LYNX MOSA.ic™ for AVIONICS

LYNX SOFTWARE TECHNOLOGIES

ADVANTAGE WITH intel.

11th GENERATION INTEL CORE™ i7 PROCESSOR SUPPORT

HARNESS THE POWER OF VIRTUALIZATION WITH INTEL AND LYNX

LYNX MOSA.ic for Avionics uniquely leverages Intel virtualization-enabled multi-core processors to simplify software stack complexity and unlock rapid development and integration options. It is trailblazing the modernization of avionic software platform design conventions through landmark design wins in military and civil aircraft programs, greatly reducing the technical risk and certification costs for future programs. The technology champions open standards and modular composability to pass forward the cost savings benefits of open proprietary software components.

LynxSecure®—the foundation of LYNX MOSA.ic for Avionics—takes advantage of Intel Virtualization Technology to construct virtual machines (VMs) by mapping memory, peripherals, interrupts, and DMA to processor cores, resulting in almost zero overhead during context switches. This deep level of virtualization minimizes software stack complexity and improves software security.

ACHIEVE DO-178C DAL A CERTIFICATION FASTER

The LYNX MOSA.ic for Avionics platform—hosted on Intel processor and network controllers—has achieved DO-178C DAL A quality standards, and its compartmentalized framework enables customers to reuse existing certifications for the DO-178C OS (via AC 20-148), with only new software modules needing to be certified, thus reducing costs and time to deployment.

SIMPLIFY SW DESIGN WITH BEST-IN-CLASS VIRTUALIZATION AND TOOLS

LYNX MOSA.ic revolutionizes traditional monolithic software resource management and I/O multiplexing by:

- Defining allocation of processor cores before run-time services are loaded
- Assigning hardware privileges and rights for specific system functionality to any guest operating system (OS)
- Precluding SW components from modifying system partitioning or interfering with other SW components
- Eliminating the need for a master / root / helper OS

FEATURES AND BENEFITS

- Unleash the performance of Intel CPUs with a full-featured, safety-certifiable platform
- Reduce NRE costs by rapidly porting any existing legacy code base to an open standard RTOS
- Reduce system complexity by decomposing monoliths into highly modularized architectures
- Trace system-level spec to low-level hardware allocations, facilitating hazard analysis and WCET analysis
- Improve real-time performance predictability through low-level hardware control
- Mitigate security vulnerabilities through use of an extremely small footprint (<50 KB) trusted codebase
- Certify fewer source lines of code (SLOC) by partitioning functionality across multiple critical safety levels
- Intuitive user model for controlling low-level hardware partitioning

AVAILABLE FOR EVALUATION NOW

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FAA Awarded DO-178B/C
AC 20-148
RSC
Reusable Software Components

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