Headquarters U. S. Air Force

Integrity - Service - Excellence

Air Force Command and Control & Intelligence, Surveillance and Reconnaissance Center

Col Greg Pietrocola
ANG Advisor to the Commander,
Air Force C2 & ISR Center
What is it ......

What happens when we don’t deliver net-ready capability to the field!
Welcome to C2 & ISR Integration

- Everyone loves integration as long as you integrate with me
- I provide a product and my job is done (but someone else’s is just beginning)
- Sometimes four pieces of information are worse than one
- What’s a pound of Command and Control or ISR worth?
  - And how much does it cost?
- Our Planning, Programming and Budgeting System (PPBS) = four IT generations (Moore’s Law)
A single secure Grid providing seamless, end-to-end capabilities to all warfighting, national security, and support users

Supports the Department of Defense and Intelligence Community requirements from peacetime business support through all levels of conflict
Defining Our Terms

- **Joint Command and Control (JC2)**
  - DoD’s principal capability to provide an integrated, seamless and net-centric environment at all echelons

- **Air and Space Operations Center (AOC)**
  - Worldwide C2 nodes which enable a Combined Forces Air Component Commander (CFACC) to command airpower in support of a combatant commander

- **Distributed Common Ground System (DCGS)**
  - AF’s primary Tasking, Processing, Exploitation, and Dissemination (TPED) facility for U-2, Global Hawk, and Predator weapon systems, with links to national agency data and comm infrastructure
AFC2ISRC Mission

Modernize, Improve, and Seamlessly Integrate C2ISR Capabilities to Deliver Combat Capability Across Joint Forces

AFC2ISRC
14 Locations
600 Personnel

Commander’s Intent – Supporting the Warfighter:
- Develop C2 Constellation
- Modernize and integrate Air Operations Center (AOC) and Distributed Common Ground Station (DCGS)
- Engage the Joint Warfighter

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Langley AFB (Hampton), Virginia
Commander’s Intent

“The development and deployment of a truly modern and effective command, control, communication, and intelligence system is fundamental to the transformation of the US military forces .... ”

— Secretary of Defense Donald Rumsfeld

And winning wars
C2 Constellation in context

- Work the AF input from the operations perspective
- Press for integration and interoperability of current, upcoming, and future systems
- Enable Joint Mission Areas
- Support SecDef Interoperability & Connectivity objectives
- Ensure AF C4ISR meets DoD Transformation / Joint BMC2 goals

It’s not about platforms, sensors and nodes
It’s about supporting the Joint Force Commander by increasing air & space power through information integration
BMC2 is....

- **People** executing the AF Space & C4ISR Task Force CONOPS through
- C2 **processes**, achieving Effects- Based Operations & Predictive Battlespace Awareness, enabled by the
- C4ISR **technology** resident in the Network-Centric Infrastructure of the Constellation
- Constellation produces decision-quality information
- BMC2 creates an intuitive decision making environment
Commander’s Intent

Modernize and integrate AOC and DCGS

- Functional Flexibility
- Net-Centric Globally Connected
- Effects Based Strategy Dvlpt / Asmt
- Dynamic Tasking / Execution
- Dynamic Airspace Management

- Predictive Battlespace Awareness
- Advanced Info Management
- Reduce Forward Manpower by 2/3
- Flexible Coalition Interoperability
- Train as we Fight

Leading the Way to JC2

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DCGS Integration Backbone (DIB)

- Multi-Service collaboratively defined core architecture
- Ground-rules for accessing the system
  - Required standards
  - Interface mechanisms
  - Information definitions
- Ability to get at and move information
  - What information is available
  - Where the information is
  - Where it needs to go
  - What processing services are available
- Enterprise system services
- Available to all Services & Agencies
Commander’s Intent

Engage the Joint Warfighter

Joint C2 Requirements Stakeholders Concept
Joint – JFCOM Joint BMC2
USAF – AFC2ISRC & ACC C2 Constellation / ConstellationNet
USA – TRADOC LandWarNet / Objective Force / Future Combat System
USN – NETWARCOM FORCEnet

- Army, Navy and Marine Corps plus industry strategic partnerships
  - Multi-Service C4ISR Integration Steering Group
- Airman’s voice to JFCOM Board of Directors
  - Ensure airpower C4ISR fully integrated with JBMC2 joint solution set

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Engaging the Joint Warfighter

- Joint Expeditionary Force Experiment (JEFX)
- Multi-dimensional
  - Controlled, operationally-realistic warfighting environment
  - Live, constructive, and virtual entities
- Multi-functional exploration
  - Networked environment
- Multi-national, multi-service integration
- Makes recommendations for the rapid transition of deserving capabilities
Apr 06, Robust live-fly, Joint & Coalition at CAOC-N
Focus entire effort on Network Centric Ops
Approximately six major initiatives directly support overarching theme
- TBONE (MLS and Integration of TBMCS Capabilities)
- DLARS → WEEMC (real-time SA and execution via datalinks)
- Airborne IP networks
- ISR (integration of current visualization and fusion efforts)
- Homeland Security

Capitalize on emerging capabilities to better integrate the Falconer Weapon System

Emphasis on integration and links in JEFX 06
JEFX 06 Focus

- Achieve / field four capability goals with Joint and Coalition play
  - Continuous Air Planning and Dynamic Execution
  - ConstellationNet
  - ISR Fusion
  - Homeland Security / Defense

- Accomplish three overall effects:
  - Field TBONE (as core of TBMCS 1.1.4) and tighten CAOC integration by reducing applications, hardware, and number of seats by 30%
  - Expand datalink use
  - Extend network to link operational to tactical

- Demonstrate the Decision Support Module (DSM) concept on a non-interference basis

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JEFX 06 Initiatives

- Continuous Air Planning and Execution
  - Network-Centric Weather Integration (*Weather in AOC*)
  - Non-Traditional ISR Information Services (*NTISR*)

- ConstellationNet
  - Battlefield Airborne Communications Node (*High Altitude Comm*)
  - SOF Warfighter Information Process Enhancements (*Battlefield Airman Operations*)

- ISR Fusion
  - Fusion for the AOC (*Multi-INT Icon*)

- Homeland Security / Defense
  - Base Support & Expeditionary (*ACS Integration*)
  - Combat SkySat I (*Near Space Vehicle*)
  - Global Hawk Maritime Demonstration-Maritime Domain Awareness (*Homeland Security COP*)
Transformation Objective
Network Centric C2 & ISR Environment

It’s not about platforms, sensors and nodes....

It’s about supporting the Joint Force Commander
by leveraging the C2ISR enterprise through
information integration – it’s about the data
Our Collective Challenge

- Ensure systems, policies, and people meet interoperability capabilities demanded by Network-Centric Operations

- Determine way ahead to lead C2 & ISR path to Joint Command and Control

- Integrate today’s emerging concepts... JFCC-ISR, JIOCs, DoD DCGS, RSCs, and others
TBONE Demo

- Theater Battle Operations – Net-Centric Environment
  - A new way to integrate the ATO process by opening the architecture to improve Machine to Machine interfaces

Play Demo