

Force Projection Symposium V

Building Capabilities



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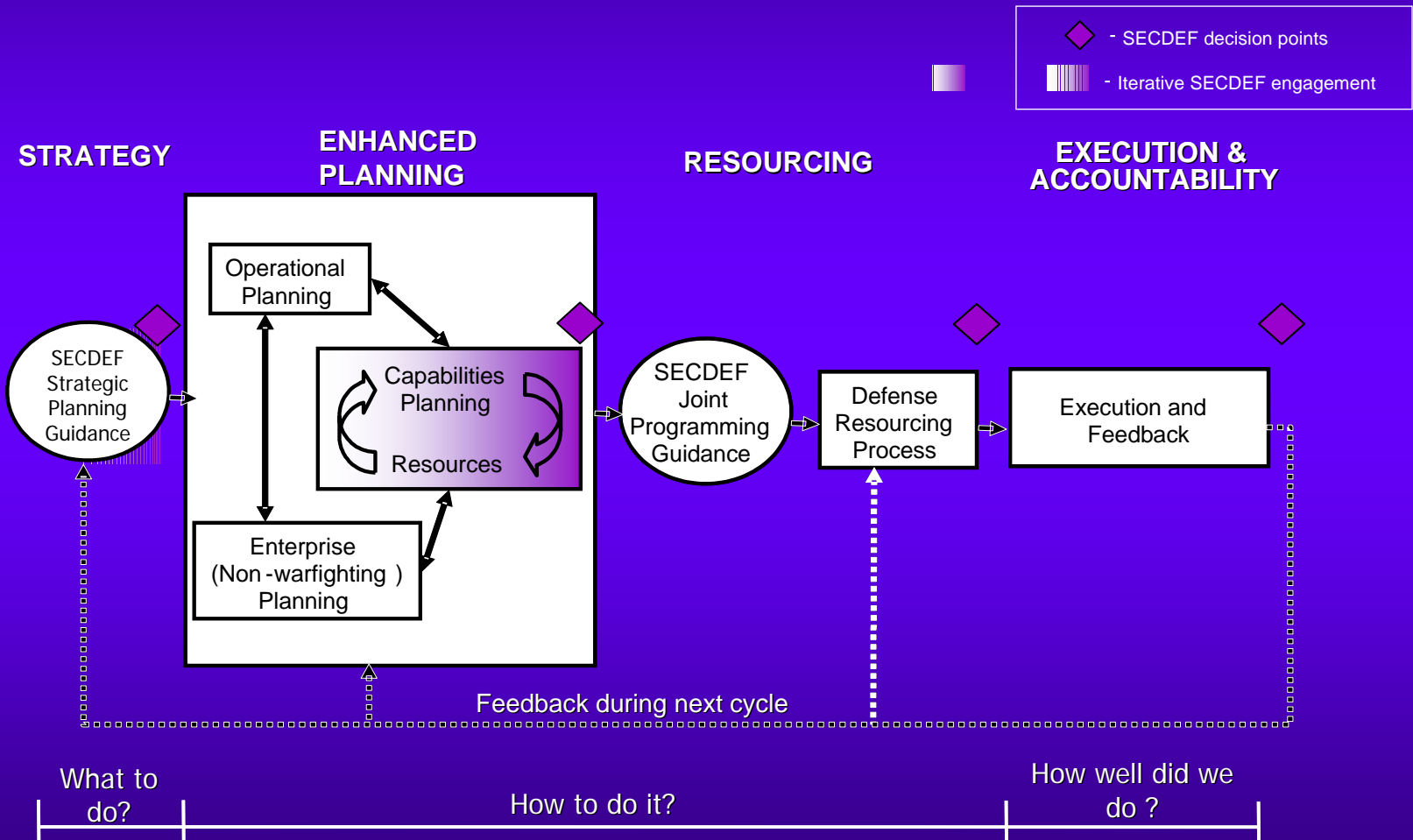
Outline

- Building Capabilities (JCIDs, Roadmaps, Capability Area DABs)
 - Joint Battle Management Command and Control
 - Air & Missile Defense
 - Sea Basing
 - Joint Forcible Entry Operations
- Summary

Outline

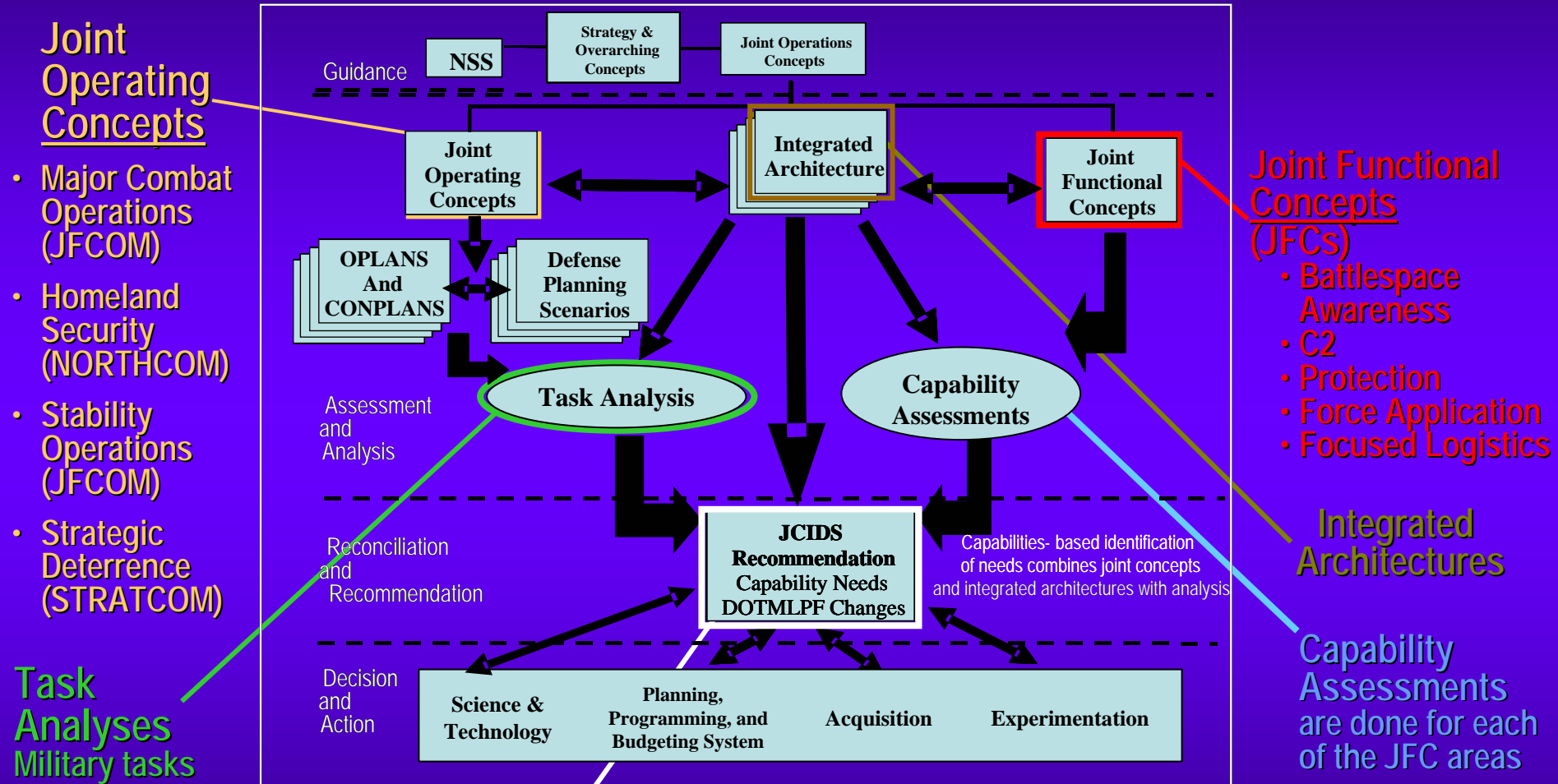
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Revised Capabilities Planning Process Simplified End State Process



CJCSI 3170 :

"Concept" Driven Process With Architectures as Integration Tool



Joint Capabilities Integration and Development System (JCIDS) analysis addresses:

Ability of current capabilities (JFCs) to meet joint user needs as reflected in **integrated architectures** to support user needs via **task analyses** or **capability assessments**

Responsibilities Spelled Out in DODI 5000.2

The Joint Staff (or Principal Staff Assistant (PSA) for business areas) shall lead development of the operational view, to describe the joint capabilities that the user seeks and how to employ them.

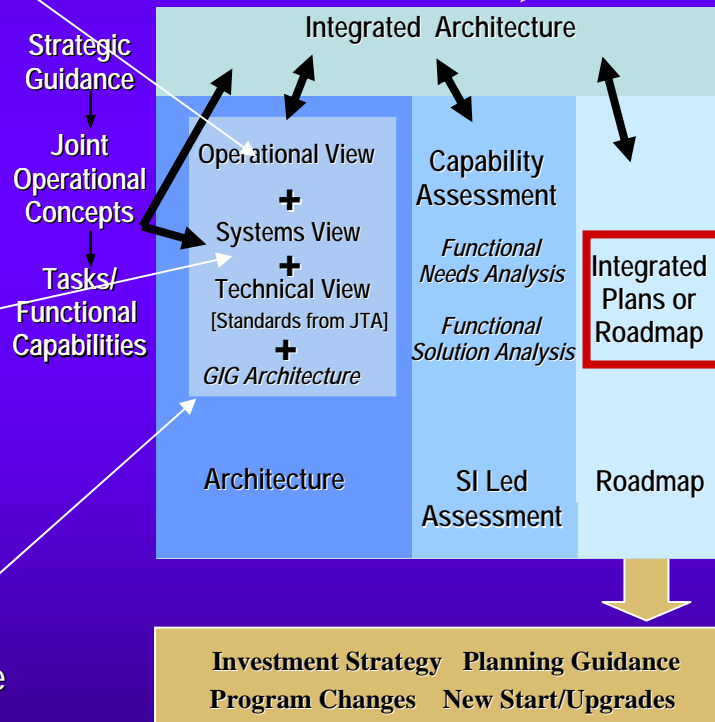
The USD(AT&L) (or PSA for business areas) shall lead development of the systems view.

The systems view shall identify the kinds of systems and integration needed to achieve the desired operational capability.

The DoD Chief Information Officer (CIO) shall lead the development and facilitate the implementation of the Global Information Grid Integrated Architecture

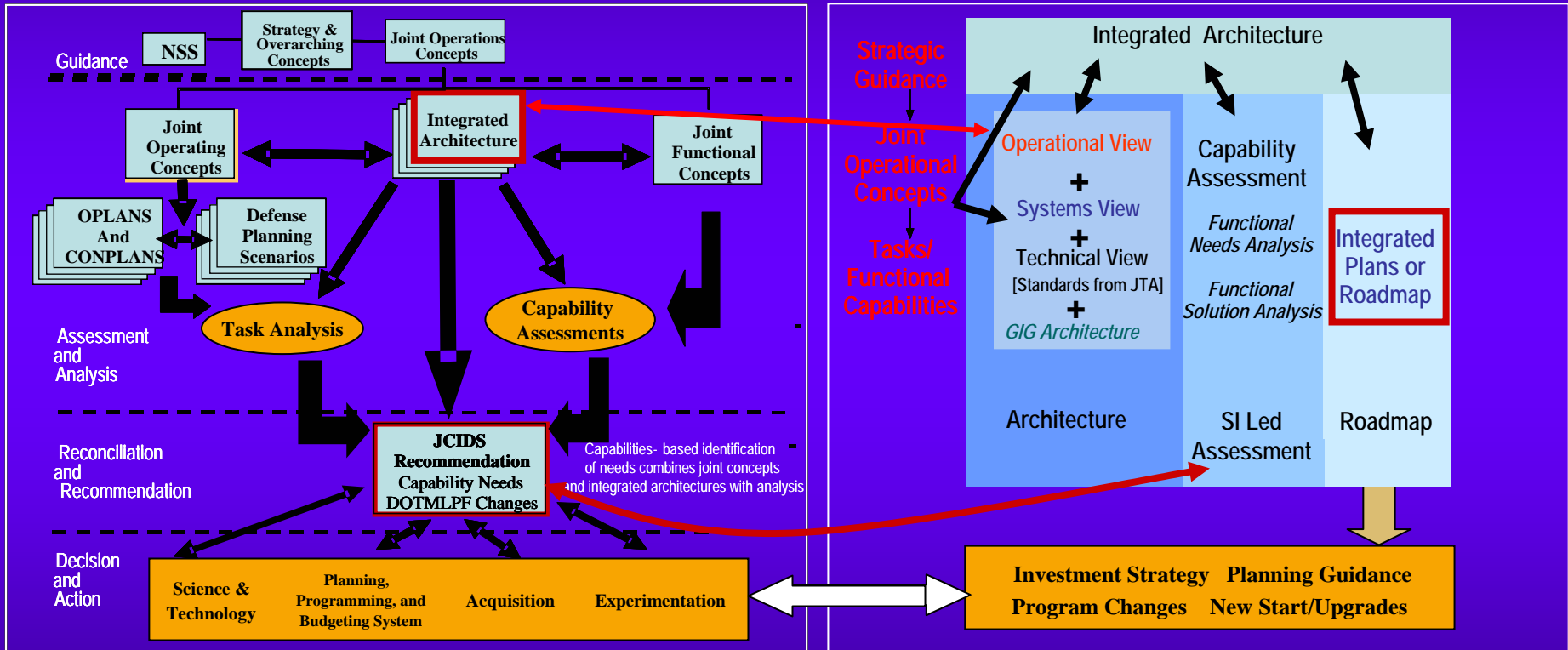
USD(AT&L), ASD(C3I), the Joint Staff, the Military Departments, the Defense Agencies, Combatant Commanders shall work collaboratively to develop joint integrated architectures for capability areas as agreed to by the Joint Staff.....

USD(AT&L) shall lead the development of integrated plans or roadmaps.



The Department of Defense shall use these roadmaps to conduct capability assessments, guide systems development, define the associated investment plans as the basis for aligning resources and as an input to the Defense Planning Guidance, Program Objective Memorandum development, and Program and Budget Reviews.

Side by Side



CJCSI 3170.01C
Joint Capabilities Integration and Development System

DODI 5000.2
Operation of Defense Acquisition System

Capability Area Reviews

- Implements capability-based methodology on provider side
- Provides mission area context
- Relates acquisition process to capability and programming processes
- Identifies Joint solutions and additional work to be done (across DOTMLPF)
- Reveals need for management, engineering, and testing across a capability area
- Helps align individual program expectations for capability and schedule (including collective capability)
- Provides basis to set metrics and gauge progress in developing capability over time

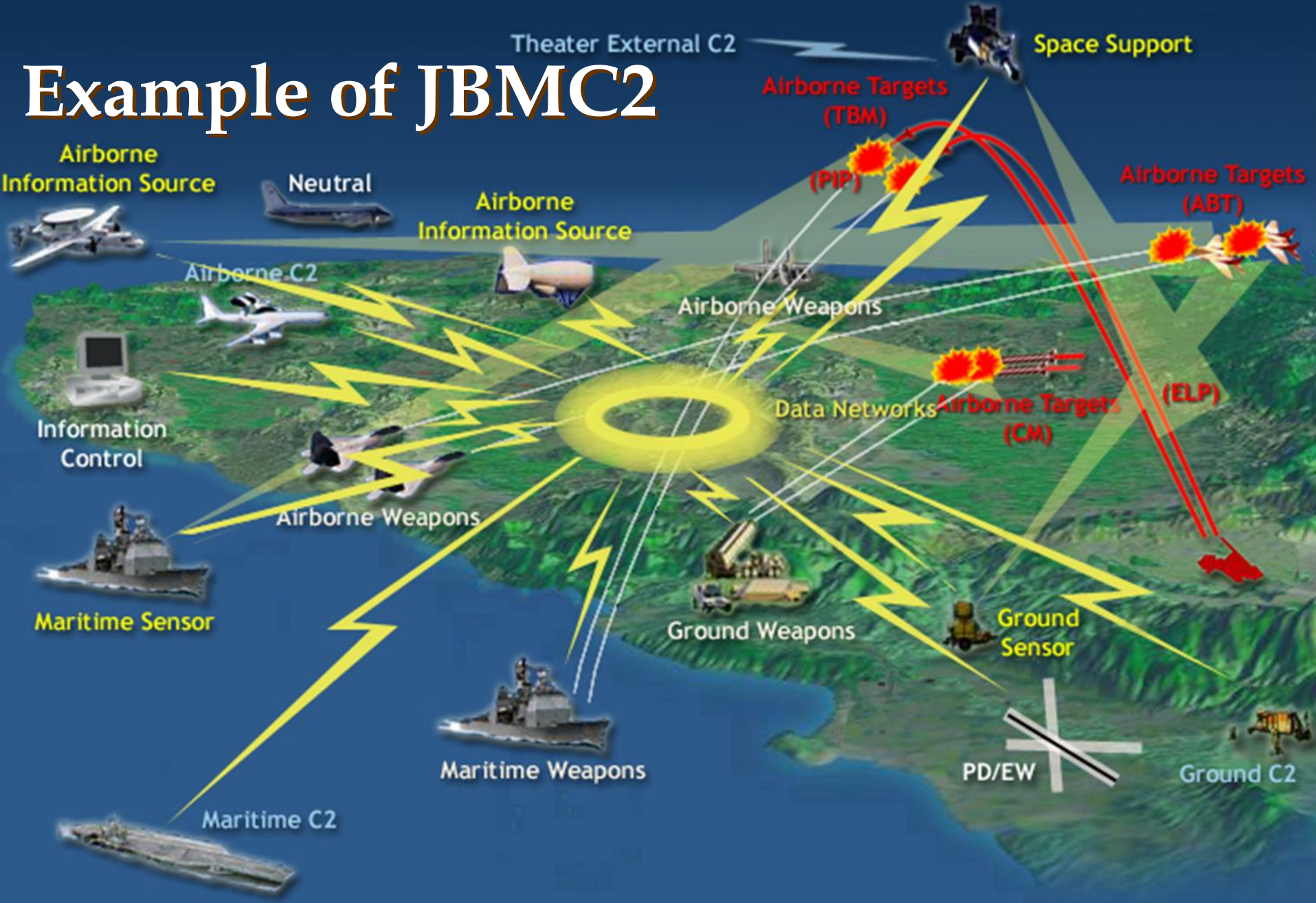
Roadmaps

- Nature of Roadmap will vary by topic
- Must start with view of where we want to go
- Assessment of where we are
- Lay down of strategic plan considering:
 - Management, engineering, and testing activities that cut across a capability area
 - Capability that only exists at Family-of-Systems/System-of-Systems level
 - Network enablers
 - Material and non-material solutions
 - What to expect from each system
 - Affordability
 - Other considerations

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Example of JBMC2



Theater External C2

Space Support

Airborne Targets (TBM)

Airborne Targets (ABT)

Airborne Information Source

Neutral

Airborne C2

Airborne Weapons

Data Networks

Airborne Targets (CM)

(ELP)

Information Control

Airborne Weapons

Ground Weapons

Ground Sensor

Maritime Sensor

Maritime Weapons

PD/EW

Ground C2

Maritime C2

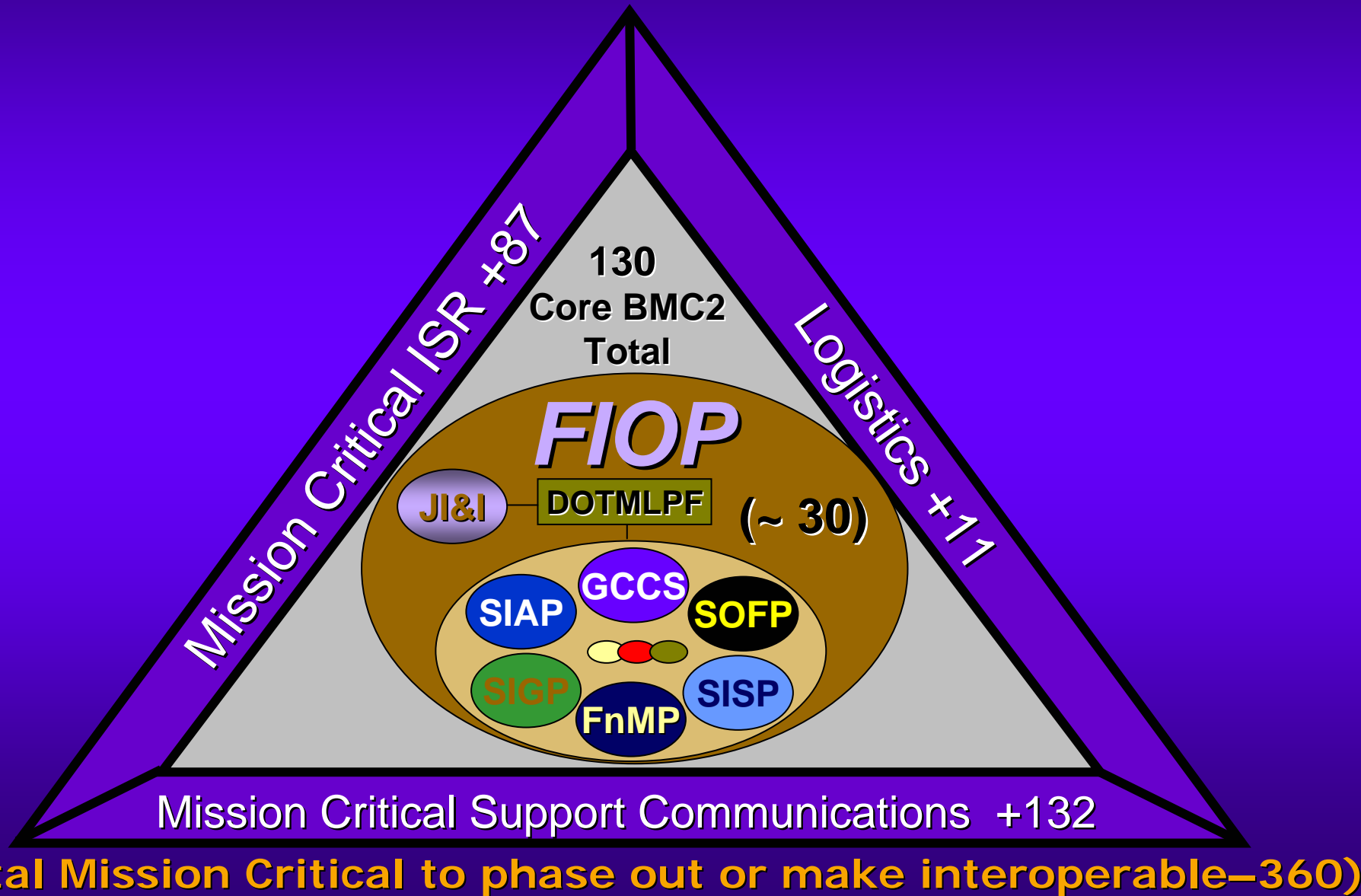
Achieving Functional Capability of Net-Centric “Operations”

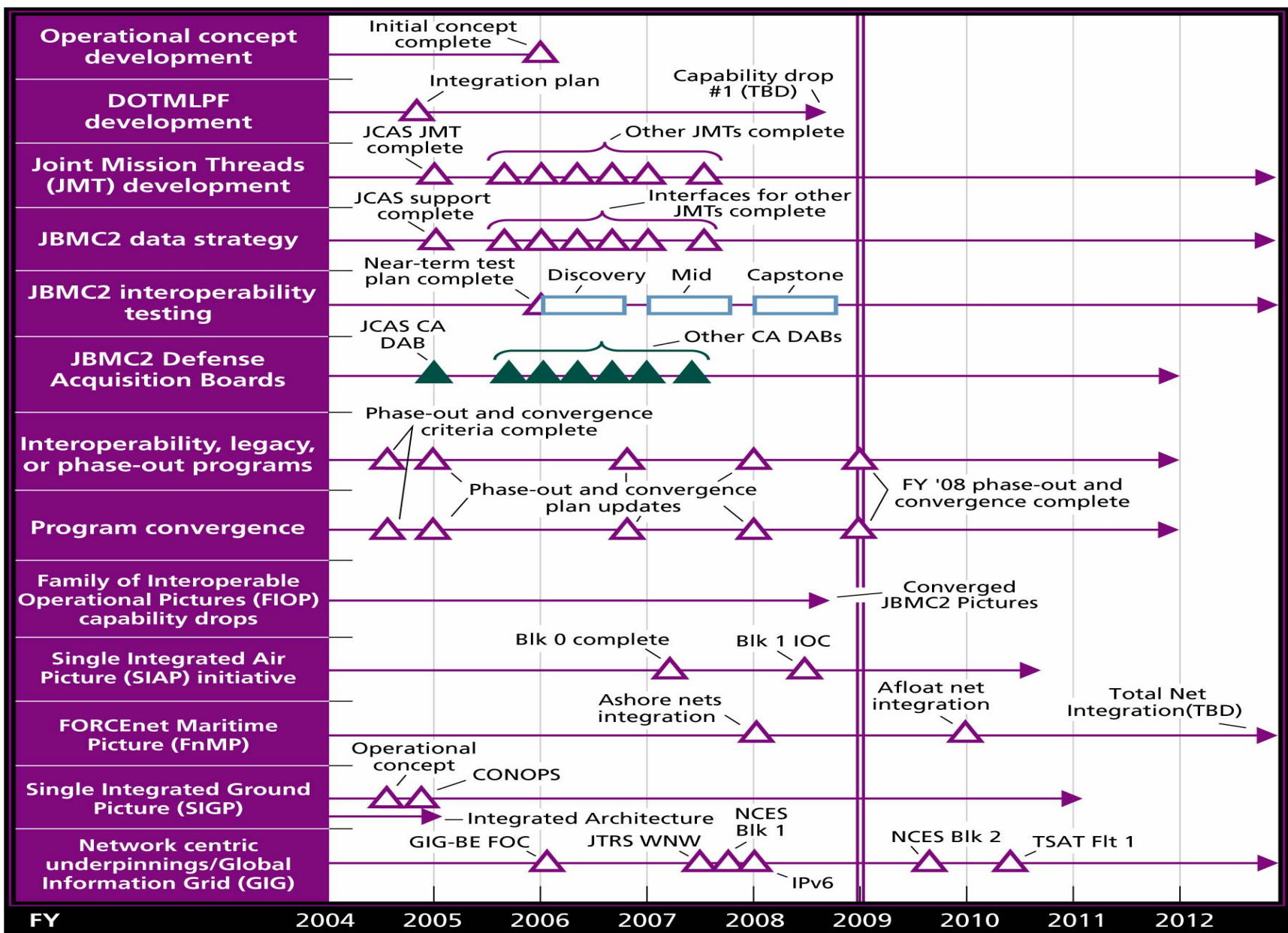
JBMC2 Roadmap Chapter Outline:

1. Introduction
2. JBMC2 Operational Concepts, Architectures, and Capabilities
3. Plans to make JBMC2 Programs Interoperable, Convergent, or Phased Out by 2008
4. Milestones for Key JBMC2 Initiatives
5. JBMC2 Capability Development and Integration Management
6. JBMC2 Data Strategy
7. Net-Centric Underpinnings of JBMC2
8. DOTMLPF Strategy for JBMC2
9. Experimentation and Technology for JBMC2
10. Joint Systems-of-Systems Development Testing and Operational Testing and Evaluation
11. Summary and Conclusions

Context of JBMC2 Roadmap

"Making JBMC2 Interoperable by 2008"





▲ Key program or initiative events
 ▲ Capability Area DABs
 || Systems interoperability date
 Proposed test cycles

JBMC2 Pathfinders, V 2.1

Major C2 Platforms

- | | |
|------------------|--------------|
| <u>Air Force</u> | <u>USMC</u> |
| • AWACS | • C2PC |
| • JSTARS | • TCO |
| • MC2A | <u>Joint</u> |
| <u>Navy</u> | • DJC2 |
| • AEGIS | • JSF |
| • E-2C | |

Major ISR Platforms

- | | |
|----------------------|---------------|
| <u>Air Force</u> | <u>Navy</u> |
| • Global Hawk | • AESA |
| • MP-RTIP | • Navy |
| | ACS |
| <u>Army</u> | |
| • ACS | |

Major C2 Systems

- | | |
|------------------|--------------|
| <u>Air Force</u> | <u>Navy</u> |
| • GCCS-AF | • GCCS-M |
| • TBMCS | • DCGS-N |
| • AOC-WS | • FORCEnet |
| <u>Army</u> | <u>Joint</u> |
| • FAADC2I | • GCCS-J |
| • FBCB2 | • JC2 |
| • GCCS-A | |
| • MCS | |
| • FCS | |

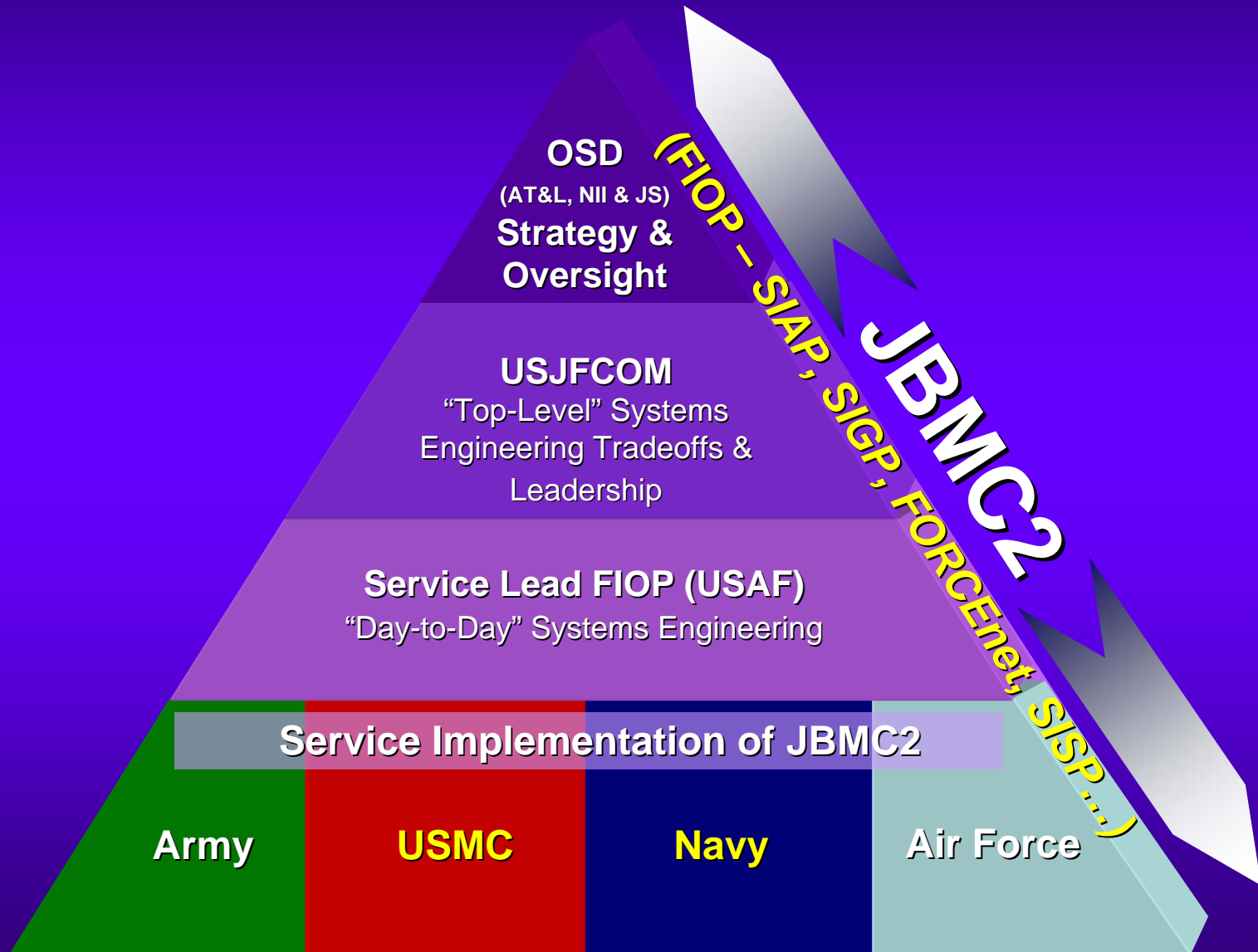
Major ISR Systems

- | | |
|----------------------|-------------|
| <u>Air Force</u> | <u>Navy</u> |
| • DCGS-AF | • DCGS-N |
| • DIB | |
| • JSTARS | |
| • MC2A | |
| <u>Army</u> | <u>USMC</u> |
| • ABCS / ASAS | • DCGS-MC |
| • DCGS-A | |

Joint Force Networking

GIG Infrastructure, Tactical Data Links, Core Enterprise Services

Joint Battle Management Command and Control (JBMC2) Management Structure

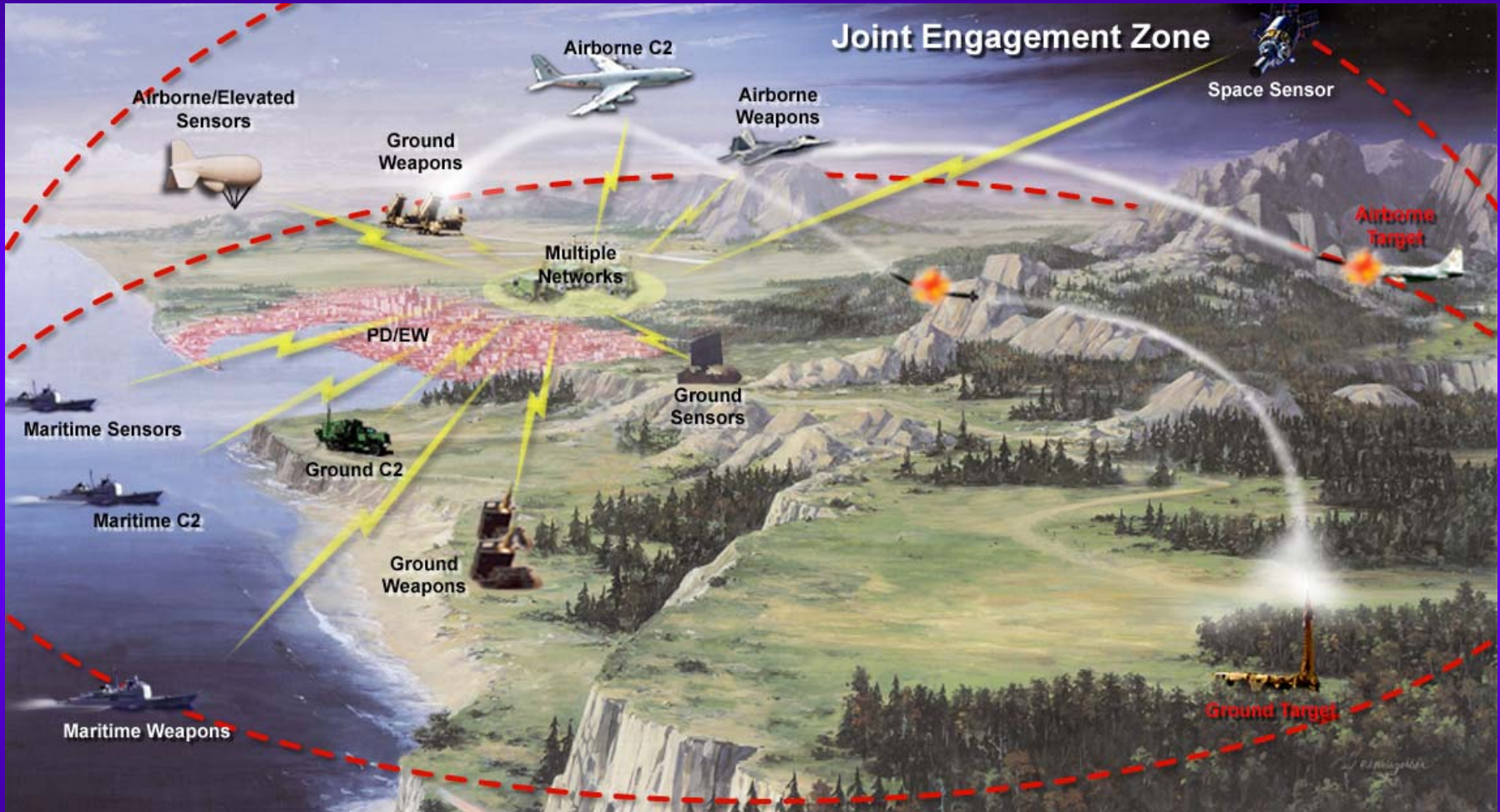


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AMD Operational View (OV-1)



Key Joint Capability Improvements

- Single Integrated Air Picture (SIAP)
- Integrated Fire Control (IFC)
- Attack Operations
- Combat ID (CID)
- Automated Battle Management Aids (ABMA)
- Passive Defense / Early Warning

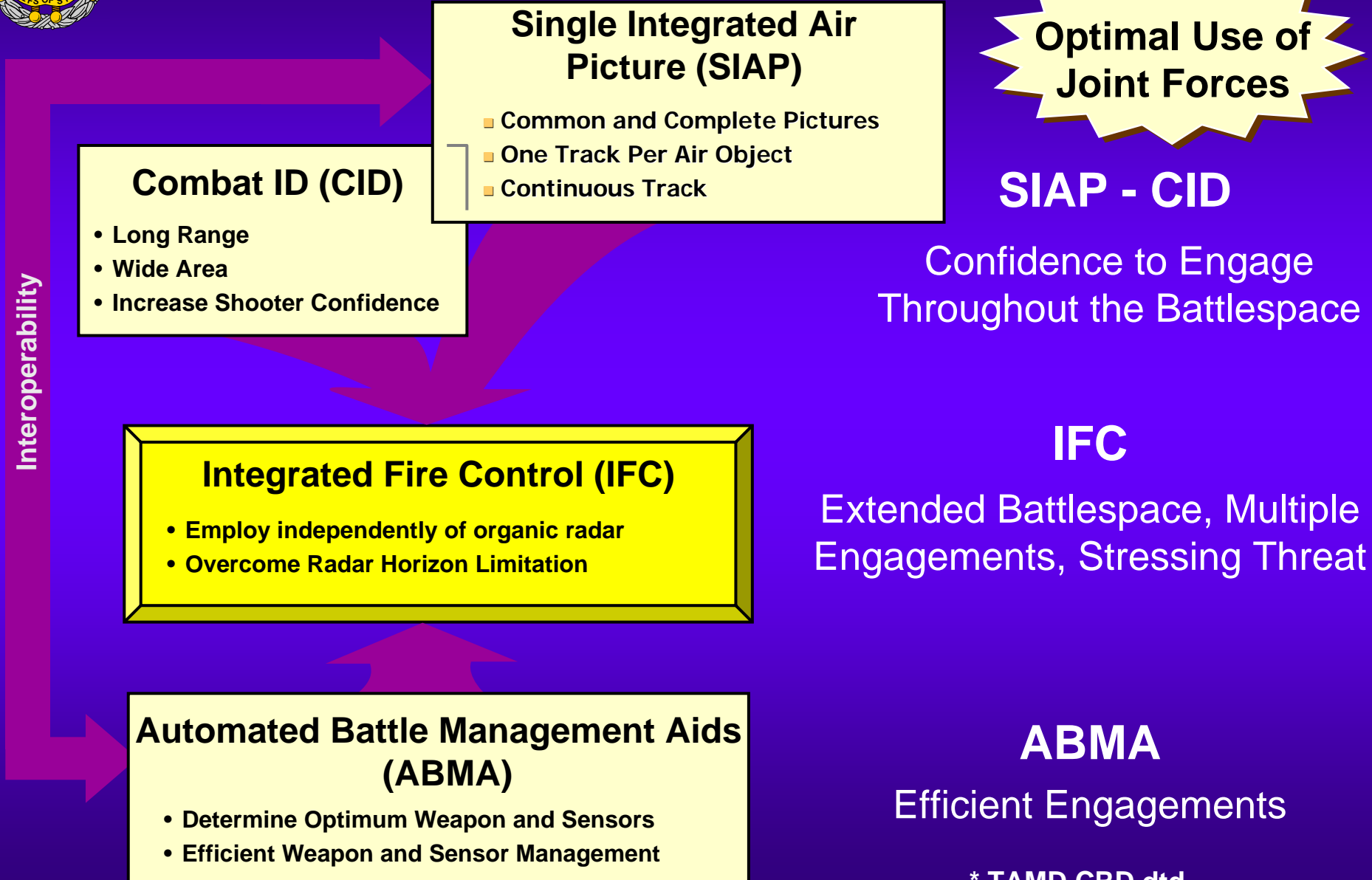
AMD Roadmap Document Outline



1. Executive Summary
2. Purpose and Scope
3. **Operational Concept**
4. AMD Capability Assessment
5. **Integrated AMD Program Schedule and Capabilities**
6. DOTMLPF Alternatives for AMD
7. **Experimentation and Emerging Technology**
8. Net-Centric Under-Pinning
9. AMD Test and Evaluation
10. Conclusions and Recommendations
11. Appendices



Key Joint Capability Enablers*



Optimal Use of Joint Forces

Single Integrated Air Picture (SIAP)

- Common and Complete Pictures
- One Track Per Air Object
- Continuous Track

SIAP - CID

Confidence to Engage Throughout the Battlespace

Combat ID (CID)

- Long Range
- Wide Area
- Increase Shooter Confidence

IFC

Extended Battlespace, Multiple Engagements, Stressing Threat

Integrated Fire Control (IFC)

- Employ independently of organic radar
- Overcome Radar Horizon Limitation

ABMA

Efficient Engagements

Automated Battle Management Aids (ABMA)

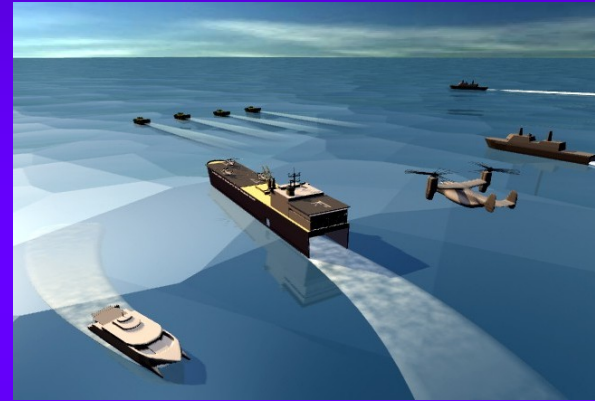
- Determine Optimum Weapon and Sensors
- Efficient Weapon and Sensor Management

* TAMD CRD dtd

Outline

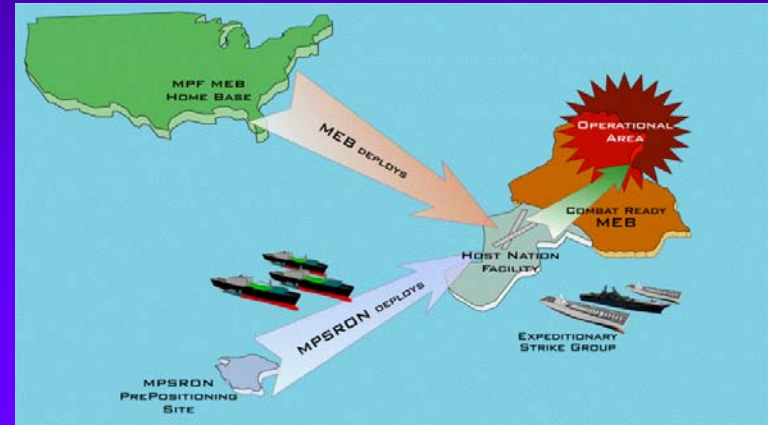
- Building Capabilities (JCIDs, Roadmaps, Capability Area DABs)
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 - **Sea Basing**
 - Joint Forcible Entry Operations
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Joint Sea Basing/Expeditionary Force Projection



Where and how do Joint Forces fit?

These are not Sea Bases ...



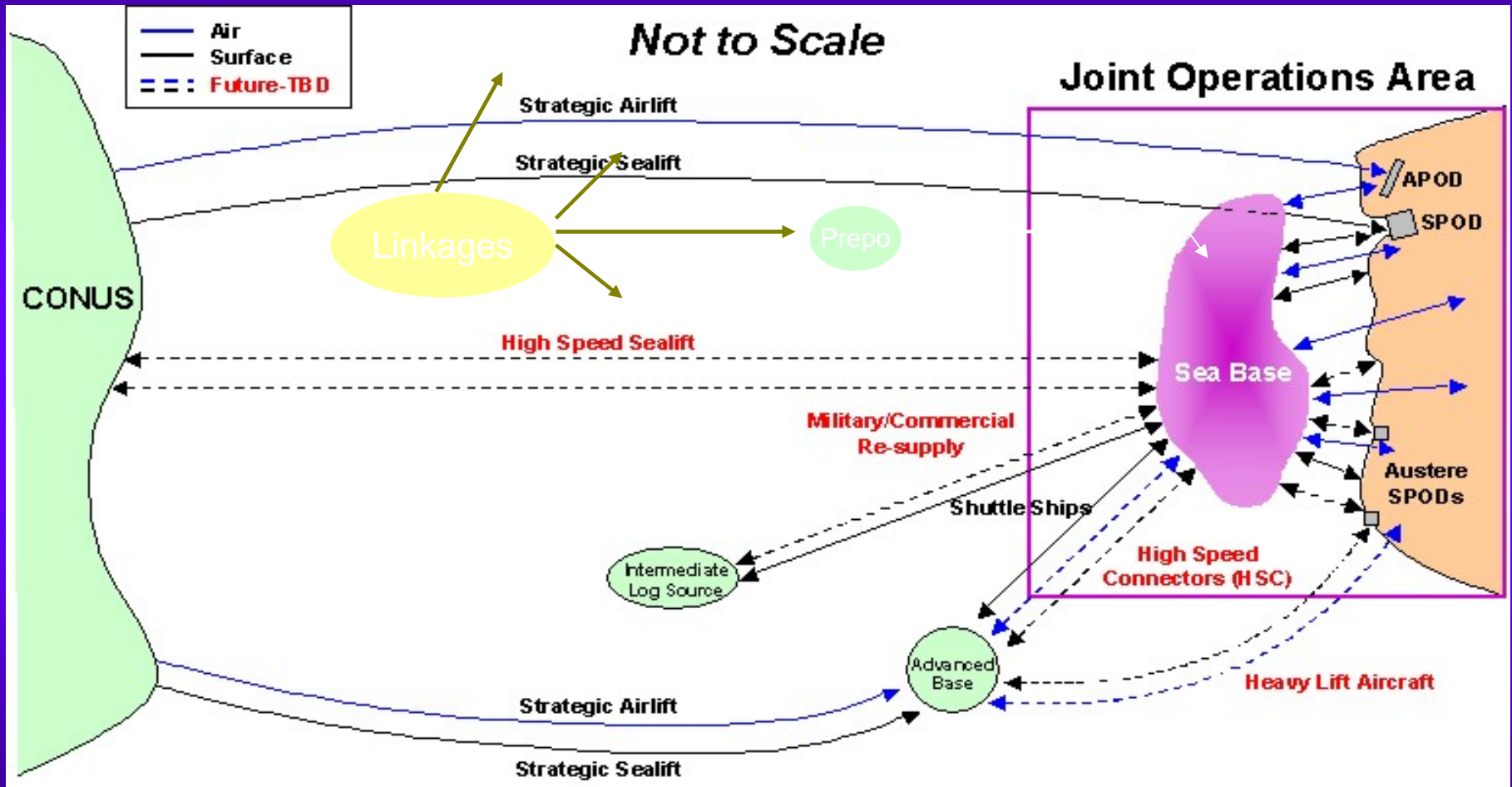
Current MPS

- Port to Port Function
- Sustainment flows through ports and airfields
- Becomes part of Common User Pool



**Sea Bases are maneuverable, scalable, distributed,
and project combat power**

Sea Base Overview -- Process, Components, & Enablers



Joint Sea Base leverages forward deployed, pre-positioned, and surge force posture. Arrive ready with scalable air, maritime, and ground forces on accelerated timelines.

Joint Sea Basing/Expeditionary Force Projection Joint Capability

- Joint Sea Basing/Expeditionary Force Projection has the potential to be a significant US capability
- CNO and Commandant have made major progress, but require *full* joint participation *and* resourcing to ensure success

Joint Sea Basing/Expeditionary Force Projection Joint Capability

What is needed?

- The establishment of a US sea-basing capability requires an integrated spiral approach, involving requirements *and* acquisition decisions and actions
- Capability enhancement or “drops” would be introduced near-term, mid-term, and build toward a revolutionary future capability

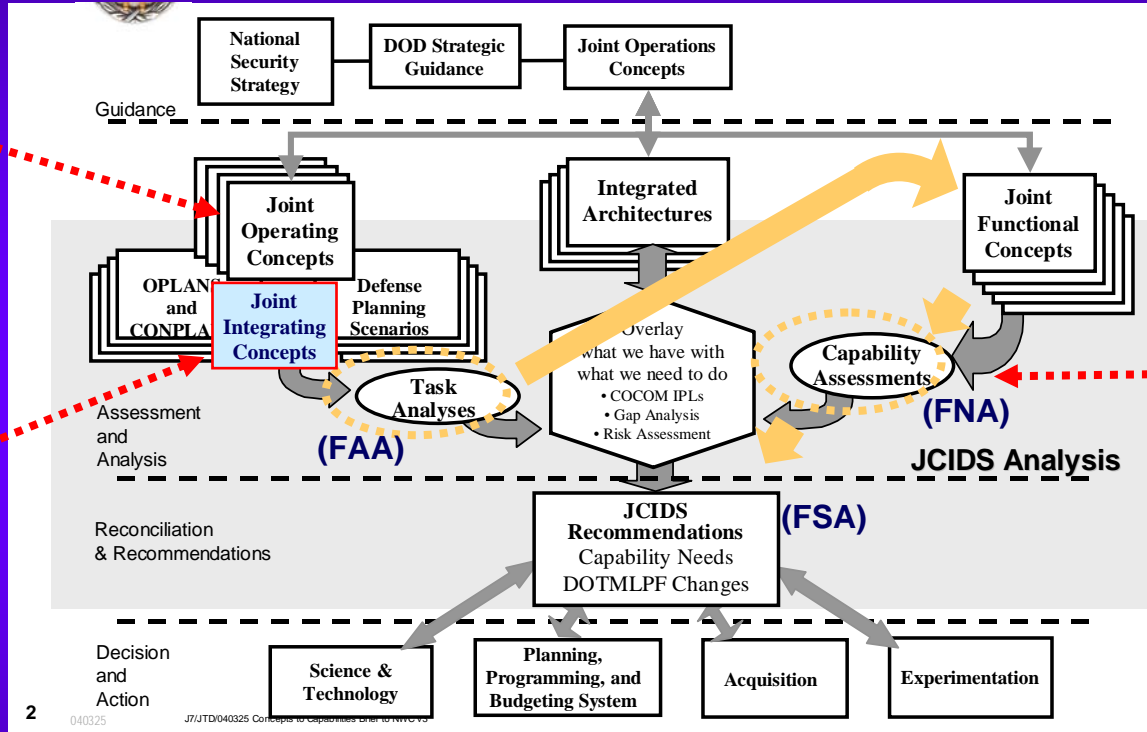
Joint Sea Basing/Expeditionary Force Projection Joint Capability

JCS Tank Recommended:

- Joint Sea Basing be designated a primary candidate for a *Joint Integrating Concept*
- Start by utilizing existing (new) process

JIC Role in JCIDS

JCIDS Chart—CJCSI 3170D



JOCs were intended to lead to a Task Analysis needed for capability assessments

In practice, JOCs appear to be written at too high a level to lead to needed task analysis and JICs are filling that role

Prioritized tasks from JICs are then used by FCBs to assess capabilities

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JFEO Tasks

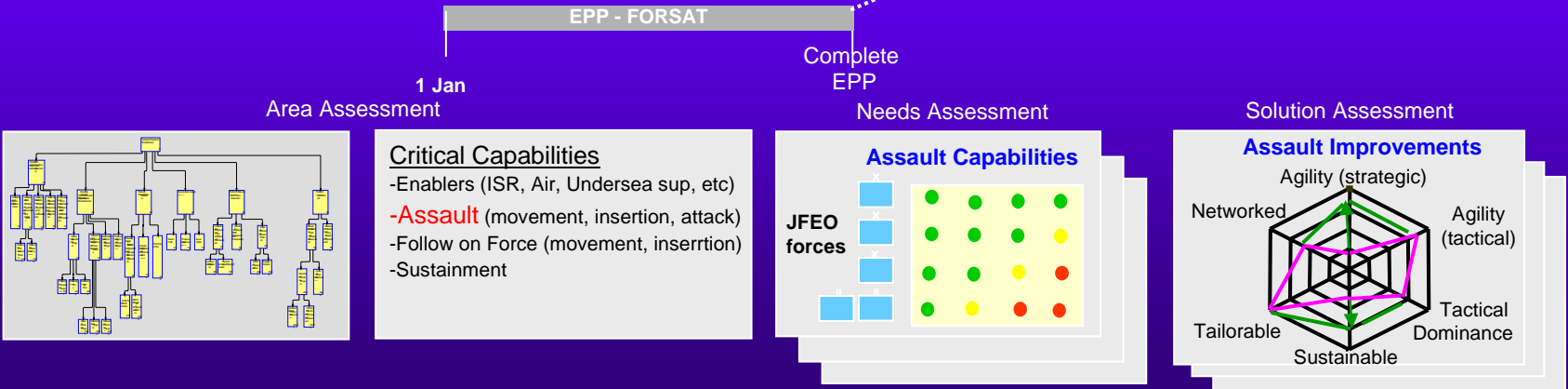
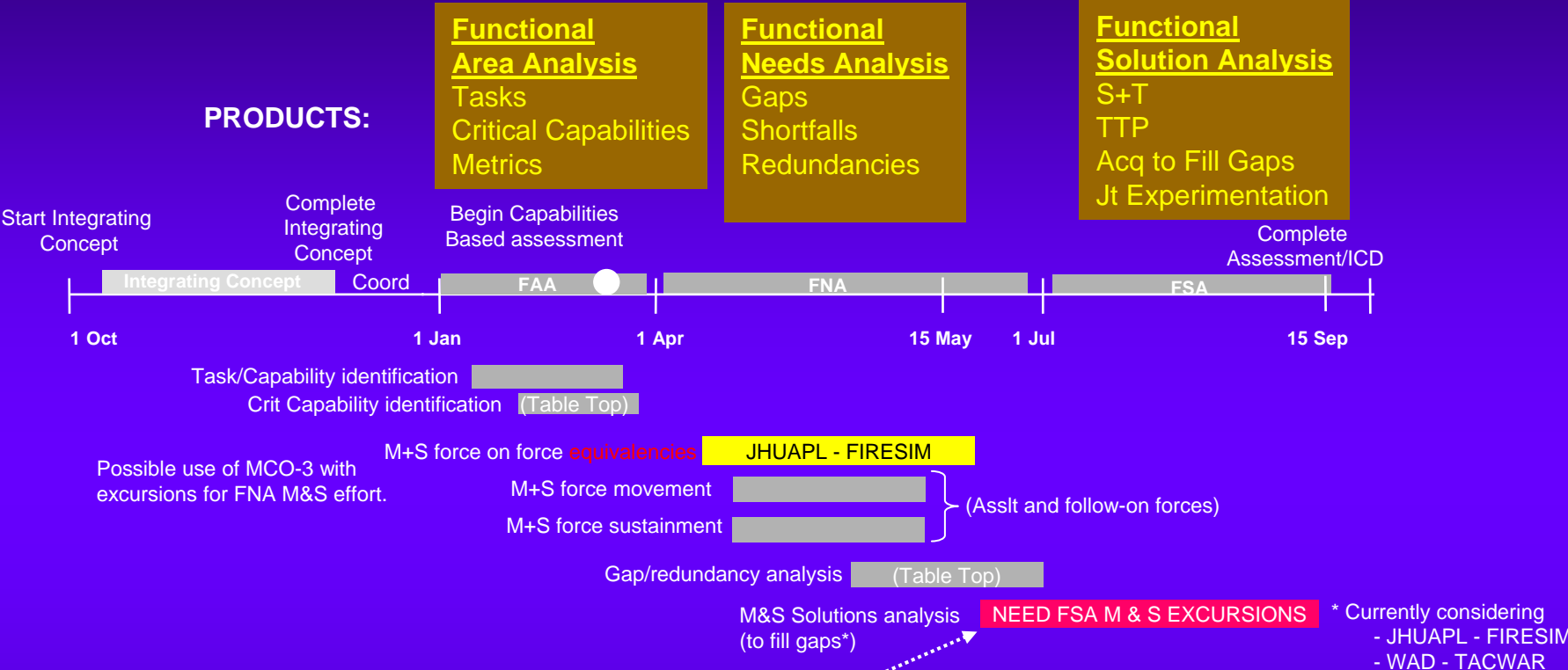
- **Per JROCM:** Perform a capabilities-based assessment (CBA) of undersea superiority & JFEO NLT 30 Sep 04 using the tasks identified by the PACOM / JFCOM-developed enabling concept.
- **Per OSD direction:** Support the EPP NLT 15 May 04 with emerging results of the CBA.

JFEO CBA Definition

Joint Forcible Entry Operations

“A Joint military operation conducted in the face of expected armed opposition to gain entry of ground forces into a JOA in order to enable the conduct of follow-on operations or as a decisive operation.”

JFEO CBA Timeline



Current Status

■ Definition of “Critical Capability”

- Significant likelihood of needing capability to conduct JFEO
- Major negative consequence to JFEO if capability not available

(Chairman's Risk Assessment)

■ Prioritized Capabilities List

- (hundreds) CBA-derived capabilities
 - 24 critical capabilities with MOE's identified
- ## ■ Attribute and MOE under development for critical capabilities
- Capabilities assigned to FCB's

Warfighter Driven

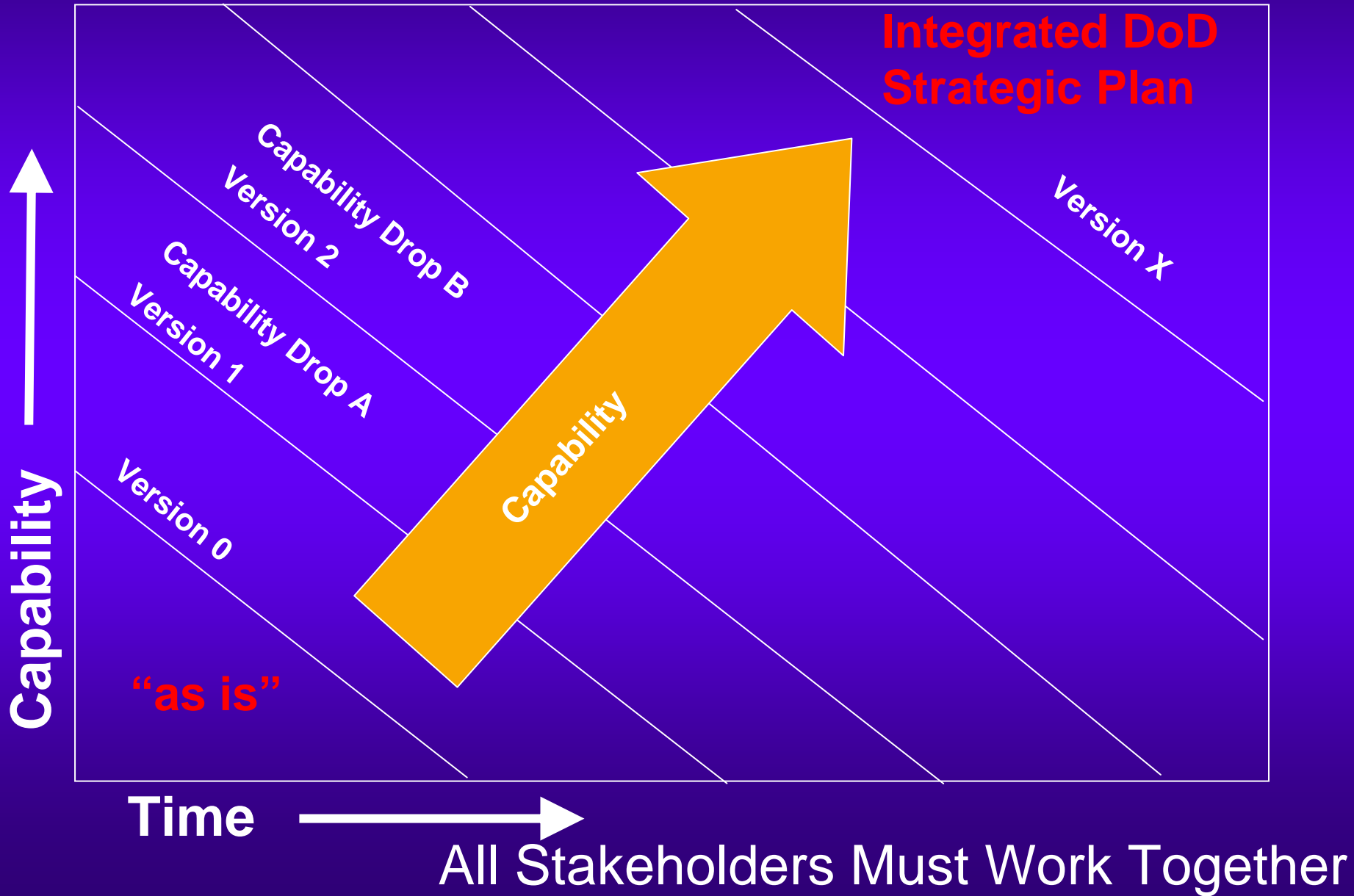
Operationalizing JICs



Outline

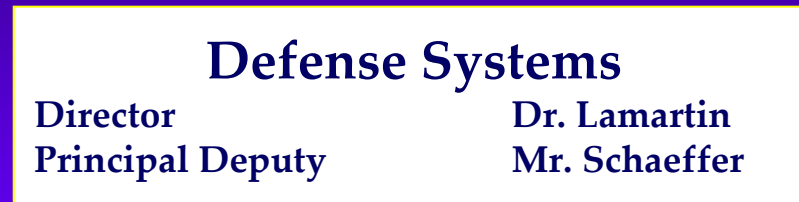
- Building Capabilities (JCIDs, Roadmaps, Capability Area DABs)
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Capabilities for the Warfighters Progression



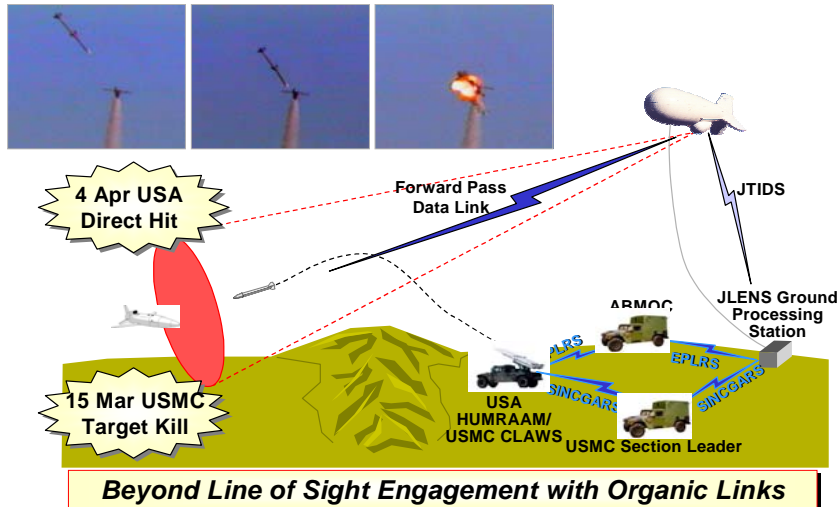
Backup Slides

Organization of the Defense Systems Directorate OUSD(AT&L)



Integrated Fire Control

Forward Pass Concept



Engage-On-Remote Concept

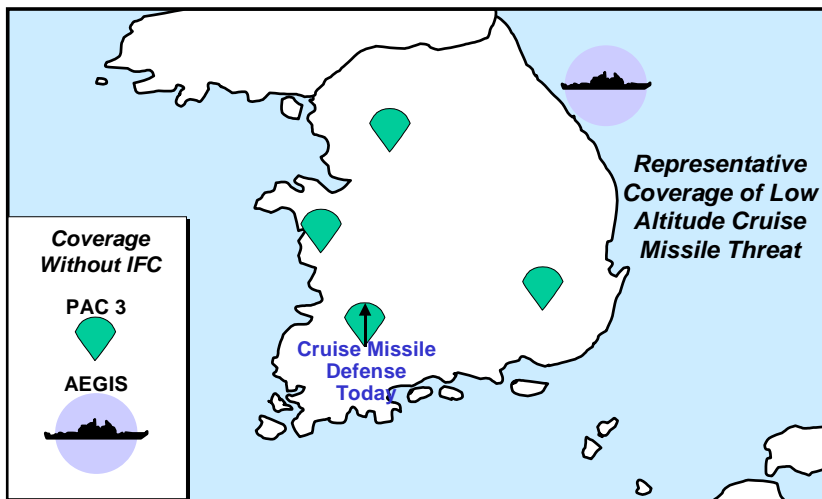
Patriot Advanced Capability-3



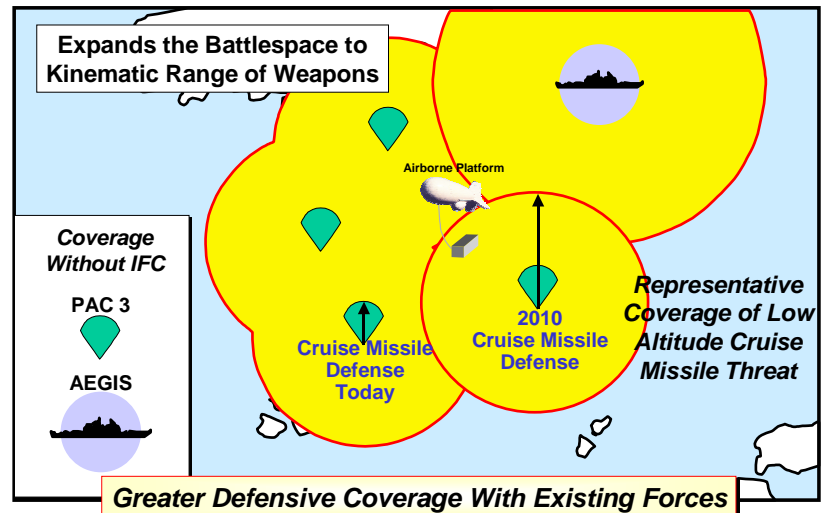
Successful Engagement of Simulated Cruise Missile Based on Fire-Control Data from External Radar

Demonstrated Capability to Increase Defended Footprint Against Low Flying Cruise Missile Threats

IFC Coverage vs Stressing Threat



IFC Coverage vs Stressing Threat





AMD Roadmap: Selected Systems

FY	04	05	06	07	08	09	10	11	12	13	14	15	16
Sensors:													
JLENS													
E-2													
AEGIS													
MRRS (GATORS Inc 1)													
E-3 (AWACS 30/3540/45)													
E-8 (JSTARS)													
E-10													
MP-RTIP													
Weapons:													
PAC-3 (PATRIOT)													
MEADS													
SLAMRAAM													
F/A-18 (MIDS)													
F-35													
ERAM/SM6													
CLAWS													
F-15 (Suite 5M)													
F-16 (40/42)													
F/A-22													
AIM-120 (C-7)													
Battle Management:													
AMDC2 (Block 1)													
CAC2S													
AOC													
Networks/C2:													
CEC													
JTRS													
MIDS (F/A18)													
T-SAT													
GIG-BE													
DoD Teleport													
NCES													

Critical Capabilities Cross Walk

Establish/maintain communications for JFEO Force,
Coalition and Enablers

Transport to and unload / receive assets in JFEO AOR

Transport and unload / receive assets within JFEO AOR

Protect forces throughout JFEO AOR

Control LOCs in JOA as required

Maneuver within the JFEO AOR

Detect and identify enemy anti-access capabilities

Find, fix and track targets

Target and engage targets

Sustain the JFEO force in austere environment

Provide fire support to maneuver forces

Track and defeat enemy anti-access capabilities

	<u>PDM II</u>	<u>JFCOM JIC</u>	<u>VIGNETTE</u>	<u>JOINT FIRES 2015</u>	<u>JFEO 2015</u>	<u>UC-04</u>	<u>DSB SEA BASING</u>	<u>USMC 2015 MEB</u>	<u>AABCT AFLOAT</u>	<u>ENSB - USN/USMC</u>	<u>EXPED WAR FP</u>
Establish/maintain communications for JFEO Force, Coalition and Enablers	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Blue	Yellow	Yellow
Transport to and unload / receive assets in JFEO AOR	Yellow	Yellow	Brown	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Transport and unload / receive assets within JFEO AOR	Yellow	Yellow	Brown	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Blue
Protect forces throughout JFEO AOR	Yellow	Yellow	Brown	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Control LOCs in JOA as required	Yellow	Yellow	Blue	Blue	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Maneuver within the JFEO AOR	Yellow	Yellow	Blue	Blue	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Detect and identify enemy anti-access capabilities	Yellow	Yellow	Yellow	Blue	Yellow	Yellow	Blue	Yellow	Yellow	Yellow	Yellow
Find, fix and track targets	Yellow	Yellow	Yellow	Blue	Yellow	Yellow	Blue	Yellow	Yellow	Yellow	Yellow
Target and engage targets	Yellow	Yellow	Yellow	Blue	Yellow	Yellow	Blue	Yellow	Yellow	Yellow	Yellow
Sustain the JFEO force in austere environment	Yellow	Yellow	Blue	Blue	Blue	Yellow	Blue	Yellow	Yellow	Yellow	Blue
Provide fire support to maneuver forces	Yellow	Yellow	Yellow	Blue	Blue	Yellow	Yellow	Yellow	Yellow	Yellow	Blue
Track and defeat enemy anti-access capabilities	Yellow	Yellow	Yellow	Blue	Yellow	Yellow	Blue	Yellow	Yellow	Yellow	Yellow

DOD End-to-End Requirements, Acquisition and Test Process



JCIDS Process

Capabilities Based Assessment

- Capabilities
- Tasks
- Attributes
- Metrics
- Gaps
- Shortfalls
- Redundancies
- Risk areas
- Non-materiel solutions
- Materiel solutions
- S+T initiatives
- Experimentation

- Strategic Planning Guidance
- Defense Planning Scenarios
- Family of Concepts
- Transformation

- Refined concept
- Analysis of Alternatives
- Technology Development Strategy

- Affordable military-useful increment
- Technology demonstrated
- Initial KPPs
- DT&E
- Revise KPPs
- Detailed design
- System integration
- IOT&E

