



Common Range Integrated Instrumentation System (CRIIS) Information Sharing Architecture

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Executive Summary

Ranges have a need for an information sharing architecture that is scalable and balances system security with user/system needs

The CRIIS information sharing architecture is scalable to accommodate different range sizes and needs, supports future growth, allows range user to generate rules to govern information flows, and designed around modularity and common interface flexibility

Through lessons learned, Rockwell Collins is able to adapt the information sharing architecture to satisfy needs of future test and training ranges

The Challenge

Current testing ranges need an architecture that:

- Supports mission simultaneity
- Scales to accommodate ranges of various sizes
- Is low impact on existing range certification and accreditation (C&A)

Driving System needs:

- System scalability
- Support for future growth

Driving User needs:

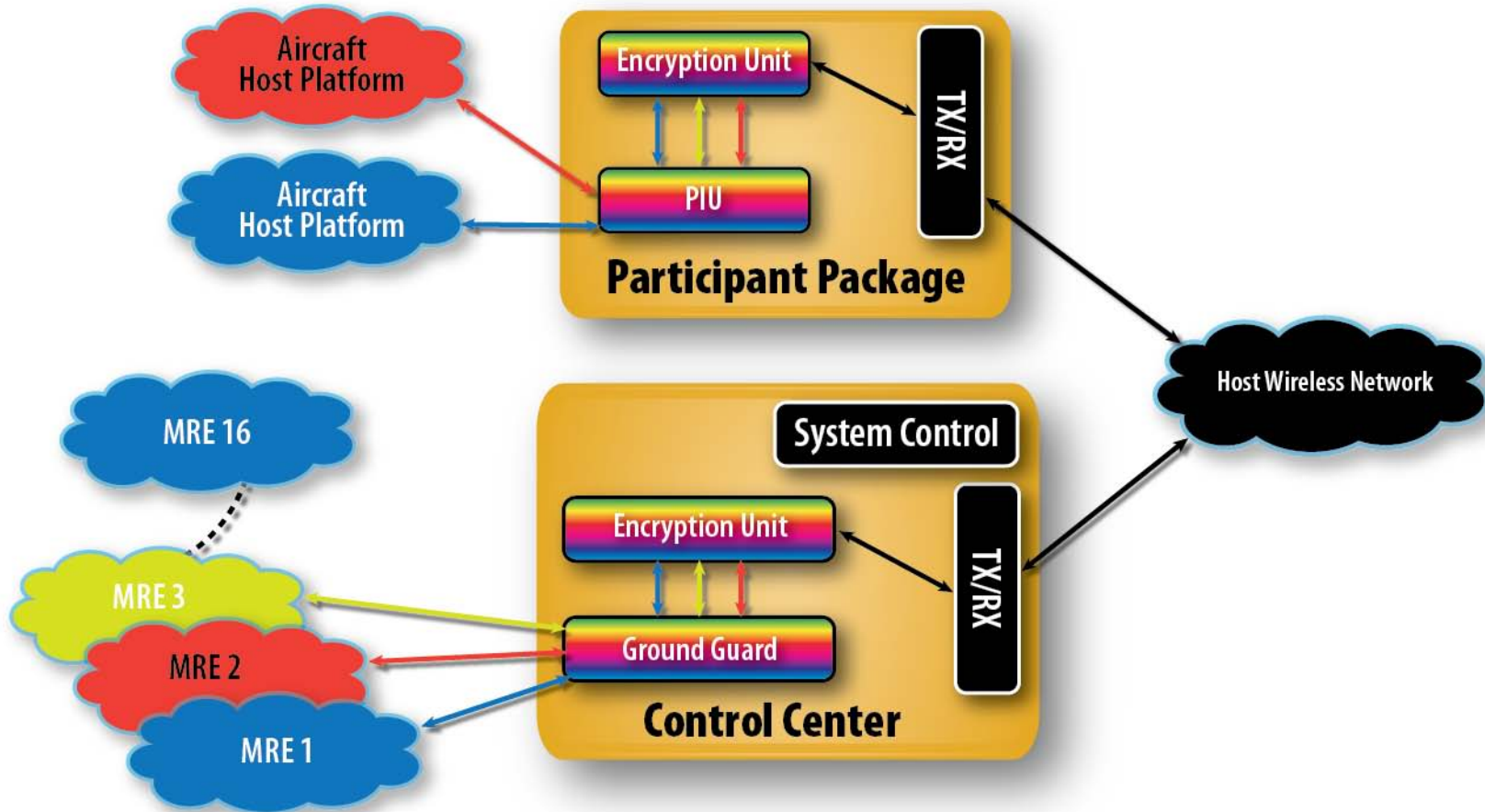
- Manageable configuration of information sharing policy
- Minimize life cycle costs



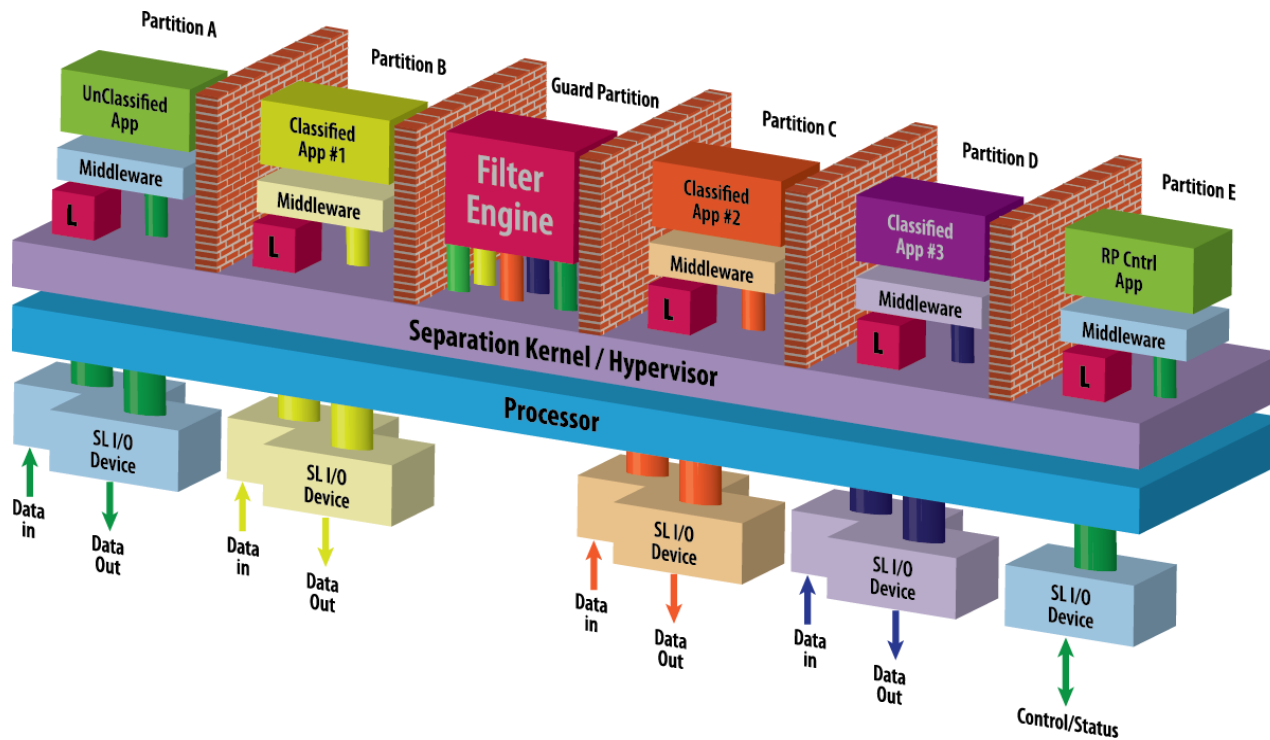
Design Drivers

- System scalability
 - Modular - size can vary to accommodate ranges of differing characteristics
 - Geographical size, Number of missions, Mission capabilities
- System flexibility
 - Common components used across system
 - Commercial off the Shelf Solutions (COTS)/Government off the Shelf Solutions (GOTS) products
 - Modular Open Systems Architecture (MOSA)
 - Employment of Standardized interfaces
- Information sharing architecture
 - Inclusion of security from the beginning
 - Employ defense in depth to achieve required security robustness

The Solution – Scalable MILS Architecture



The Solution – MILS Enforcer





Information Sharing Architecture Benefits

- Low System C&A Impact
 - Plugs into existing accredited system, delta C&A
- Range defined security policies
 - To govern information flows
- System scalability/flexibility/growth
 - Interface to host platforms of any classification levels, U - TS
 - Modular system design
 - Adaptable to ranges of differing sizes
 - Allows for future growth
- Life Cycle Cost
 - COTS use
 - Standardized interfaces
 - Module reuse across all subsystems

Lessons Learned

- Strategies to minimize C&A impact
 - Take advantage of employed high robust products for security critical functions
 - “Delta C&A” approach to existing range credentials
- Defining and building levels of trust within the system
 - Determine minimum customer need for design balanced with required trust
 - CDS vs. data partitioning
 - Employ layers of defense by deploying protection mechanisms system-wide

Summary

The CRIIS program has developed an extensible and reusable information sharing architecture which is:

- Scalable and flexible to support future growth
- Easily configurable by range users
- Built on Open Systems Standards

Provides an innovative solution for future test and training needs as well as other range environments

Contact

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