Video frame encoding occurs in GPU with result placed in host single board computer memory with low CPU utilization
- Can encode GPU graphics output (framebuffer) and video stored in single board computer memory
- Metadata support for width and height, ate control data, encoded frame type (I or P) and reference frame tracking
- 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 DecodeCore® (CoreAVI's Video Decode 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 encode accelerators on popular GPUs and SoCs, including AMD's Video Coding Engine (VCE).

Supported Graphics Processors

EncodeCore 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™ E8860, and E9171 GPUs

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

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