C2 Enterprise Integration

BGen Robert Latiff
Vice Commander
## Report Documentation Page

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<th>Sponsoring/Monitoring Agency Name(s) and Address(es)</th>
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<tr>
<td>NDIA (National Defense Industrial Association 2111 Wilson Blvd., Ste. 400 Arlington, VA 22201-3061</td>
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<td>Proceedings from Armaments for the Navy Interoperability Workshop, 30-31 May 2001 sponsored by NDIA.</td>
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Why Enterprise Integration?
Changing Warfighter Environment

- Autonomous Systems
- Integrated Aerospace Systems
- Battlespace Solutions
- Aging Aircraft
- Aging Systems
- Products
- Military Capabilities
- Point Solutions
- Effects Based Modernization
- Platform Centric
- Cross Cutting Visibility/Leadership
- System Focus
- Sys of Sys Architect
- Product Line
- Capstone Capability & Core Competencies
- Mod Planning
- Single Manager Focus
- Integrated Senior Leadership Focus

Environment Requires Effects Based Capabilities
“To ensure C2ISR integration & interoperability issues are effectively addressed, the Electronic Systems Center (ESC) is assigned the lead role and authority for integration of Air Force C2ISR systems. ESC/CC, as the DAC for C2 Enterprise Integration, will direct actions to ensure the integration of C2ISR systems, and to assure their interoperability with Joint and international systems.”

“ESC will also lead C2 Enterprise Integration planning and identification of required resources to ensure all USAF C2ISR systems are integrated and interoperable within the USAF and DoD C2ISR framework.”

*Lawrence J. Delaney, Asst Secretary of the Air Force (Acquisition), 06 Feb 01*
Strategy for Delivering Integrated C2ISR

- Nodal Approach
- Architecture-driven/Capability-based
- Integration/interoperability-focused
- Experiment-driven & Evolutionary Acquisition/spiral Development-enabled
- Modeling and Simulation
Integrated C2ISR

Efficient & Cost Effective
Decision Quality Information to the Warfighter
Electronic Systems Center
C2ISR Center of Excellence

- Space Ops
- Special Ops
- Mobility
- Business Ops
- Combat Ops
- Combat Support
- ISR
- Joint - Coalition Ops

Information Assurance
Data
Communications Infrastructure
Standards
Architectures

C2 Enterprise Integration
Architecture Council Management

SAF/AQ
- C2 Enterprise Integrator (ESC/CC)
- DACs & PEOs
- Systems Sponsor: AFMC SPD
- Acquisition Domain Sponsor is cognizant AFMC SPD

AF - CIO
- CIO EXECUTIVE COMMITTEE
- AF ENTERPRISE ARCH INT COUNCIL (chaired by AF-CIO Chief Architect)
- COMMAND and CONTROL
- INFRASTRUCTURE
  - AIR/SPACE SUPERIOR
  - PRECISION ENGAGE
  - INFO SUPERIOR
  - GLOBAL ATTACK
  - GLOBAL MOBILITY
  - AGILE CMBT SPT
- AF ENTERPRISE ARCH INT COUNCIL (chaired by AF-CIO Chief Architect)
  - Command and Control
    - INFRASTRUCTURE
      - COMM; MODELING & SIMULATION; INFO ASSUR; INFO MGMT
- Operational Sponsor: MAJCOM CIO or Functional Lead
- Warfighter Domain Sponsor is cognizant MAJCOM CIO or Functional Lead (e.g. MAJCOM/SC or other)
Analysis of Roadmap Alternatives (ARA)

**Purpose:** Build an integrated, mutually supportive materiel-solution input to the annual C2ISR APOM/POM process

**Products:** Fully integrated Cross-Program Roadmaps for each Focus Area, backed by Architectures.

Feed Capability Decision Package
Example: Web-Based Integration

Web-enabled, Integrated IT

Web-Based Clients

- Global C2 System
  - Air Force
  - Mission Application
  - GTG Application Platform

- Theater Battle Mgt Core Sys
  - Mission Application
  - GTG Application Platform

- Global Combat Support Sys
  - Air Force
  - Mission Application
  - GTG Application Platform

Storage Servers
CINC Interoperability
Program Office(s)

Key CIPO Challenges
• Getting SYSCOMS to Think/Act Joint
• Joint Acquisition Teaming
• Embed CINC Ops Tempo

Focus Across CINCs
Combined Air Ops Center
Experimental

Operator

Prototypes

Technology

AFRL, ACTD,
JEFX, field,…

Tester

CAOC-X

Integrator
(ESC)

System
Updates

Capability
Needs

OPERATIONAL
SITES
Analysis Using Synthetic Battlespace

- Immerse Acquisition Process into Warfighter Environment
  - Quicker Fielding – Avoid Redesign/Mistakes
  - Cost Avoidance – Total Systems Savings
  - Improved Product – Better Design/Operator Interfaces

**WARFIGHTER**
- Training
- Mission Rehearsal
- Ops Definition

**SYNTHETIC BATTLESPACE**
- Repeatable
- Variable Resolution/Fidelity
- Verified/Validated/Trusted
- Distributed or Standalone
- “Corporate” Infrastructure

**ACQUISITION**
- Government Sites
- Contractor Sites
- Technology Analysis
- Design Trades
- Systems Engineering
- Integration and Test
- Operational Testing
Partnerships for C2 Enterprise Integration

Industry
- Integrators
- Systems Designers
- Airframe
- Labs
- Study Houses

National
- NRO
- NSA
- DCI

Joint
- USA
- USN
- USCG
- TRANSCOM
- USSPACECOM
- JFCOM

AFMC
- ESC, ASC, SMC, OC-ALC, AFRL

Ops MAJCOM
- ACC
- AMC
- AFSPC

AC2ISRC
- EIM
- SDIPT

Pentagon
- DoD CIO
- SAF/AQ
- AF/XO/XP
- DARPA

Coalition