

Interoperability
and
Systems Integration Conference
1 April 2003





VISION

**Building Transformational Capabilities
On
Today's Solid Foundation**



Current Situation

What we need to do better

Requirements

- Setting capability-based requirements
- Adapting to changing conditions
- **Matching operational, systems, and technical views of architectures**
- Overcoming biases of Services and others
- Moving to transform military

PPBS

- **Laying analytical foundation for DPG and program review**
- Aligning budgets with acquisition decisions

Acquisition

- **Making system decisions in a joint, mission context**
- Transitioning technology
- Assessing complexity of new work and ability to perform it
- Controlling schedule and cost
- Passing operational tests
- Delivering fully integrated and interoperable systems-of-systems

Sustainment

- Controlling O&S costs
- Reducing logistics tails



How will we do it?

An integrated approach addressing:

- **Non-material**
- **Systems-of-systems**
- **Organizations and management**



What are we doing?

- **Harmonizing Requirements and Acquisition Process**
- **Emphasizing Jointness**
- **Focusing on system-of-systems vs. pieces**
- **Forging new leadership roles**
 - JFCOM (COCOMs)
 - “Lead Service” roles
 - CIO
 - Industry and academia



How Are We Structured to do It?

Partnership!

AT&L	Joint Staff	Policy	PA&E	C3/CIO	JFCOM/ COCOMs	Services and Agencies	Industry and Academia
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- Policy and Guidance Documents
- Top Level Analysis
- Integrated Architectures (Capability Roadmaps, Investment Plans and Decisions)



**AT&L,
DEFENSE SYSTEMS**
Glenn Lamartin
Director

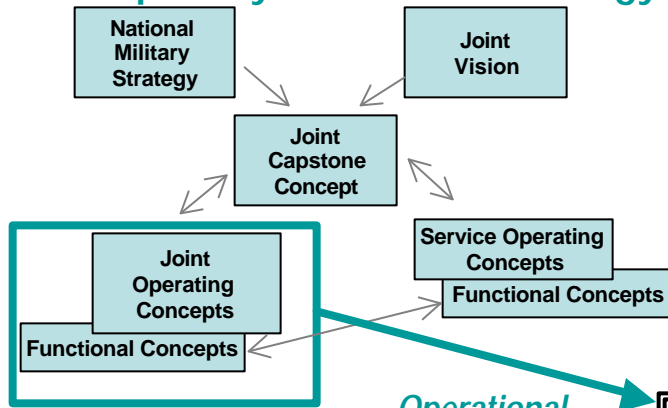
**Dir. V. GARBER
SYSTEMS INTEGRATION**
What to do?

**Dir. GLENN LAMARTIN (ACTING)
SYSTEMS ENGINEERING**
How to do it well

**Dir. GLENN LAMARTIN
SYSTEMS ACQUISITION**
Doing it

Integrated Architecture Development

Joint Capability-Based Methodology



LtGen Cartwright, J8,
17 December 2002

Identification of Related Systems

- Current and 'in-development'
- Role in mission area operations
- War fighting capabilities
- Development schedule
- Investment plan

*Operational
Input*

*Systems
Input*



Mechanism

Integrated Representation of Operations & Systems

- Developed and documented in a form which supports reasoning
 - Industry standards-based
- Created by an integrated operations/systems team
- Integrated view of systems capabilities supporting operating concept
- Provides basis for analysis of gaps and alternative

Process

Integrated Capability Analysis

- Integrated capability analysis strategy
- Capability Analysis Teams
- Metrics for operational and systems performance
- Common reference scenarios
- Common analytic approaches
- Integrated simulation environment
- Assessment of GIG support to areas
 - Input to the GIG architecture

Products

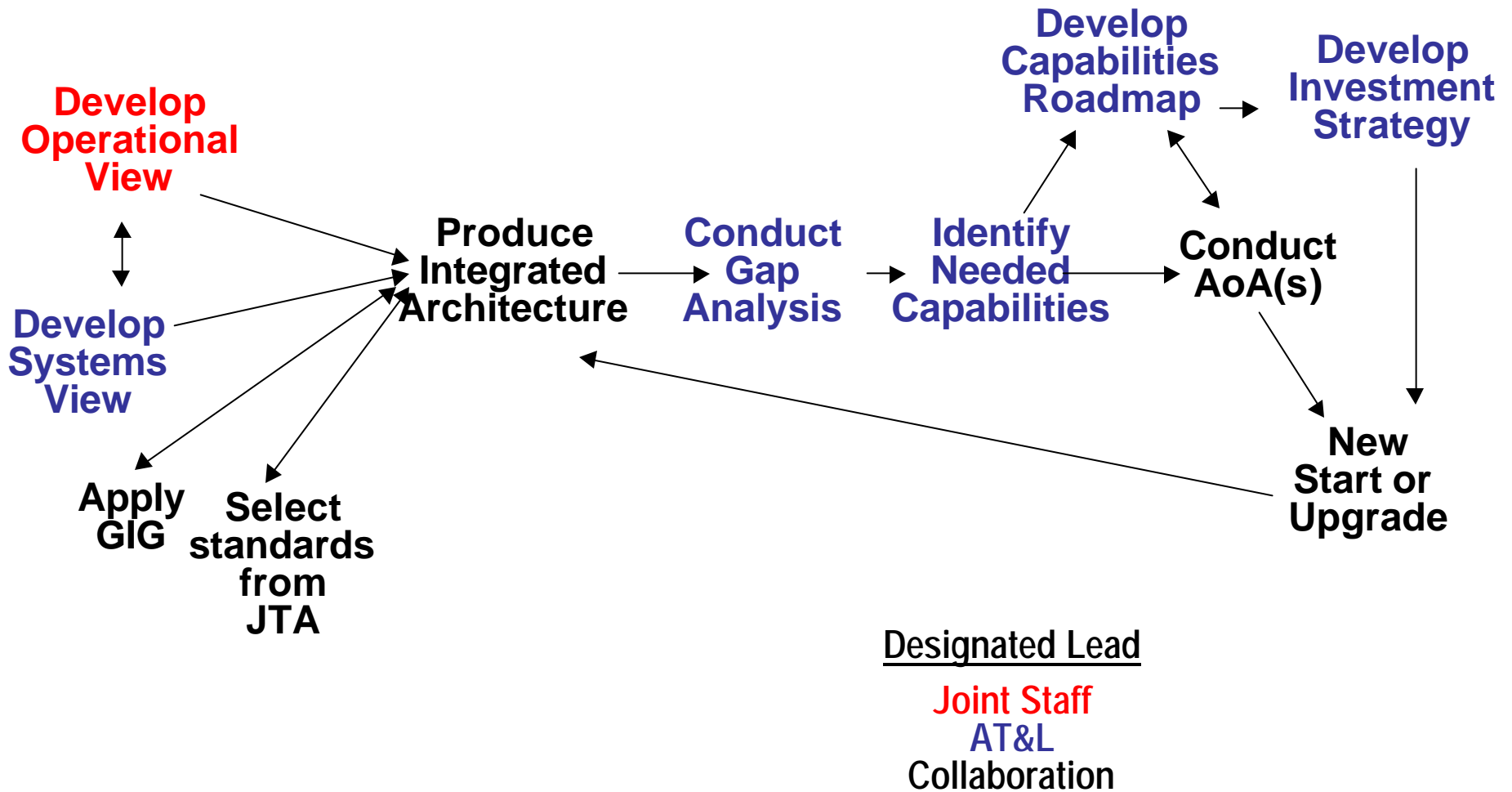
Leading to.....

- Capability Roadmaps
- Investment Plans
- DPG, POM, PPBS Input

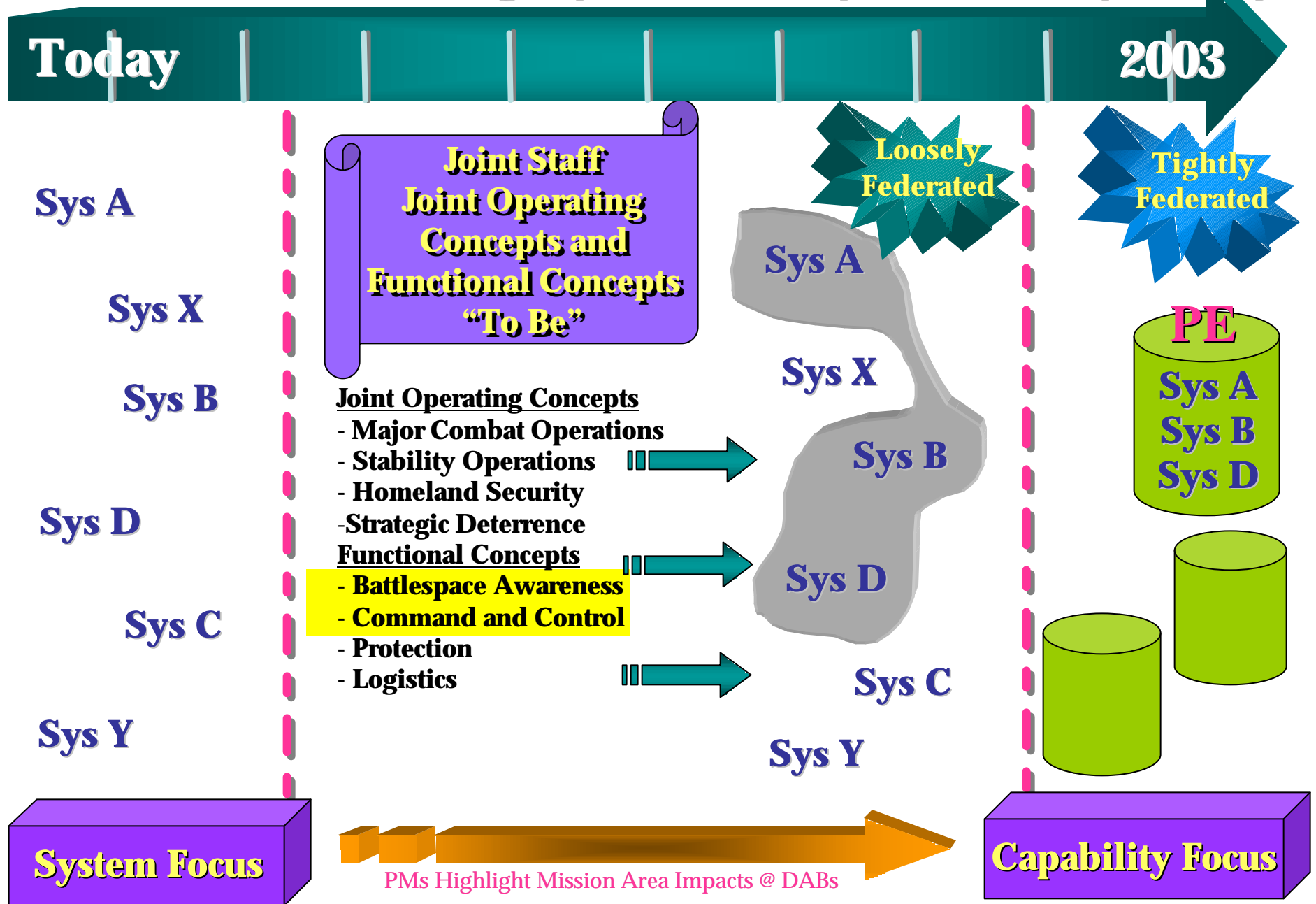
*Executive oversight direction
to Components
Leadership!*



Steps in Process High Level Functional View Based on Interim 5000



A Vision for Building System of Systems Capability



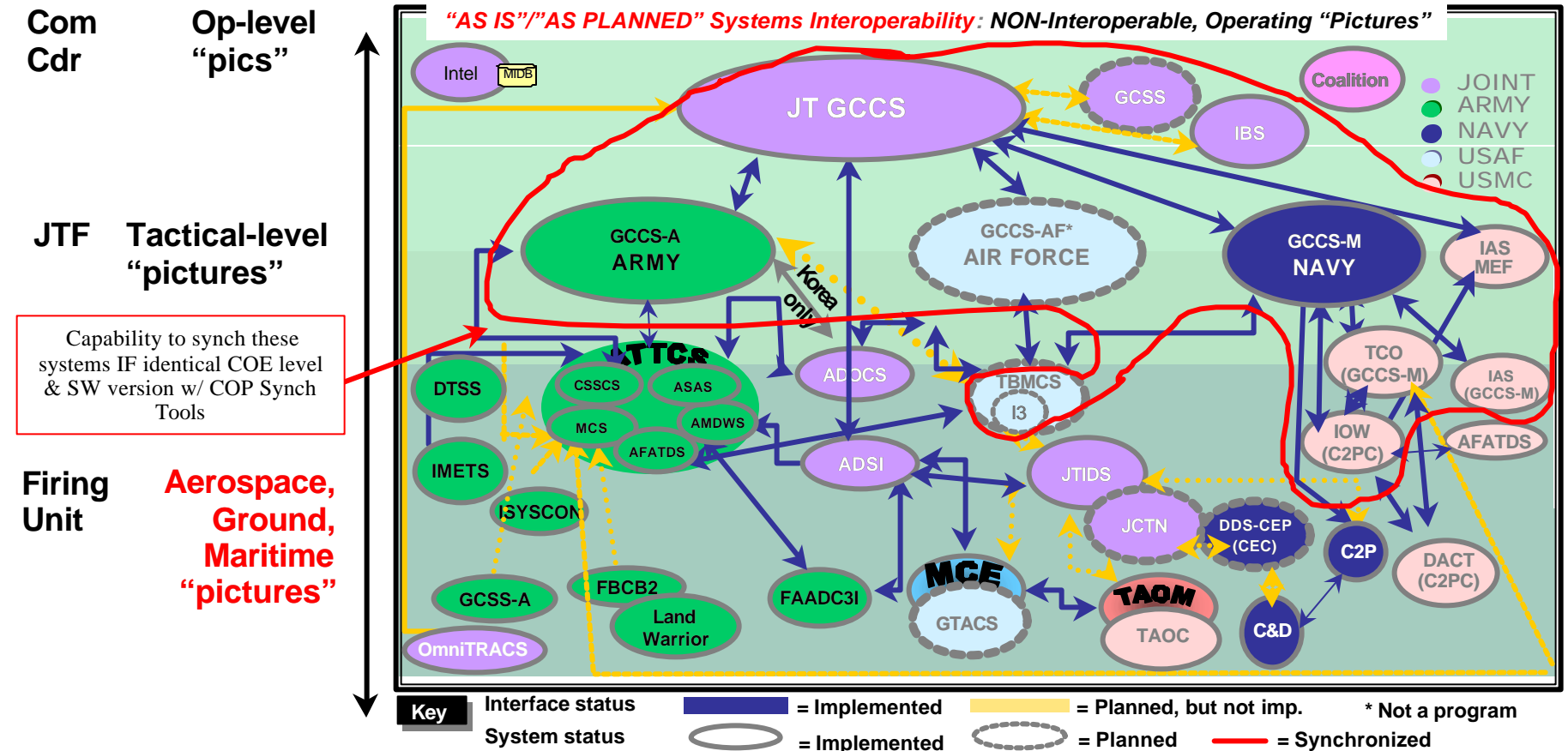
JBMC²:

Family of Interoperable Operational Pictures (FIOP)

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

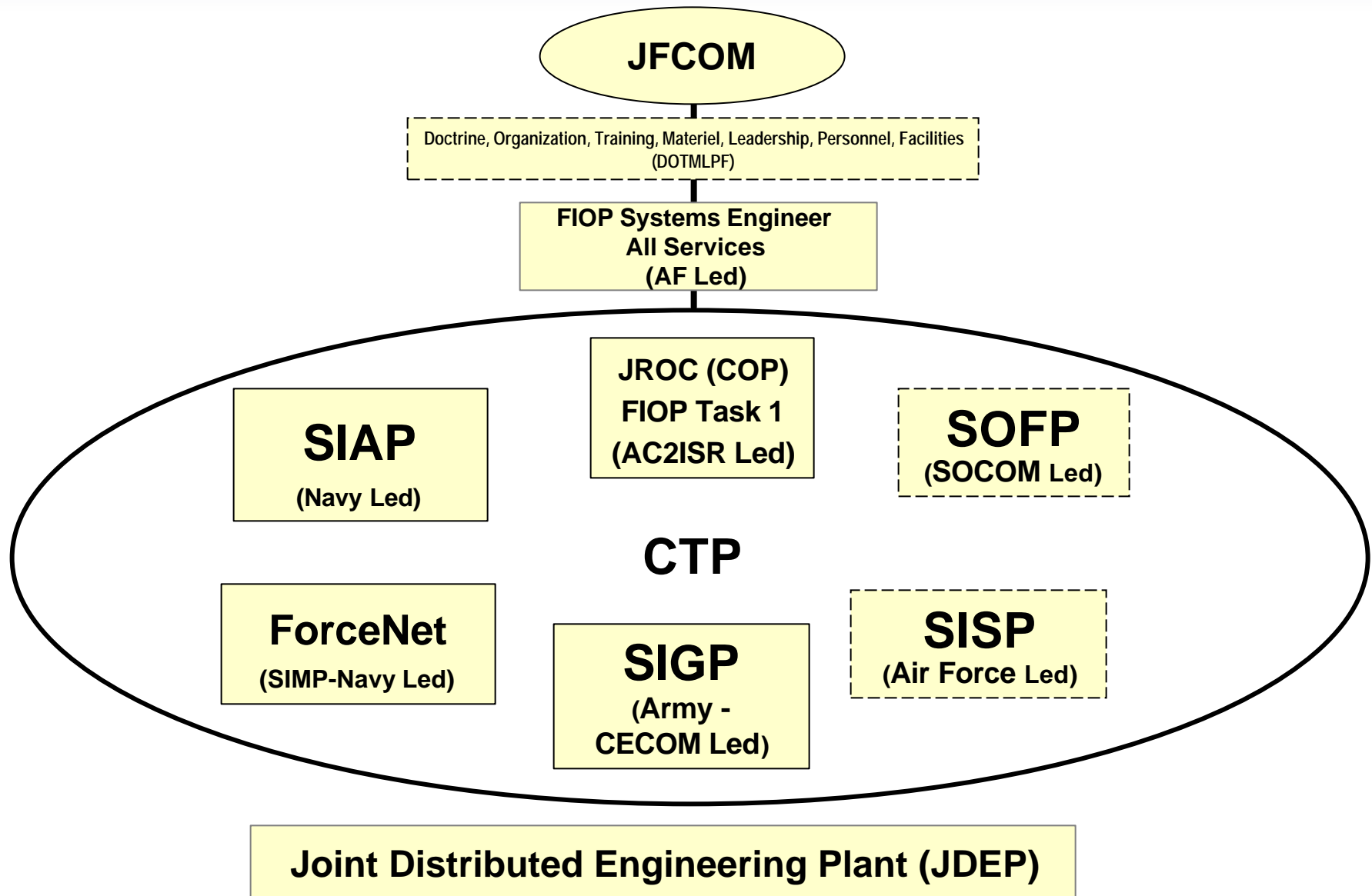
USER/CONCEPT

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

FIOP Implementation



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

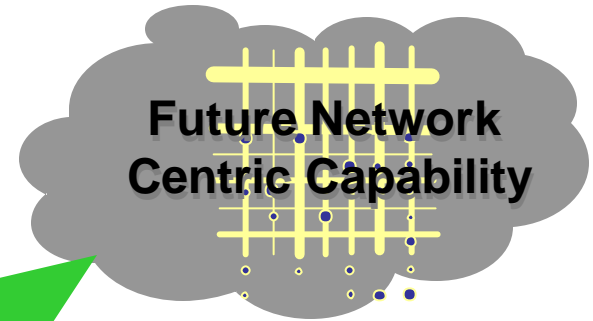
SIAP - Single Integrated Air Picture
COP - Common Operational Picture
CTP - Common Tactical Picture

SOFP - Special Operation Force Picture



Example: FIOP (JBMC2)

- Maintain and Expand Multi-Service Participation
- Continue Spiral Acquisition



FIOP Direction Vector

Distributed Common Ground Station (DCGS)

JFN Provides Initial Operational Capability

Legacy BM/C2 and Sensor Systems

**Scalable
Open Systems Integrated Architecture**

**Tied to Key Efforts:
PE, FCS, CID ...**



SUMMARY

- We are in the midst of REAL transformation
- We have a VISION, PLAN, and KEY EFFORTS underway
- We must marshal all of our resources
- Your partnership and participation is the key

AT&L Engagement with Policy and Requirements Efforts

Cross Cutting Analysis and Architectures (GIG,JTA,etc...)

Director, Systems Integration OSJTF	NSS/NMS/JV				Joint Operating Concepts				Functional Concepts				
	DPG	PDM	QDR	CPR CPA	Combat Ops	Stability Ops	Home Sec	Strat Det	BA	C2	Force Appl	Protect tion	LOG
Robin Quinlan					X ₁				X	X	X		
Greg Hulcher	X	X	X	X				X					
Andy Viilu					X ₂	X							
John Noulis					Y								X
Mike Novak					Y						Y		
Jay Kistler					Y		X				Y		
Judith Dahmann													X

X - Primary Responsibility
Y - Secondary Responsibility

DPG - Defense Planning Guidance
PDM- Program Decision Memorandum
QDR- Quadrennial Defense Review
CPR- Chairman's Program Recommendations

CPA - Chairman's Program Assessment
BA- Battlespace Awareness
C2- Command and Control
Force Appl- Force Application
LOG- Logistics