

**NDIA Interoperability and
Systems Integration Conference**

JOINT FORCE INTEGRATION



Ms. Robin Quinlan
Office of the Under Secretary of Defense
(Acquisition, Technology & Logistics)
Assistant Director, Force Integration

Office of the Secretary of Defense
3070 Defense, Pentagon Room 3E1047
Washington, DC 20301-3070
Robin.Quinlan@osd.mil, (703) 697-8048

Overview

- **Context of Force Integration Initiatives**
 - **Capabilities Based Methodology**
 - **Joint Battle Management/Command & Control (BMC2)**
- **Force Integration Initiatives:**
 - **Family of Interoperable Operational Pictures (FIOP)**
 - **Single Integrated Air Picture (SIAP)**
 - **Single Integrated Ground Picture (SIGP)**
 - **Shared Tactical Ground Picture (STGP)**
 - **Combat Identification (CID)**
 - **Blue Force Tracking (BFT)**
 - **Precision Engagement/Time Sensitive Targeting (PE/TST)**
 - **Joint Fires Network (JFN)**
- **Summary**

Context of Force Integration Initiatives

Capabilities Based Methodology

- **DoD 5000 series significantly revised to emphasize Capabilities Based Methodology**
 - “Joint Staff shall lead development of the operational view...USD(AT&L) shall lead development of the systems view...”
 - Integrated Capability Assessments, Capability Roadmaps, and Investment Strategies
- **Joint Staff 3170 Revision**
 - Ensure the new Joint Capabilities Integration and Development System (Requirements Generation Process (RGS)) is coordinated with current Acquisition Policy (DoD 5000 Series)
 - Integrated Architectures will form a key component of the pending RGS
- **Joint Staff PDM-04 Joint Operations Concept Study**

Context of Force Integration Initiatives

Capabilities Based Methodology

Adopt the following:

Four Initial Joint Operating Concepts
1. Major Combat Operations
2. Stability Operations
3. Homeland Security
4. Strategic Deterrence

Five Functional Concepts
1. Battlespace Awareness
2. Command and Control
3. Force Application
4. Protection
5. Logistics

Perform “Strategy to Capability” analyses and capability assessment (“engineering solution” described in “deliverable” briefing)

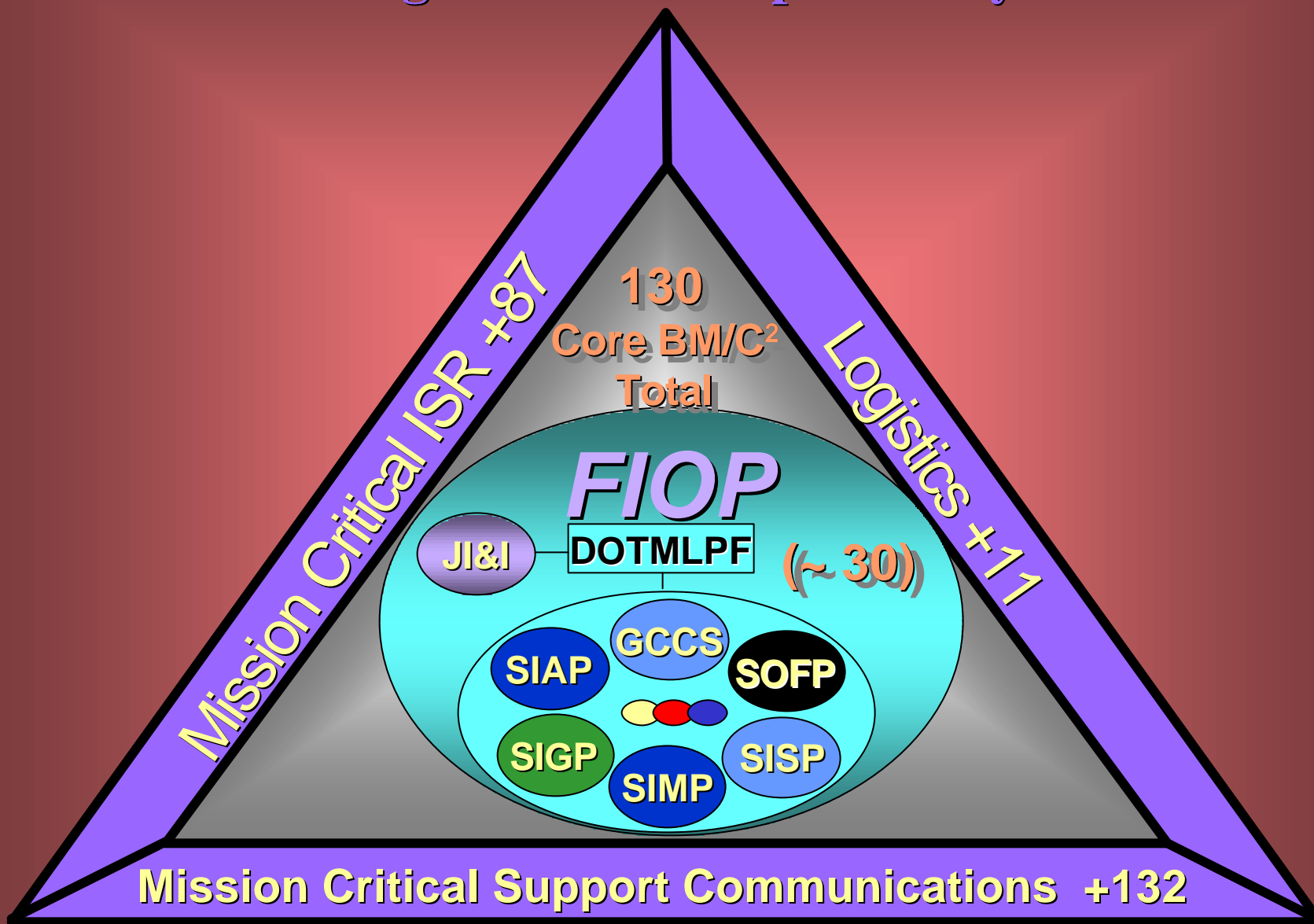
- Must not get bogged down in analysis processes.
- AT&L must be prepared to align themselves with new functional concepts but must retain investment in ongoing efforts (PE, CID, BFT, etc.)
- Will not be able to adopt a 100% engineering solution to our investment decisions

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Context of Force Integration Initiatives

Making BM/C2 Interoperable by 2008



(Total Mission Critical to phase out or make interoperable—360)

Context of Force Integration Initiatives

Joint BMC2

- **Secretary of Defense question – Interoperability and Connectivity to the Tactical Level**
 - **Directed a Joint Staff/JFCOM study**
- **Management Initiative Directive called for JFCOM to expand their role to take charge of Battle Management/Command & Control (BMC2) Initiatives**
 - **FY 2003: SIAP, DJC2**
 - **FY 2004: FIOP (consisting of SIGP, SIMP (& SIAP)), Precision Engagement (PE)**

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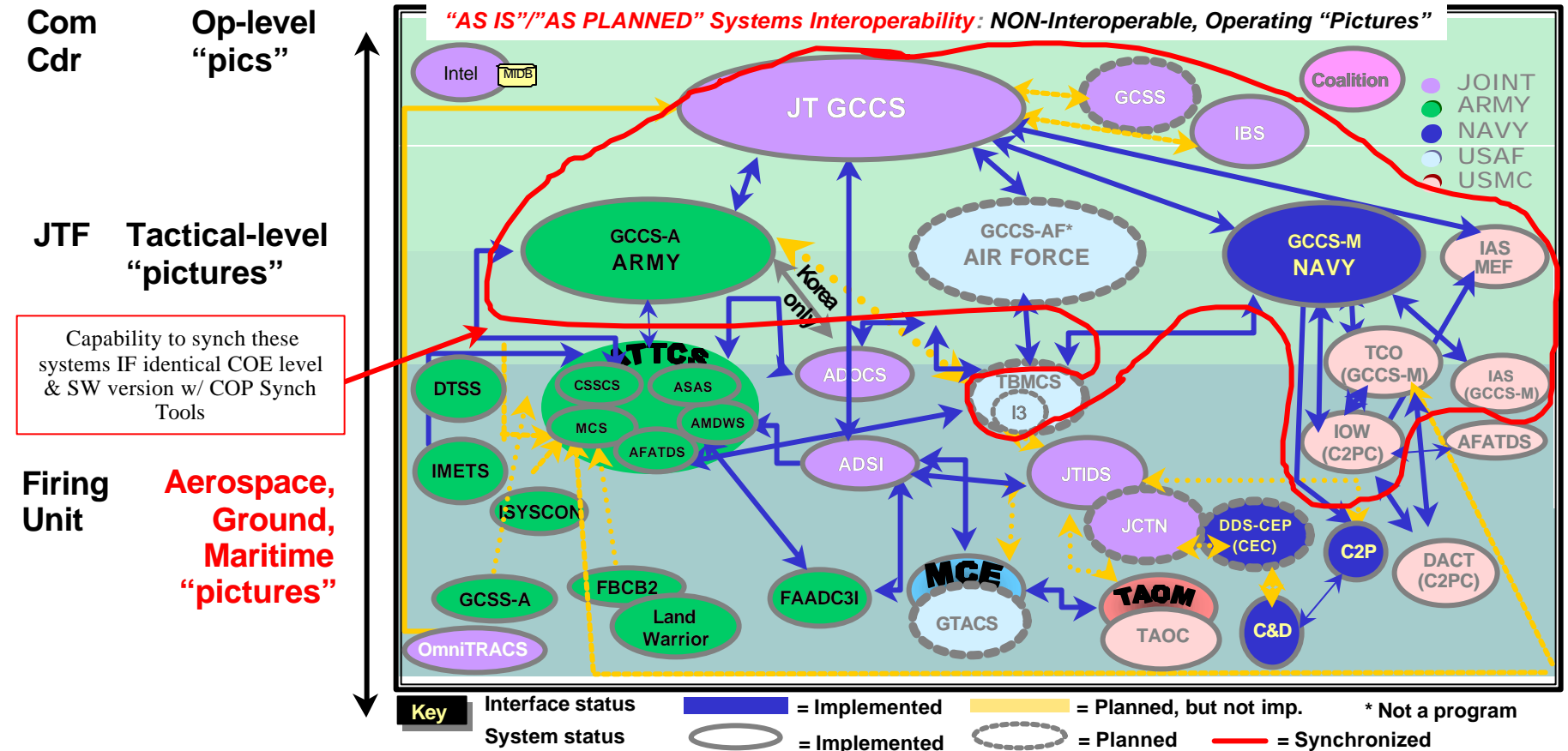
JBMC²:

Family of Interoperable Operational Pictures (FIOP) (\$36B)

The Problem: No Coherent View of the Battlespace from COCOM to Soldier/Sailor/Airman/Marine
Inability to Prosecute a Coordinated Strategy

USER/CONCEPT

CORRESPONDING SYSTEMS: "As-Is / As Planned"

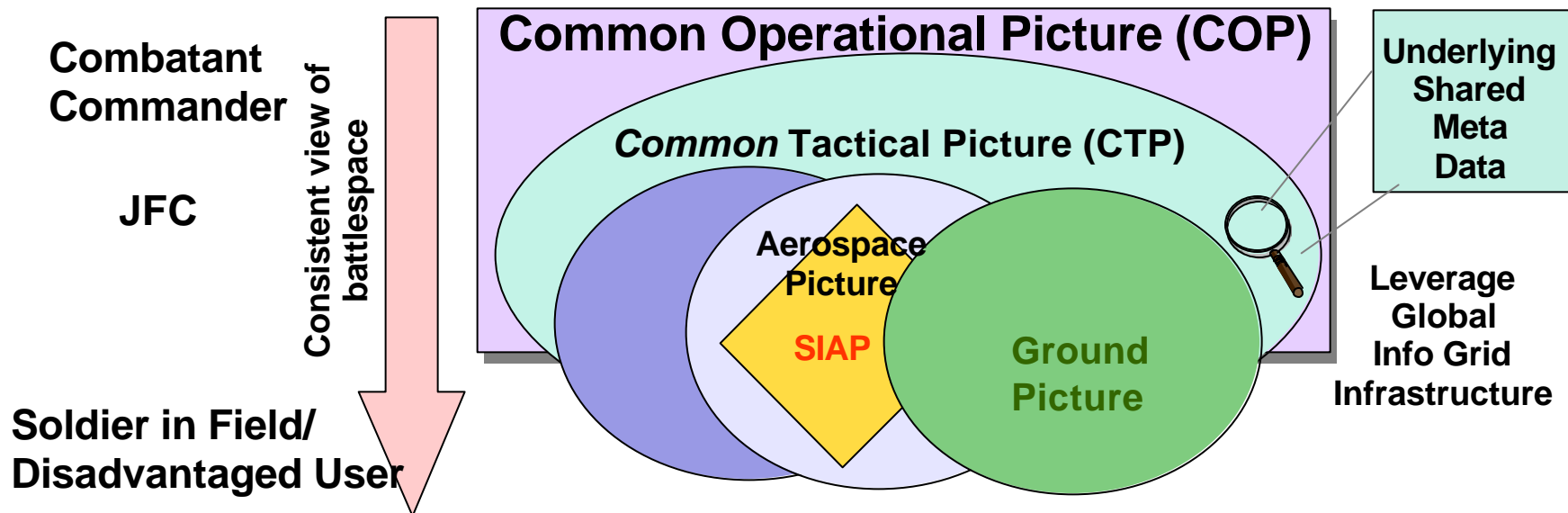


- *The cause:* multiple systems, conceived and developed individually
- Compounding the problem: systems, TTP, missions changing continuously, new coalition partners, stove-piped intelligence dissemination

Conceptual Solution

***A Family of Interoperable Operating “Pictures” (FIOP)
for Battle Management***

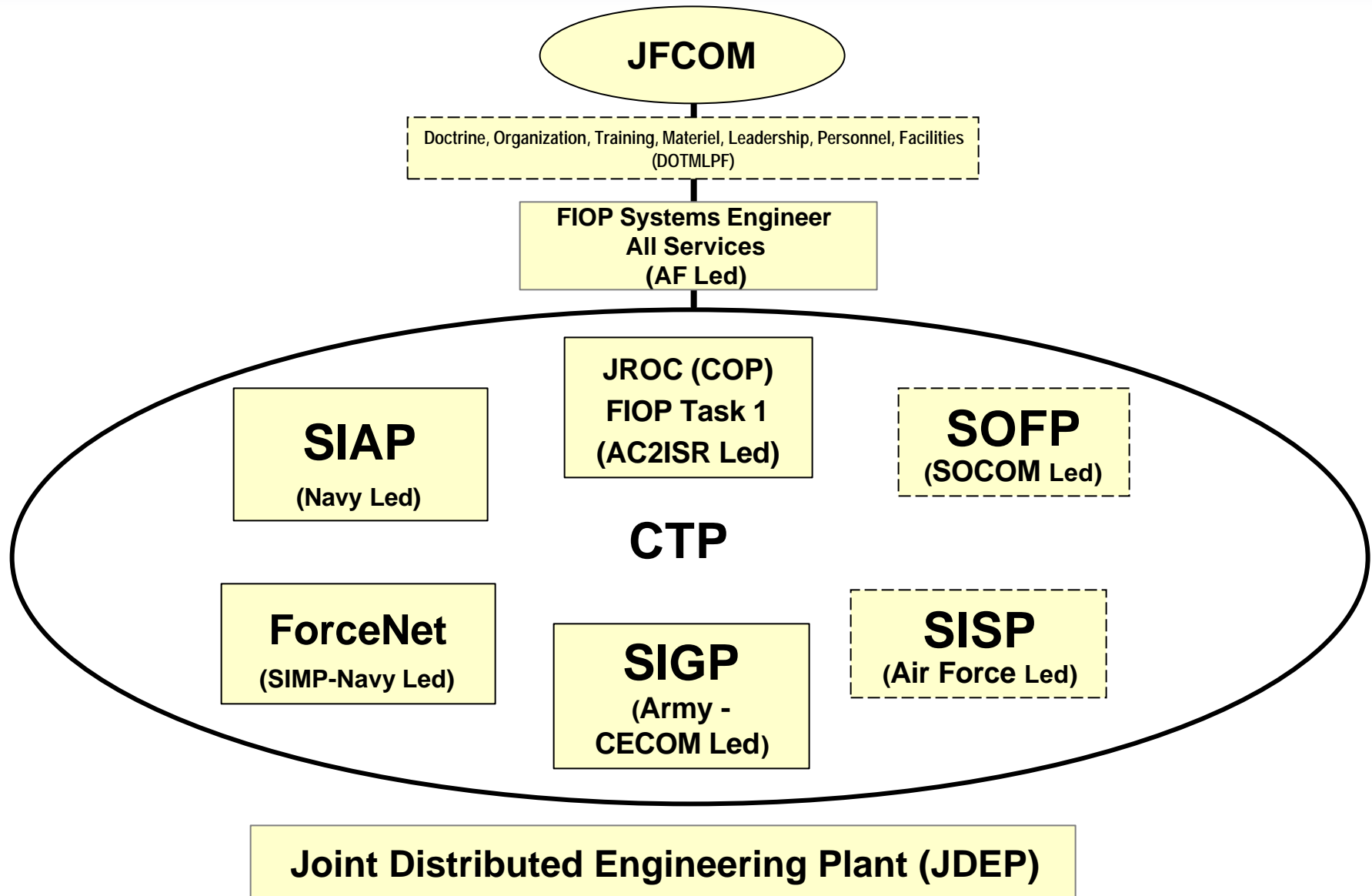
***Joint Staff/JFCOM/Service/Agency
stakeholder’s agreed-upon graphic:***



Combatant Commander EUCOM footnote:

Balance flexibility for the JFCs to configure pictures with a “preferred” option.

Service Led FIOP



SIGP - Single Integrated Ground Picture
SIMP - Single Integrated Maritime Picture
SISP - Single Integrated Space Picture

SIAP - Single Integrated Air Picture
COP - Common Operational Picture
CTP - Common Tactical Picture

SOFP - Special Operation Force Picture

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Single Integrated Air Picture (SIAP)

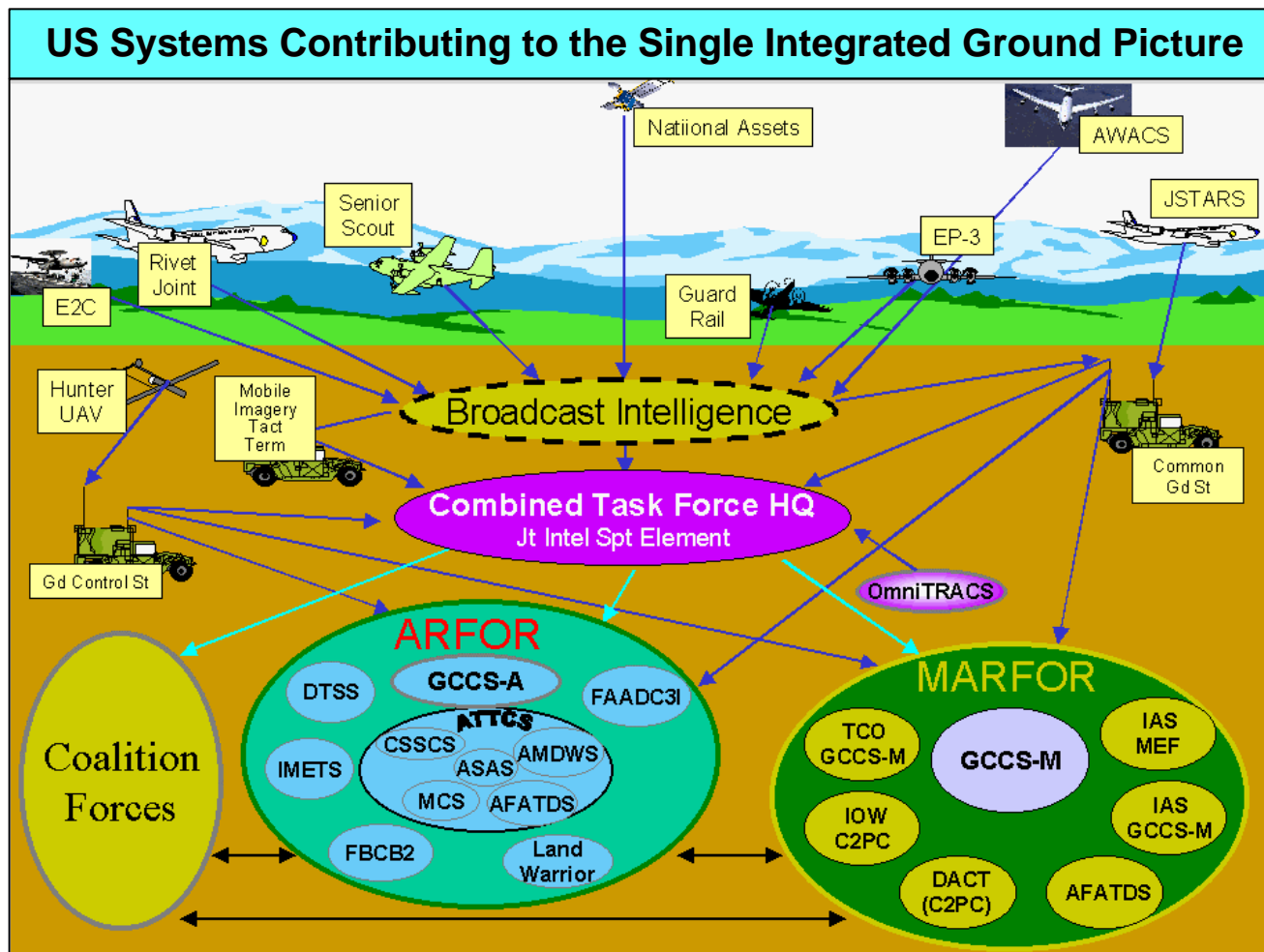
- SIAP has taken on the challenge and is “Leading the Way” in achieving battle management as one part of FIOP initiative
- SIAP should evolve into a seamless component of the Family of Interoperable Operational Pictures (FIOP), along with a Single Integrated Air Picture (SIAP), Single Integrated Maritime Picture (SIMP), Single Integrated Space Picture (SISP), Common Operational Picture (COP) and Common Tactical Picture (CTP)
- Engineering solutions when implemented by the Services will produce measurable warfighting benefits (e.g., reduced fratricide, increased performance and capability to counter existing and emerging threats)
- SIAP addressed the need for “one track per target,” which will reduce fratricide by reducing operator confusion
- **JROC Approved Block 0 & Block 1 implementation July 2002**
- **Program Decision Memorandum (PDM) approved Block 0 & Block 1 funding December 2002**

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Single Integrated Ground Picture (SIGGP)

- Capabilities Roadmap developed by Multi-Service team
- VCSA & AT&L kicked off Multi-Service effort June 14th, 2002
- Program Budget Decision (PBD) approves start-up funding, Jan 2003



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Shared Tactical Ground Picture (STGP)

- **Vision:** Create a common “picture” among coalition partners by sharing real-time, non-real-time, and historic tactical information on hostile, neutral and friendly forces.
- **Approach:** Participants exploit commercial standards, leverage ongoing national efforts (e.g., SIGP for the US) and dedicate 2 man-years each toward building a coalition capability
- **Quick-Win Focus Areas:**
 - Integration of multiple sensors
 - Enabling communications architecture
 - Data combining to support targeting of mobile targets
 - Tracking & identification of friendly forces
 - Technologies for management and data display
 - Leveraging data sharing technologies

Participants: US, UK, Norway

Observers: Canada, France, Germany, Italy

Program Manager: NC3A

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Combat Identification (CID)

- **A top concern for US/Joint/Coalition Interoperability**
 - Many lives have been lost due to failures in CID
- **Leading an effort with C3I and Joint Staff to focus on the ground combat element of CID - where we are weakest**
- **“CID Architecture Study” proposal to lay out Army, Navy, Marine Corps, Air Force systems over time, in a synchronized fashion, to deliver a capability to our troops**
- **Draft Capabilities Roadmap and Investment Strategy completed**
- **Leading an International Cooperative Opportunities Group (ICOG) (US/UK/Germany/France/Italy) Coalition CID Team to identify opportunities for shared success**
 - Synchronize national procurement of S-S, S-A and A-A programs

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Blue Force Tracking (BFT)

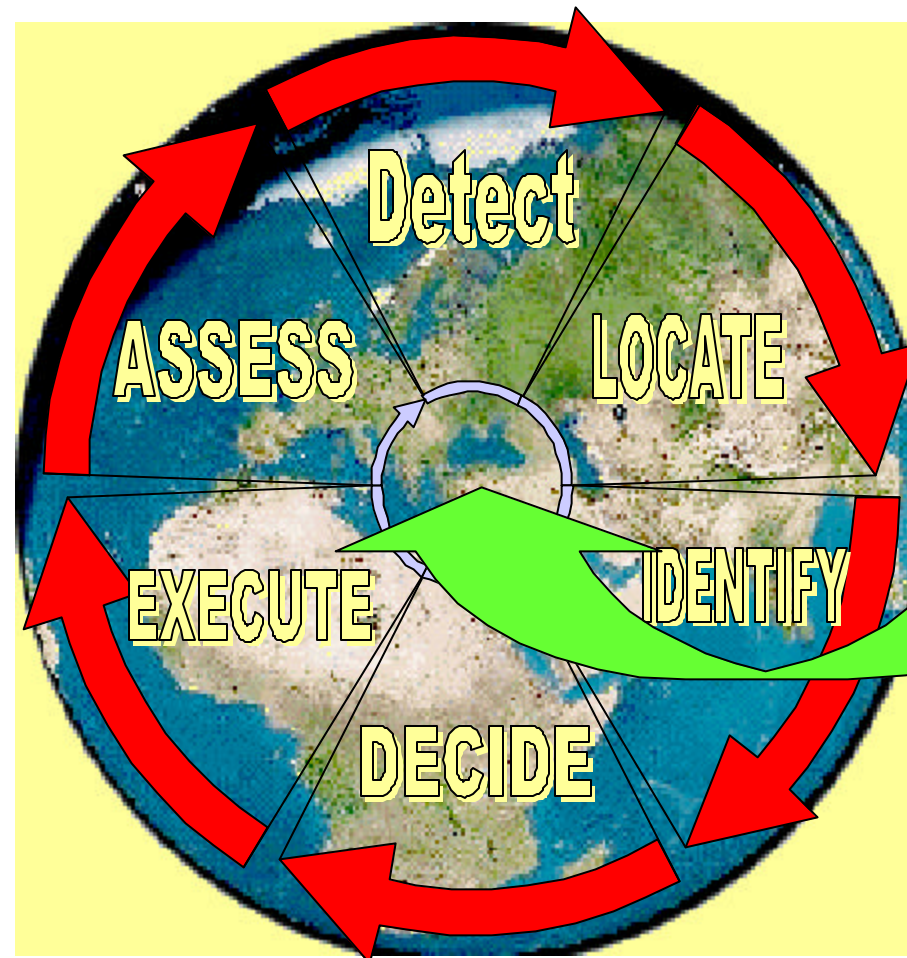
- **Systems and capabilities used to report and relay Blue (Friendly/Coalition) Force location, movement, intent and status information (LOS/BLOS)**
- **USD(AT&L) led the effort to designate a DoD Executive Agent/Lead Service**
- **Joint Staff assuming lead to define roles and relationships between JFCOM, FIOP and Executive Agent/Lead Service**

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Precision Engagement/Time Sensitive Targeting

First Order Assessment will support JROC's Precision Engagement Strategic Topic



Where do we spend our next \$1 for capability improvement?

Precision Engagement (PE) / Time Sensitive Targeting (TST) Initiative

- **Summer 2001 Defense Science Board (DSB) Study on Precision Targeting**
 - **OSD/Joint Staff/Multi-Service/Agency Team scrubbed recommendations**
 - **US Air Force, as Executive Agent, guided the selected recommendations through formal Service and JROC vetting; Conducted first Mission Area Review**
 - **JROC endorsement received on September 18, 2002**
- **Current Activities:**
 - **Determine the “right things to do” in this mission area**
 - **Perform gap analysis; help lay out a capability roadmap**
 - **System architecture views are being worked to compliment operational architecture views**
 - **Building a PE Capability Roadmap and Investment Strategy for FY05 Budget**

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Elements of a “Joint Fires Network”



- USA Tactical Exploitation System (TES)



- USN Naval Fires Network (NFN)



- USAF ISR Manager



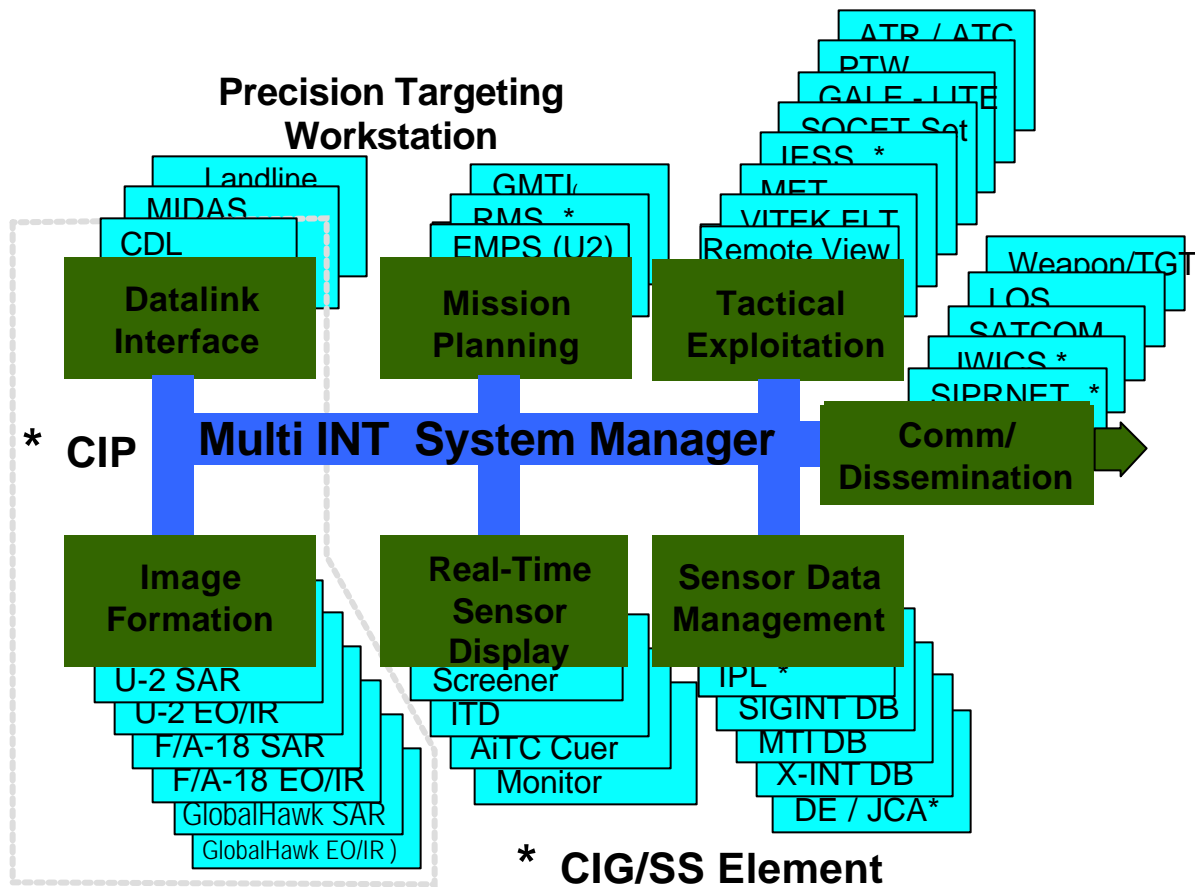
- USMC Tactical Exploitation Group (TEG)

Multi-INT network to enhance situational awareness, battle-management and C2 to enable sensor-to-shooter operations

SIGNIFICANT EVENTS IN 2002

- All four services and the national agencies adopted TES as the basis for their wartime deployments
- Navy / Air Force Warfighter Talks: CNO and COS agreed to jointly develop their Time Sensitive Targeting capabilities and change names from NFN and ISR M to Joint Fires Network

Joint Fires Network Architecture

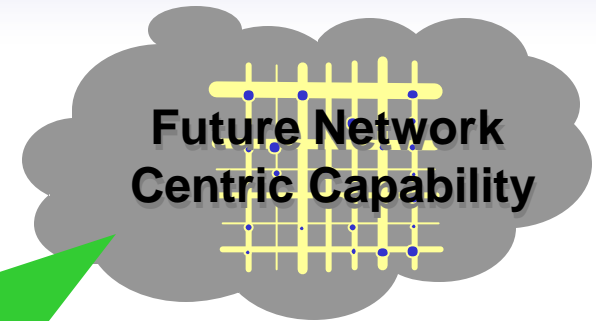


Reuses \$250M Investment
 No Risk – Fielded System
 Proven MultiINT Capability
 Assures Service Interoperability

... Infrastructure For Real Time C4ISR

Joint Fires Network

- Designate JFN As Part Of Block I SIGP
- Maintain and Expand Multi-Service Participation
- Continue Spiral Acquisition



FJOP Direction Vector

JFN Provides Initial
Operational Capability

Legacy BM/C2
and Sensor Systems

Scalable
Open Systems Architecture
Operational Now
Investment Made

Jumpstart For The FJOP -
Emphasizing SIGP and PE

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In response to questions about his proposed budget and transformation efforts, he prefers to think of change less in terms of dollars and cents than in processes and linkages:

"It can be simply in connectivity," he said. "It can be in interoperability. It can be in taking things that every single one of which exists presently and managing them, using them, connecting them, arraying them in a way that has a result that is transformational."

-- Secretary Rumsfeld



Questions ?