



SECUREONE™ MILS HOST COMPUTING RESOURCE

RUGGED, COMPACT AND SECURE

Multi-core mission application processing

Collins SecureOne™ Multiple Independent Levels of Security (MILS) host computing resource (HCR) is a miniaturized mission computer designed for military and commercial airborne environments. When integrated within an avionic architecture or with other external platform specific I/O modules, our HCR can serve as either the main or offload mission processor. This enables control and separation of applications which ensures cybersecurity, flight safety and mission-specific utilization.

Our HCR architecture supports multiple security levels through instantiation of four separated high performance

computing subsystems with real-time operating systems. It can host third-party software applications (SW APP) in any of the secure computer enclaves enabling real-time simulations and other real-time training applications. Runtime images of SW APPs are loaded onto the HCR over the network by enclave from external data storage.

Currently, Collins HCR is an integrated component of the Joint Secure Air Combat Training System (JSAS) airborne equipment subsystem. The architecture instantiation realizes multiple security levels and classified applications integrated with aircraft bus I/O, high speed data recording, mesh datalinks and the JSAS host system for live, virtual and constructive (LVC) test and training applications.



KEY FEATURES & BENEFITS

- MILS open architecture supports four physically independent enclaves with software containers and/or hypervisor use for virtual enclaves and application separation
- Assured multi-core computing for flight-safety, security and simultaneous low assurance applications
- High performance computing
- Designed for tactical embedment with small size, weight and power usage
- Rapidly deploy third-party applications from disparate sources
- User-definable enclave isolation or combination of processors
- EAL-6+ Evaluation Assurance Level
- Linux real-time operating system

SYSTEM APPLICATIONS

- Simulation and training applications for a platform’s offensive and defensive systems including LVC avionics, environments and threats
- Automatic target recognition/detection (ATR/ATD)
- Processing, exploitation and dissemination (PED)
- Flight management and route planning
- Machine learning/artificial intelligence

SYSTEM CHARACTERISTICS

- SecureOne and RMF hardened architecture
- Top Secret through Unclassified application processing
- Designed to support third-party applications and certified to OSA standards
- Green Hills® INTEGRITY®-178B tuMP™ separation kernel with Linux® guest OS (safety and general purpose profiles)
- Scalable support for multiple decentralized systems and security enclaves
- Designed for remote/network management

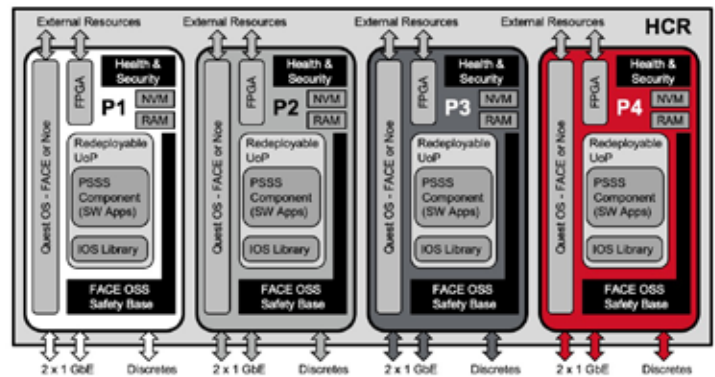
SYSTEM INTERFACES AND ATTRIBUTES

- Per secure boot processing enclave:
 - Quad-core ARM high-performance processors
 - Programmable logic and microcontrollers for custom mission applications and monitoring
 - 2 x 10/100/1000 Mbit 802.3 Ethernet
 - RS-422 interface
 - 4 GB LPDDR4 memory and 256MB NOR FLASH
 - Internal clock generation and power conversion
- Health and security monitoring and reporting
- Remote/network load, control and zeroize

PHYSICAL CHARACTERISTICS

Dimensions	6.27" x 3.67" x 0.9"
Weight	1.4 lbs
Power	50 W max; 18-32 VDC input
Mounting	Through holes in corners
Cooling	Convection/conduction
Temperature	-54° C to 71° C operation
Altitude	0 to 70k MSL
Environmentals	Qualified to MIL-STD-810G & -461F

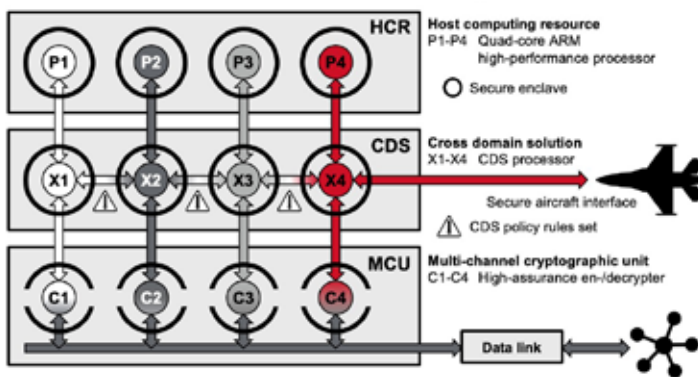
HCR BLOCK DIAGRAM



SECUREONE SOFTWARE DEVELOPMENT

Collins Aerospace provides a Software Development Kit (SDK) including an HCR emulator supporting independent third-party software application porting and/or development in a Linux, FACE™, and a Green Hills tuMP environment.

SECUREONE™ PRODUCT FAMILY



Specifications subject to change without notice.

MILS CYBER-SECURE SYSTEM: PROCESSING WITH CROSS DOMAIN AND ENCRYPTION

Collins HCR can also be used with our SecureOne tactical cross domain solution (CDS) and SecureOne KOV-74 MILS tactical multi-channel cryptographic unit (MCU). These NSA Type 1, four-channel MILS high-assurance programmable cryptographic and cross domain solution products protect Top Secret through Unclassified data, creating a fully configurable multi-level security cyber-hardened system and network.



COLLINS AEROSPACE

400 Collins Road NE
 Cedar Rapids, Iowa 52498
 800.321.2223 | +1.319.295.5100
 fax: +1.319.378.1172
 learnmore@collins.com
 collinsaerospace.com

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