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

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What is it …….

What happens when we don't deliver net-ready capability to the field!

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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)

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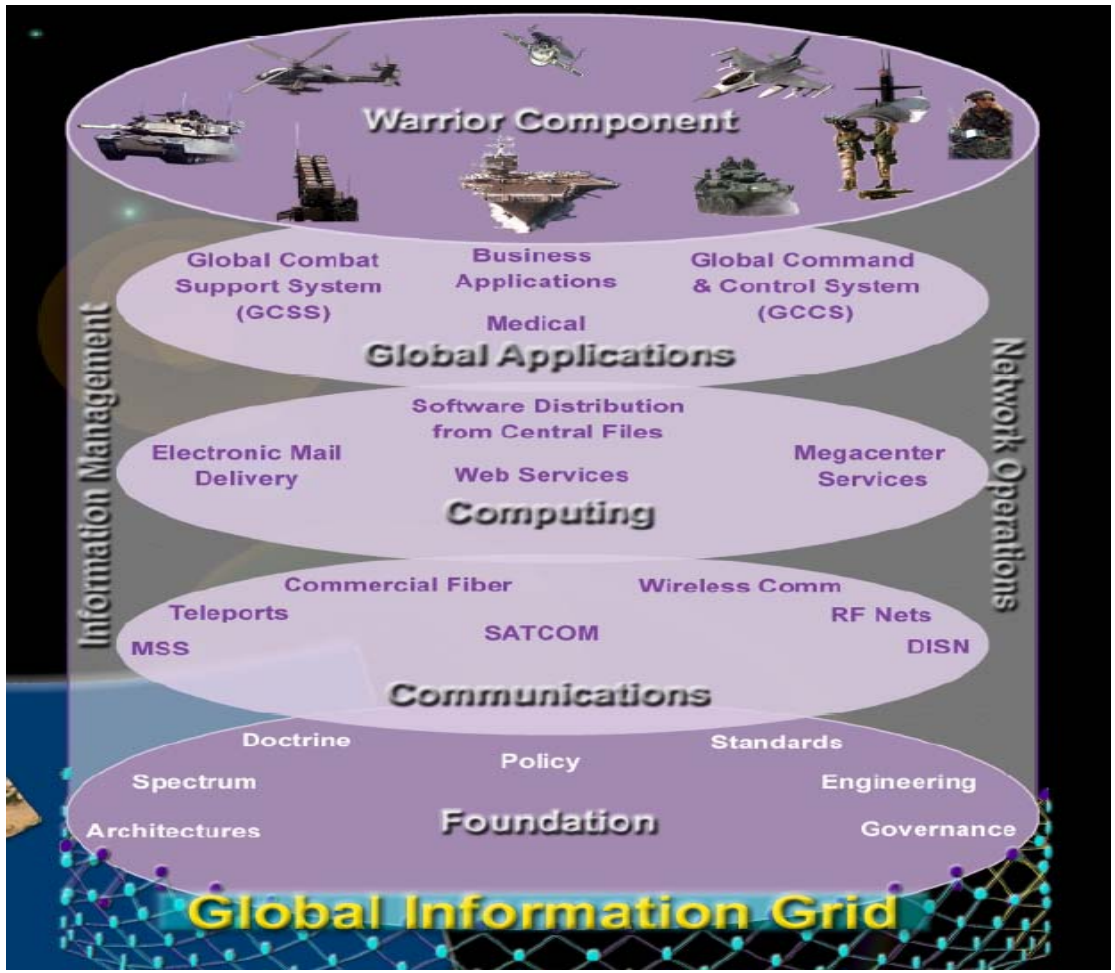
C2ISR Enterprise: The DoD Perspective

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



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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

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AFC2ISRC Mission

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

AFC2ISRC
14 Locations
600 Personnel

Langley AFB (Hampton), Virginia

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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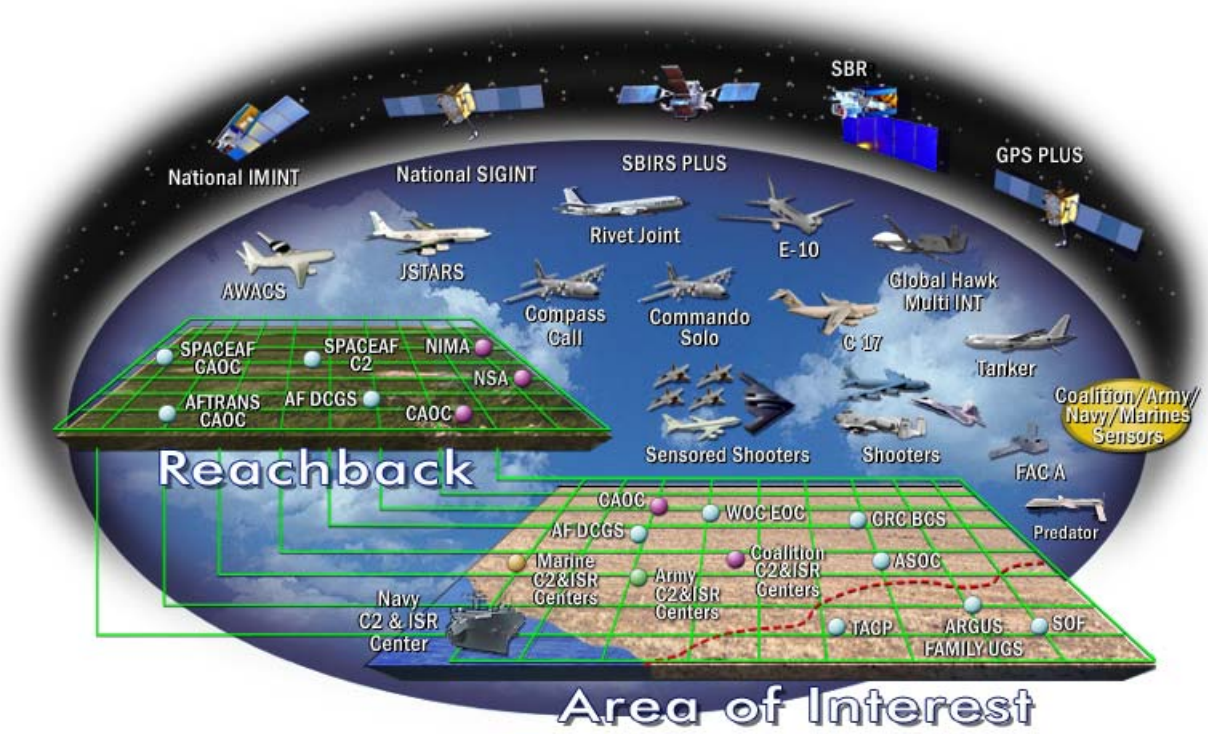
Commander's Intent

Develop C2 Constellation

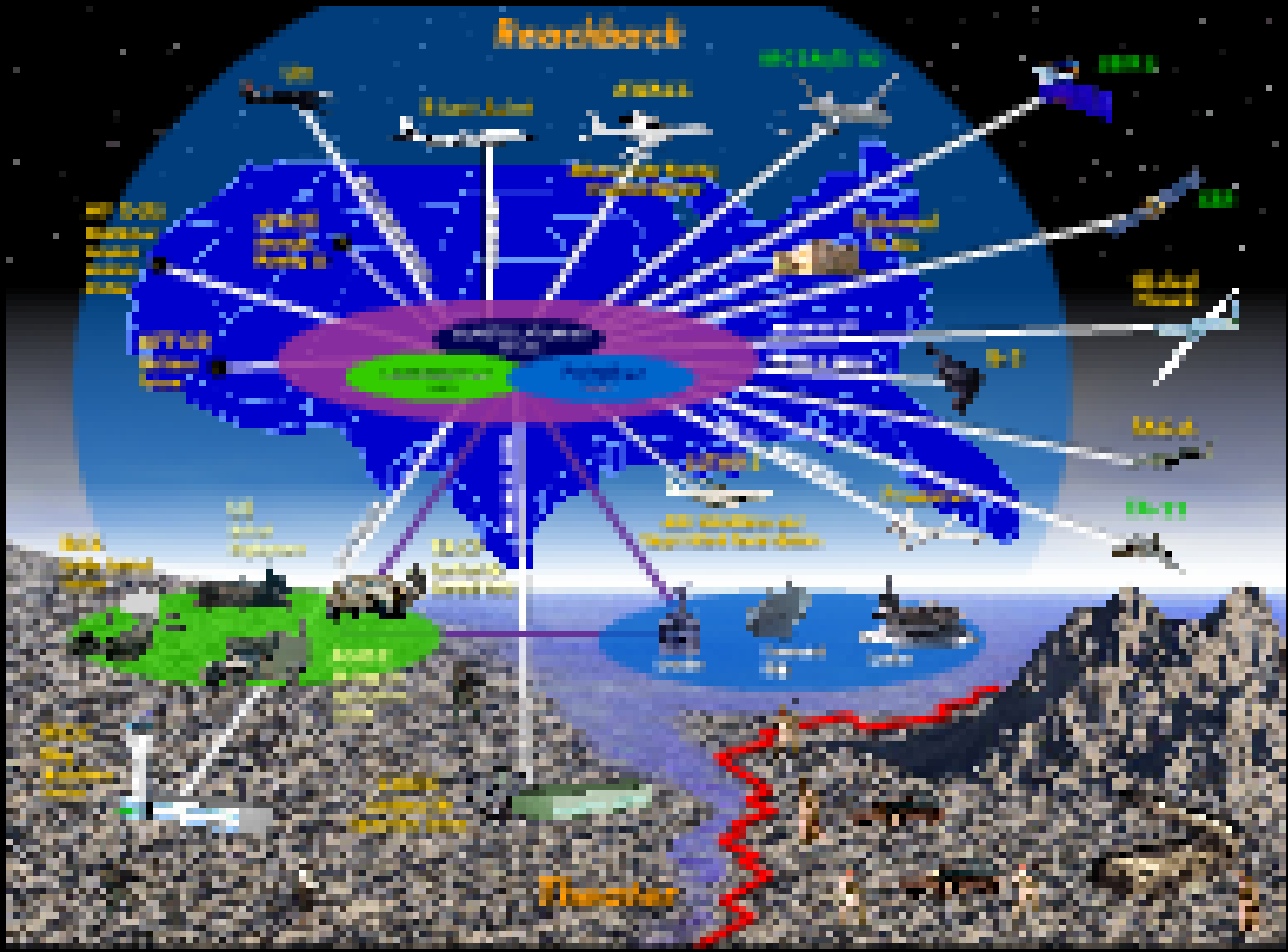
- A Network-Centric Family of Systems
- Seamless Information to Command and Control Forces
- Air / Space / Surface and Manned / Unmanned Vehicle Integration



"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


Reachback
Theater

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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

C2 Constellation - BMC2 Traits

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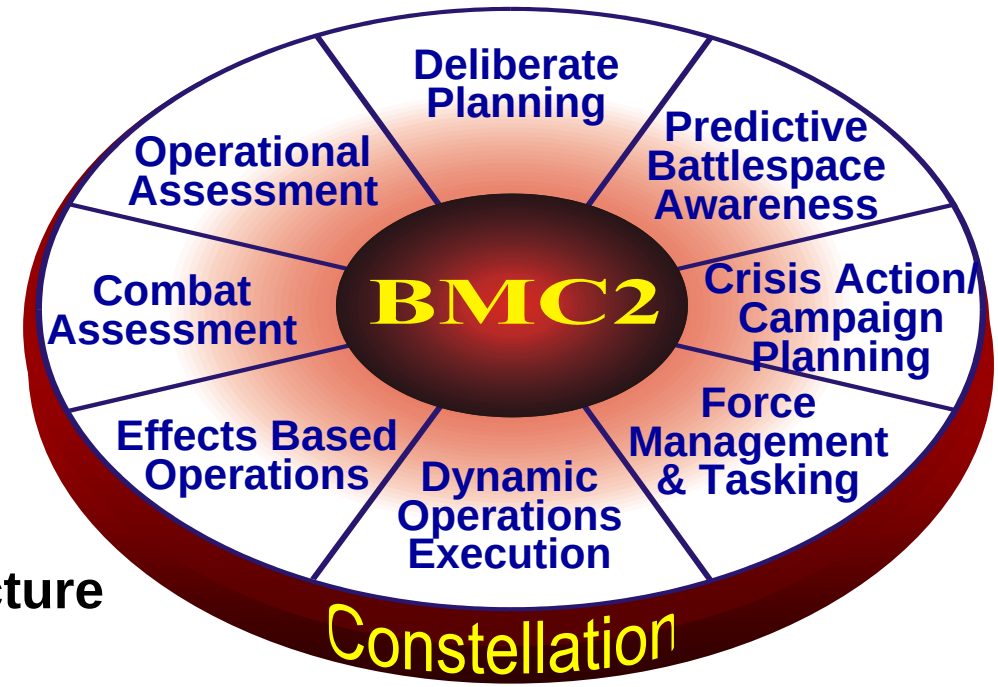
BMC2 is….

- **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**

BMC2 Enabled Tasks



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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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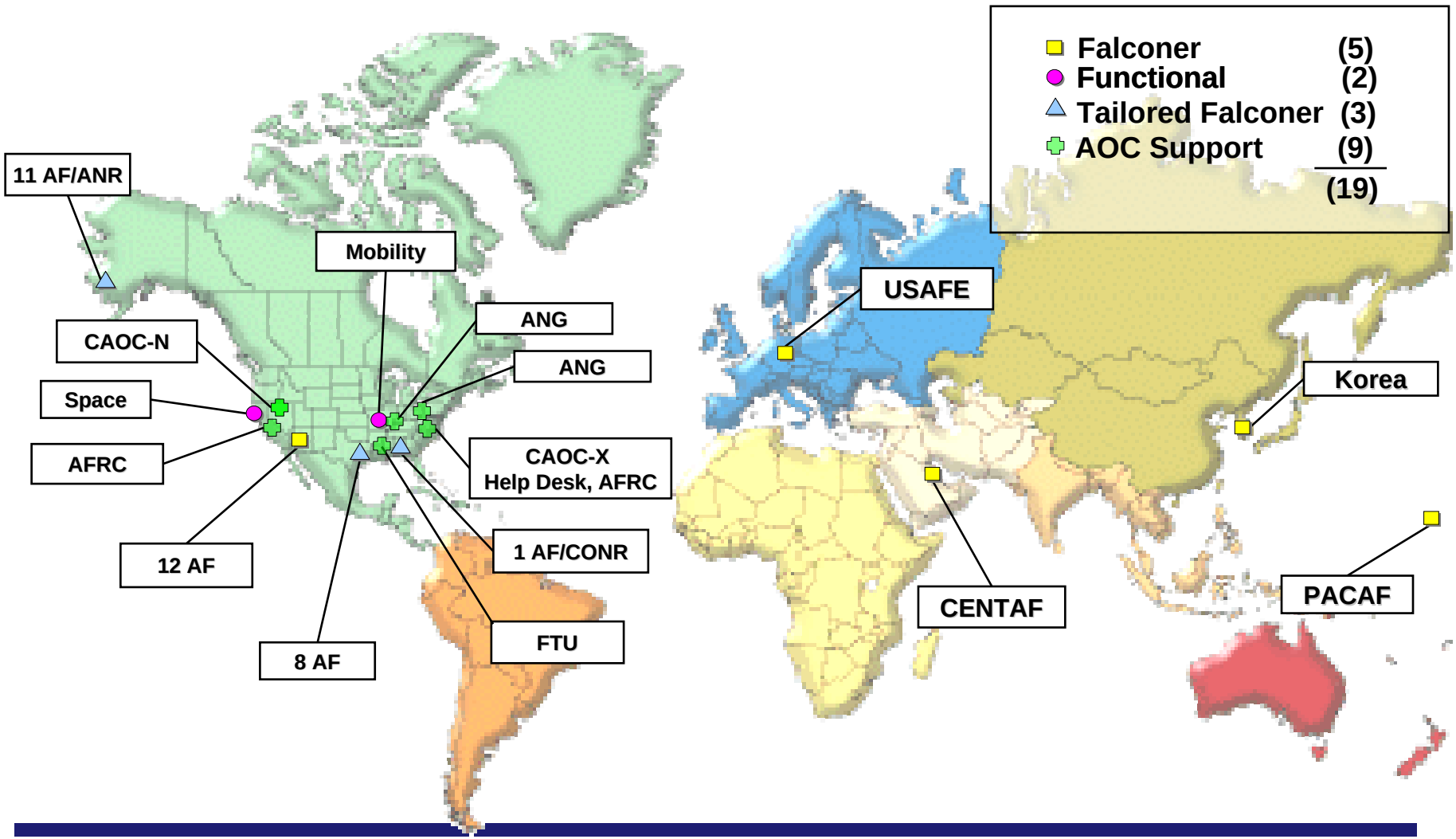
Current AOC Locations & Types



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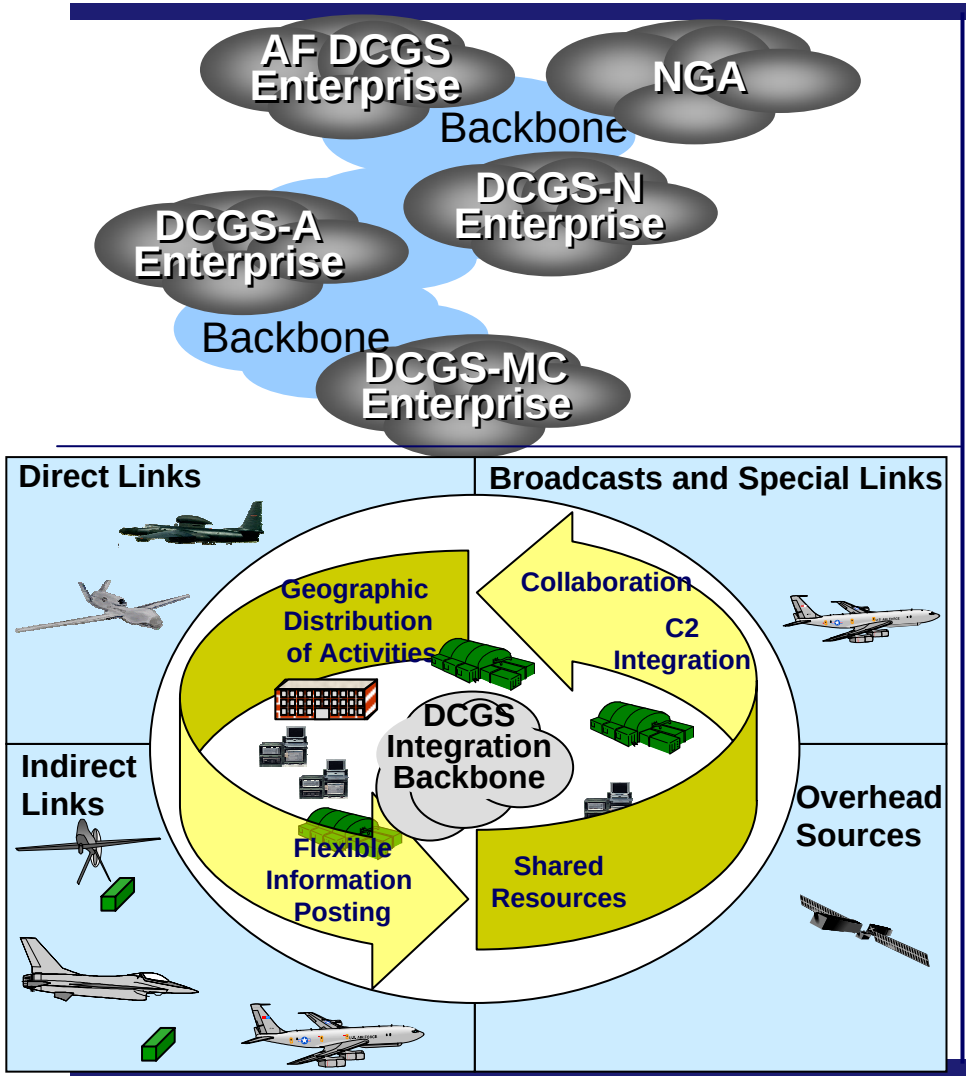
DCGS Integration Backbone (DIB)



- 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

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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

Tidewater C2 Community is Unique

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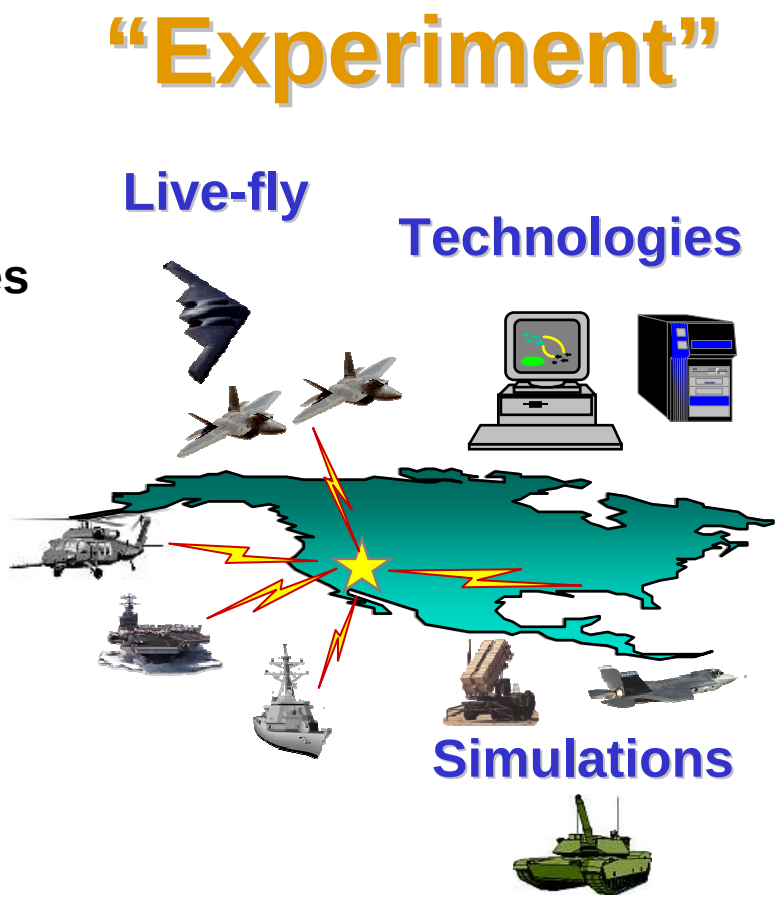
Engaging the Joint Warfighter

- 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



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CSAF JEFX 06 Guidance

- 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

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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*)

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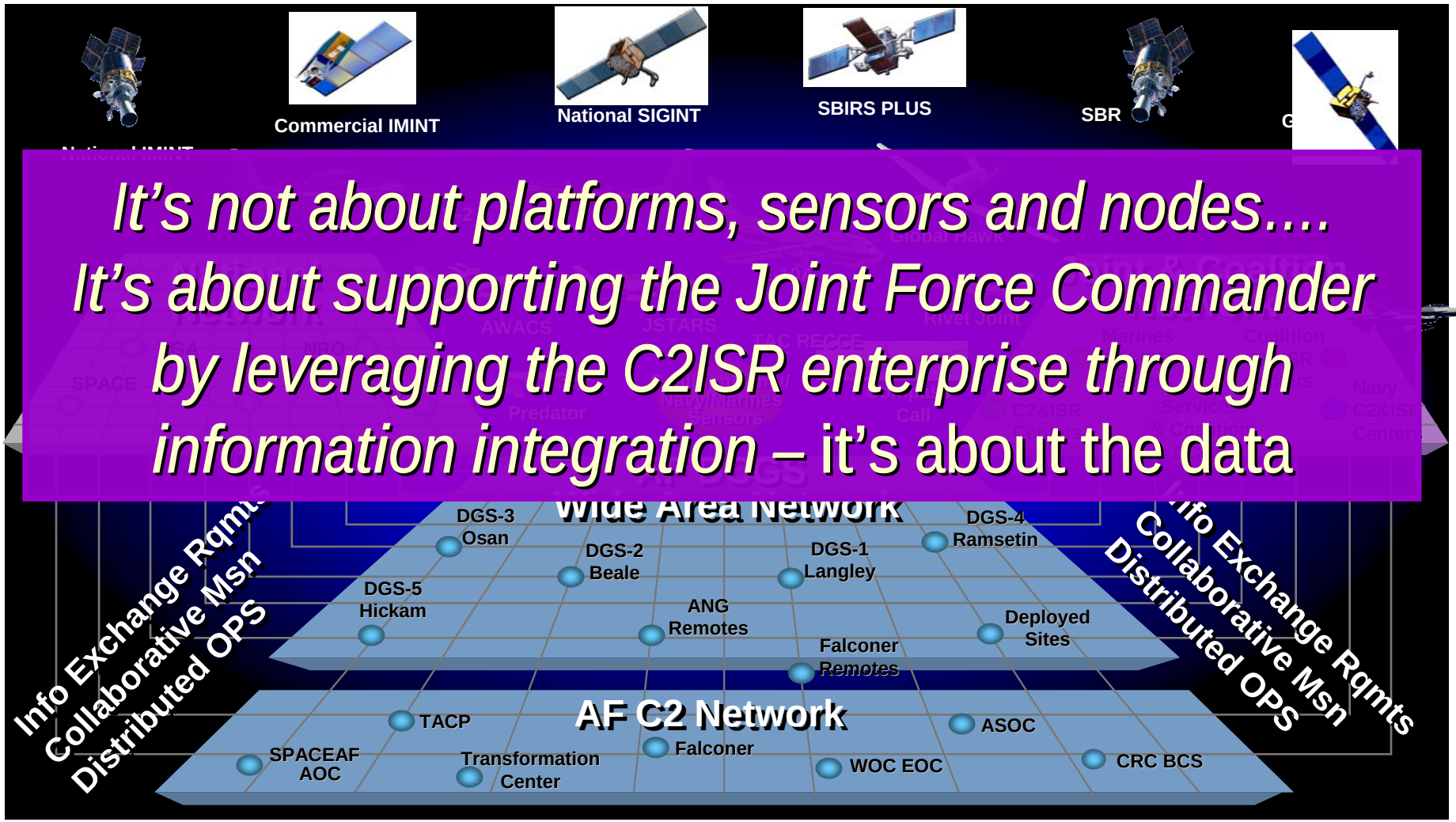
Transformation Objective
Network Centric C2 & ISR Environment



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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**

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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