



Capability Based Assessments

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Michael J. Novak
Associate Director, Joint Force Application
Office of the Under Secretary of Defense
Acquisition, Technology and Logistics



Outline

- **Describe the New Imperatives**
- **Provide Examples of DAB Context Slides**
- **Describe Roadmap Process**
 - Example: Integrated Air and Missile Defense (IAMMD)
- **Describe Capability Area Review Process**
 - Example: Integrated Air and Missile Defense (IAMMD)
- **Describe Way Ahead**



USD(AT&L) Imperatives

- **“Provide a context within which I can make decisions about individual programs.”**
- **“Achieve credibility and effectiveness in the acquisition and logistics support processes.”**
- **“Help drive good systems engineering practice back into the way we do business.”**



Current Situation

- What We Need To Do Better -

Requirements

- Adapting to changing conditions
- Matching operational needs with systems solutions
- Overcoming biases: Services and others
- Moving to transform military

PPBES

- Laying analytical foundation for budget
- Aligning budgets with acquisition decisions

Personnel and Readiness

- Treating people as a resource

Acquisition

- Acquiring systems-of-systems
- 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
- Ensuring a robust industrial base

Sustainment

- Controlling O&S costs
- Reducing logistics tails



Problem

- **Acquisition DABs are currently conducted at the program level only**
 - System level views have been recently incorporated
 - DAES level reviews have incorporated functional context
 - Intent is to add capability based analysis
- **Decision makers need to understand capability planning that identified the shortfall and solution analysis that resulted in the solution being considered**
 - JCIDS process provides basis for capability area analyses
 - Other Joint In-depth analyses can support all decision fora?



System Reviews In Context

- **All recent DAB reviews include contextual reviews of systems**
- **System views presented in two ways:**
 - Operational Context
 - Interrelationships with Complementary Systems
- **Operational Context**
 - Slides depict view of operational employment of the system and its proximate relationships within the system of systems
- **Interrelationships with Complementary Systems**
 - Slides depict how the system is supported by and supports other systems
 - Standard Cost, Schedule, and Performance metrics depict the health of each system by color code
- **Contextual Reviews reveal actions required**

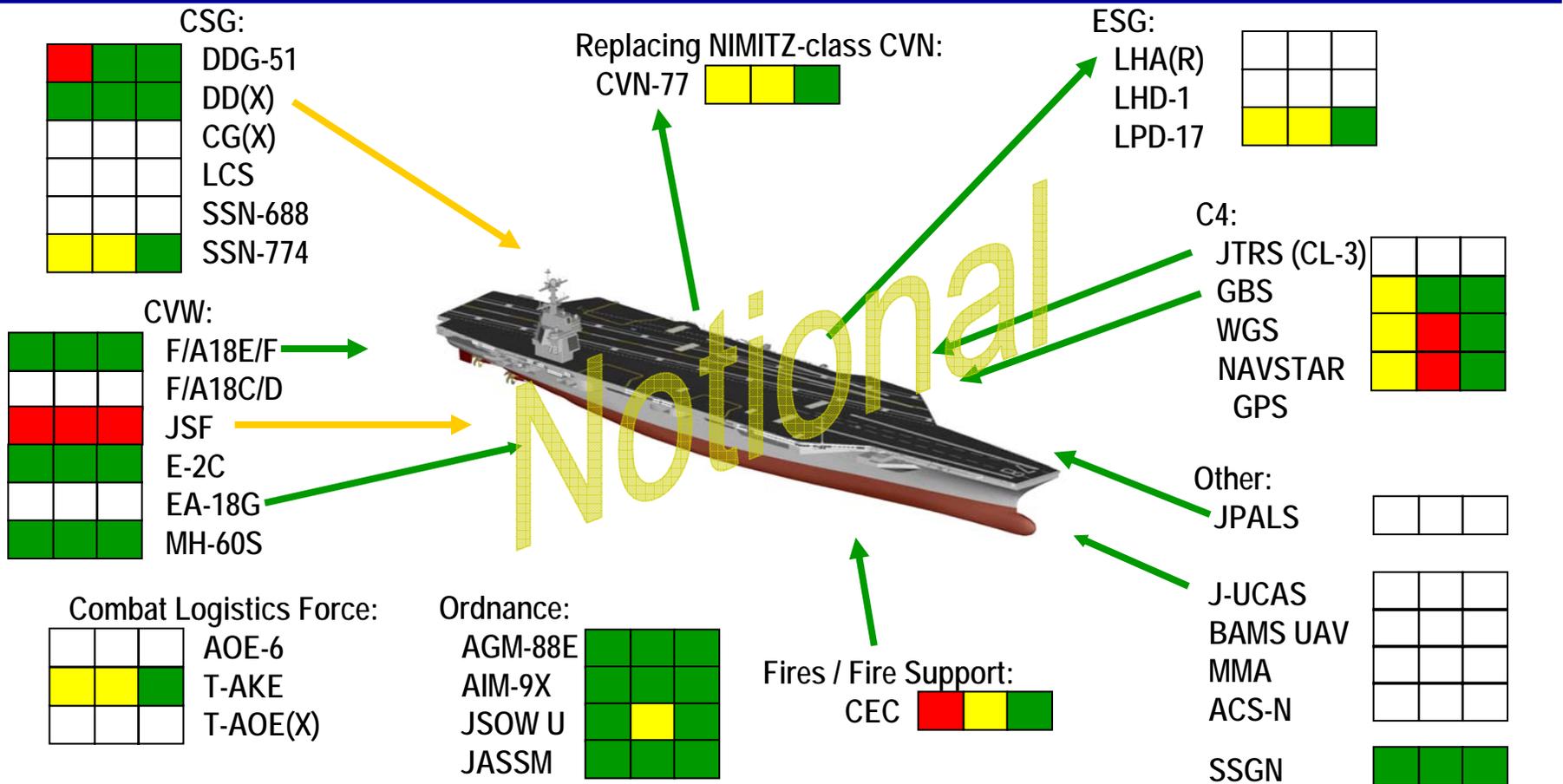


CVN 21 Operational Relationships





CVN-21 Interrelationships with Complementary Systems



Green Current schedule and performance support fielding

Yellow Performance issues with interface

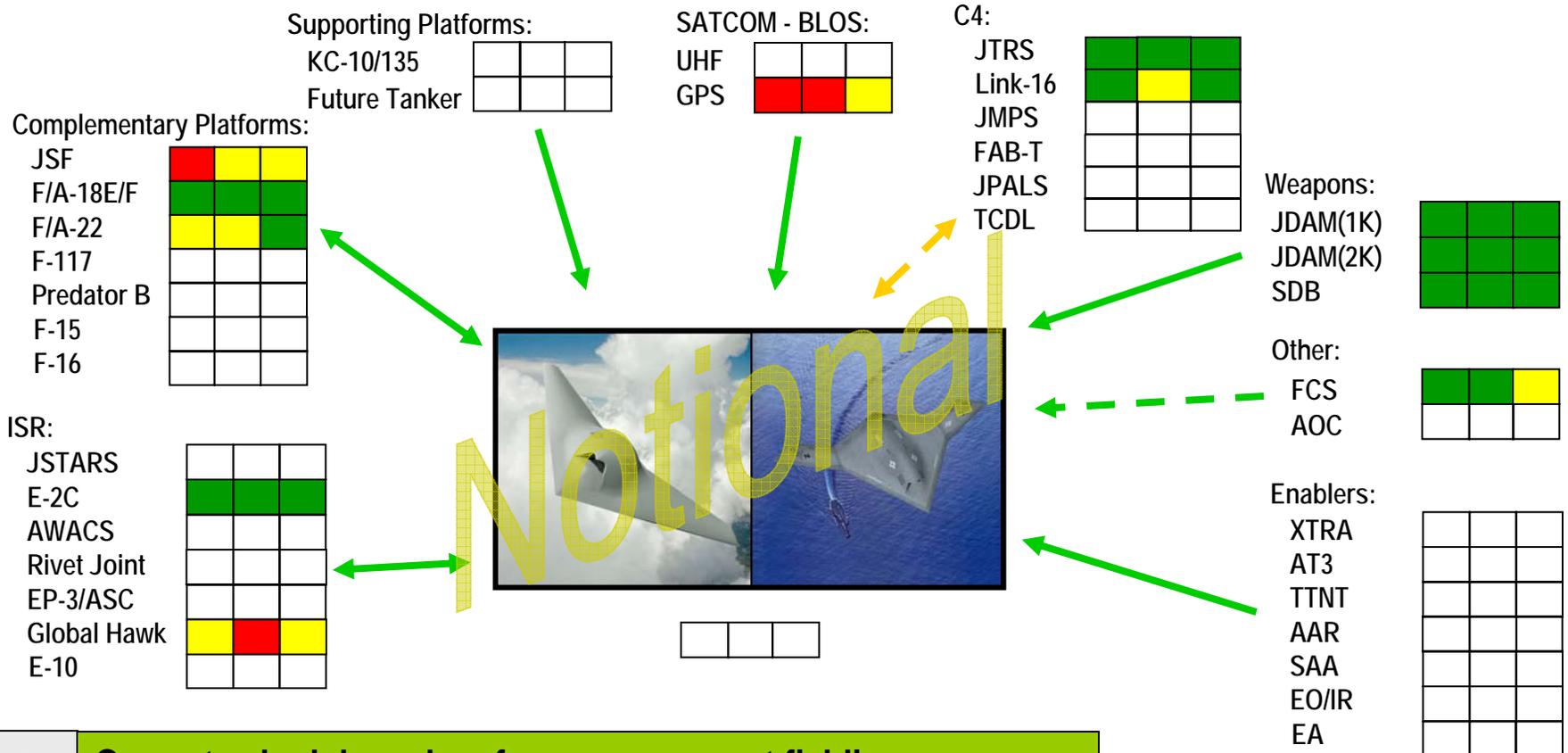
Arrow to CVN-21 denotes CVN 21 receiving other program's technology or capability
 Arrow from CVN-21 denotes technology recipients from CVN-21

OSD DAES Rating: C S P Not Rated

Green Yellow Red Blue



J-UCAS Interrelationships with Complementary Systems

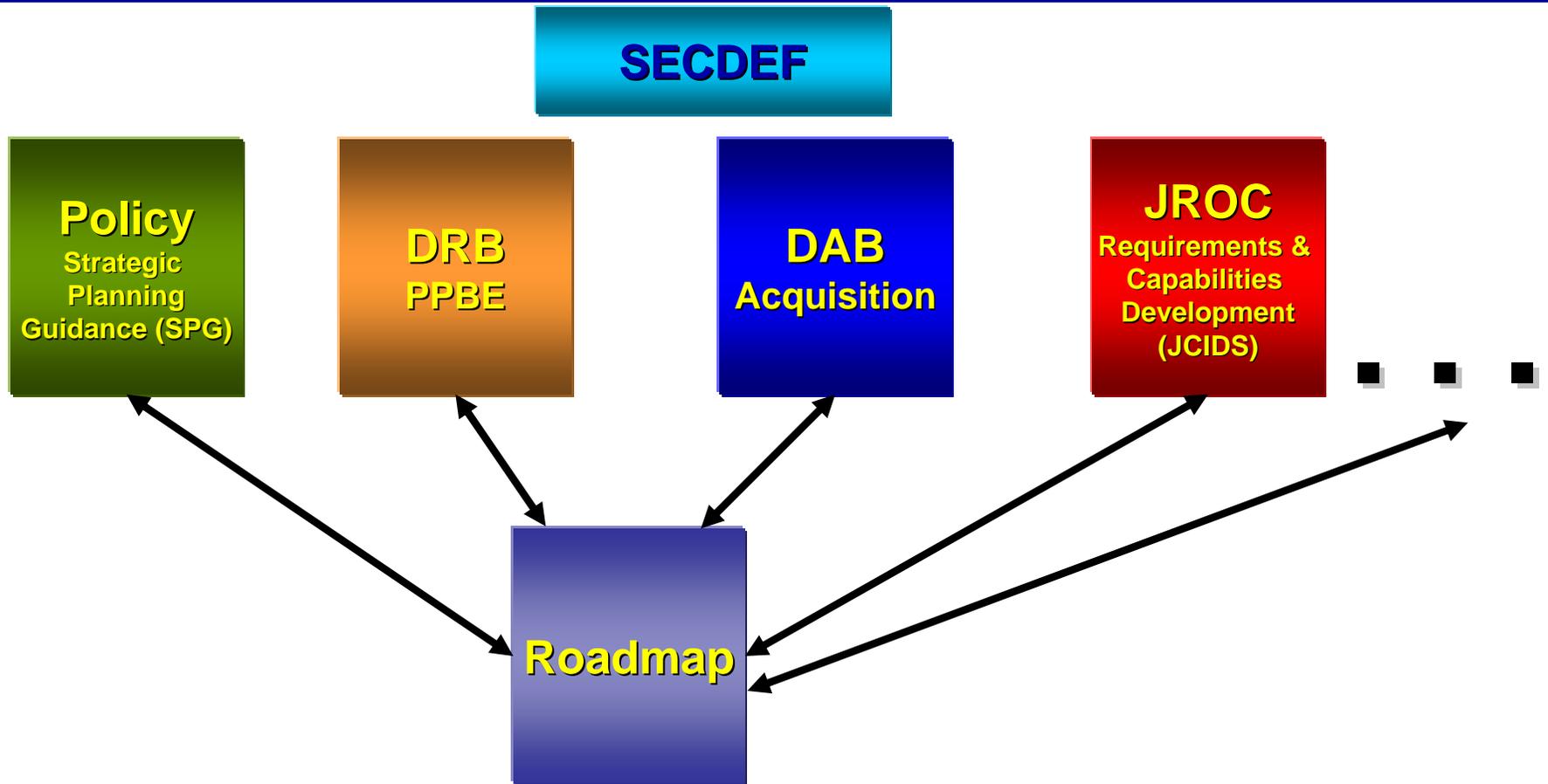


	Current schedule and performance support fielding
	Performance issues with interface
	Performance and schedule coordination required for future systems

	SOLID DENOTES CURRENT SYSTEM	OSD DAES Rating: C S P Not Rated
	DASH DENOTES FUTURE SYSTEM	



Roadmaps in Context



All roadmaps must influence and be influenced by major DoD processes



Capability Area Perspective for Acquisition

- **System context provides important information for acquisition decisions.**
- **To fully implement CBP into the acquisition process, we must have insight into capability gaps in their entirety**
 - To develop appropriate acquisition strategies
 - To validate that related systems deliver capability needs
- **Roadmaps provide a key mechanism for reviewing a capability area**



Roadmaps and Roadmapping

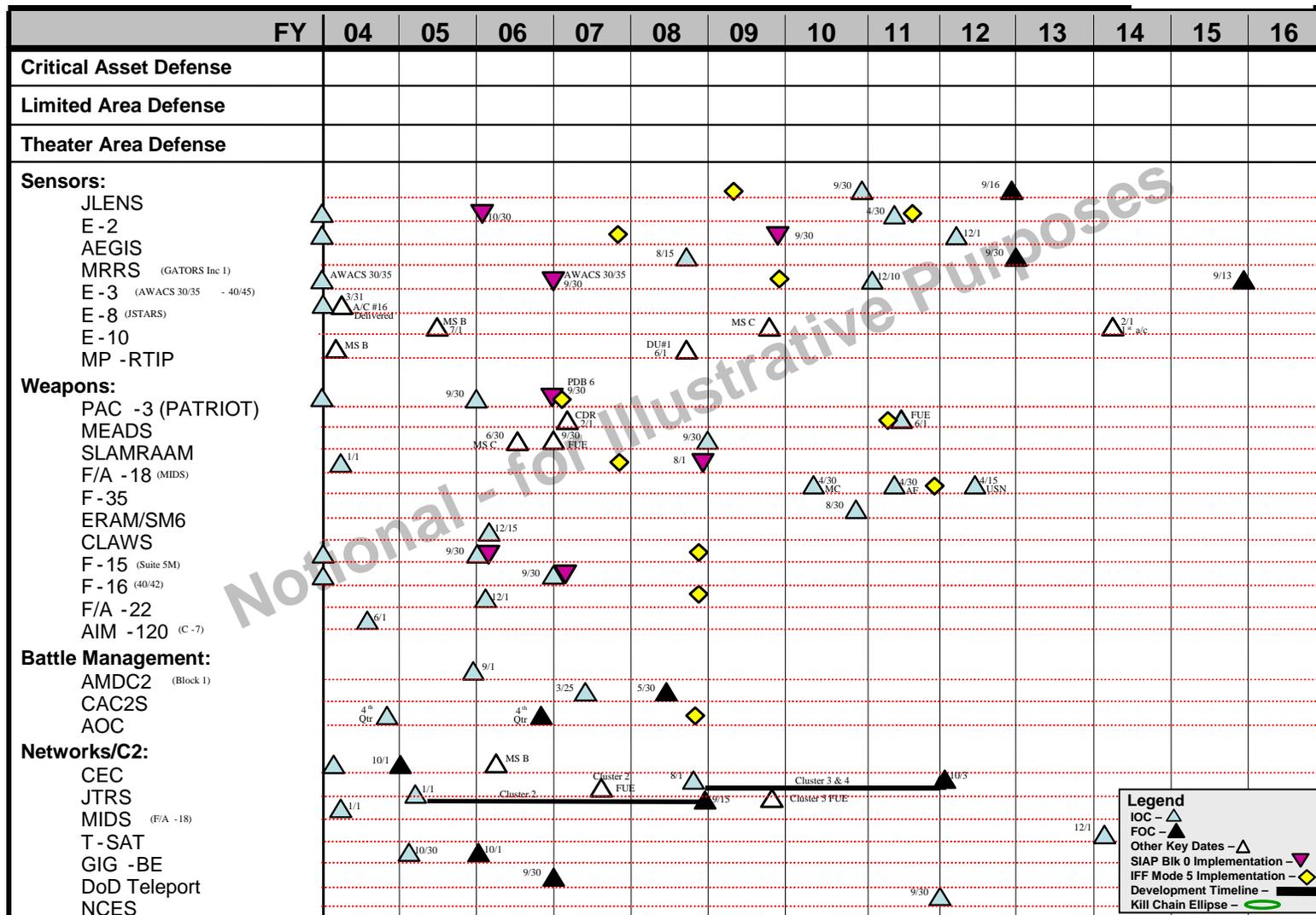
*Roadmaps provide a framework for decision making –
prompt discussion, inform decisions, and capture decisions made*

- **Lay out Department’s strategic plan considering:**
 - Materiel and non-materiel solutions
 - Capability that only exists at Family/System-of-Systems level
 - What to expect from each system
 - Cross-cutting management, engineering, and testing
 - Network enablers
 - Affordability
- **Nature of Roadmaps will vary by topic**
- **Start with the “as is” and show where we want to go**

But... must balance decisions across capability areas



Example: Integrated Air and Missile Defense Roadmap





IAMD Roadmap

- **Is descriptive of IAMD capability area**
- **Contains selected first order assessments**
 - Capabilities
 - Resources
- **Show interdependencies among selected systems in this capability area**
- **Useful tool to support CARs...provides “50k foot” perspective for the overall mission area**
- **Accomplished using the JCIDS process**
 - FCB supported development of the Roadmap
 - JCB has forwarded IAMD Roadmap to JROC
 - Looks at a range of DOTMLPF solutions
 - Provides senior decision makers an overview and assessment

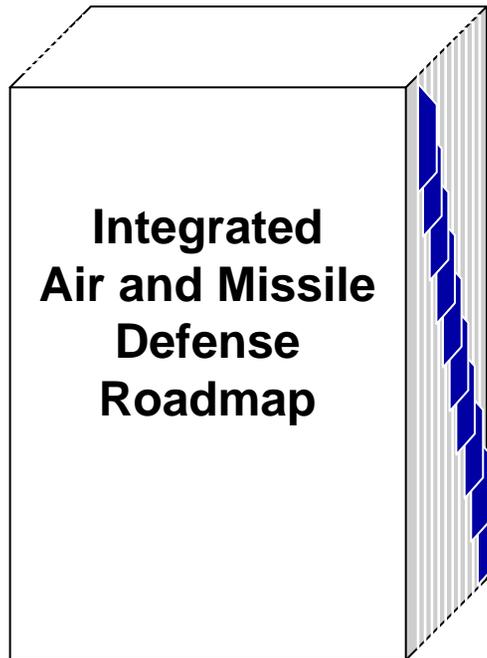


IAMD Roadmap

- **Supports the Defense resourcing process**
 - Identifies areas for further review, analysis, and risk assessment – gaps and overlaps
 - Request DAB approval for further Capability Area Review analysis
 - Analysis supports future investment plans
- **Documents an initial baseline description of selected programs/systems that help realize the incremental attainment of specified capabilities within the TAMD CRD**
- **Selected sub-set of TAMD CRD family of systems**
 - Describes Service planned and programmed systems



IAMD Roadmap Outline



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



Capability Area ReviewsProvider's Side Perspective

- **Expand the provider's perspective to SoS/FoS level**
- **Context essential to well-informed decision-making**
- **Broader view of how systems relate to each other and to strategic purpose**
- **Wholly dependent on Warfighter's assessment of the capabilities possessed vs. needed**



Capability Area Reviews

- Implement capability-based methodology on provider side
- Provide mission area context
- Links across policy, capability generation, acquisition, and budgeting processes
- Identify joint solutions and additional work to be done (across DOTMLPF)
- Reveal need for management, engineering, and testing across a capability area
- Help align individual program expectations for capability and schedule (including collective capability)
- Provide basis to set metrics and gauge progress in developing capability over time
- Assess the cumulative effect of individual program decisions in a broader context

But...wide participation is essential



Way Ahead

- Institutionalize DAB Capability Area Reviews
 - IAMD (May 04), Land Attack Weapons (May 04), and JBMC2 (Aug 04)
 - EW – Nov 04
 - Joint Forcible Entry (JFEO) – FY 05
 - Joint Undersea Superiority (JUSS) – FY05
- Implement capability-based roadmaps as an integrated management tool used to reflect entire end-to-end process
- Develop an “Atlas” of Roadmaps to synchronize and integrate multiple Roadmaps across the Department and develop a common roadmap structure, where feasible, across the Department
- Work together to define and implement the shared responsibilities that cross DoD processes



Backups



ROADMAPS: Guidance

DoDI 5000.2



Department of Defense INSTRUCTION

NUMBER 5000.2
May 12, 2003

USD(AT&L)

SUBJECT: Operation of the Defense Acquisition System

References:

- (a) DoD Instruction 5000.2, "Operation of the Defense Acquisition System," April 5, 2002 (has been cancelled)
- (b) DoD 5000.2-R, "Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information System (MAIS) Acquisition Programs," April 5, 2002 (has been cancelled)
- (c) DoD Directive 5000.1, "The Defense Acquisition System," May 12, 2003
- (d) through (kl), see enclosure 1

1. PURPOSE

This Instruction:

- 1.1. Establishes the policy for the development of the Defense Acquisition System (DAS) and the associated investment plans, roadmaps, and capability assessments.
- 1.2. Implements the policy for the development of the DAS and the associated investment plans, roadmaps, and capability assessments.
- 1.3. Establishes the policy for the development of the DAS and the associated investment plans, roadmaps, and capability assessments.
- 1.4. Considers the impact of the DAS and the associated investment plans, roadmaps, and capability assessments on the Department of Defense's (DoD) mission and goals.

2. APPLICABILITY

This Instruction:

- 2.1. Applies to all DoD components, including the Joint Chiefs of Staff, the Department of Defense, and the Military Departments, in the development of the DAS and the associated investment plans, roadmaps, and capability assessments.
- 2.2. Applies to all DoD components, including the Joint Chiefs of Staff, the Department of Defense, and the Military Departments, in the development of the DAS and the associated investment plans, roadmaps, and capability assessments.
- 2.3. Applies to all DoD components, including the Joint Chiefs of Staff, the Department of Defense, and the Military Departments, in the development of the DAS and the associated investment plans, roadmaps, and capability assessments.

DoDI 5000.2

systems functionality. The systems view shall identify the kind 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, which shall underpin all mission area and capability architectures. The Military Department and Defense Agencies shall participate in the identification of the appropriate technical view consisting of standards that define and clarify the individual systems technology and integration requirements. The standards used to form the Technical View of integrated architectures shall be selected from those contained in the current approved version of the Joint Technical Architecture, accessible at <http://jta.dia.mil/> (reference (f)).

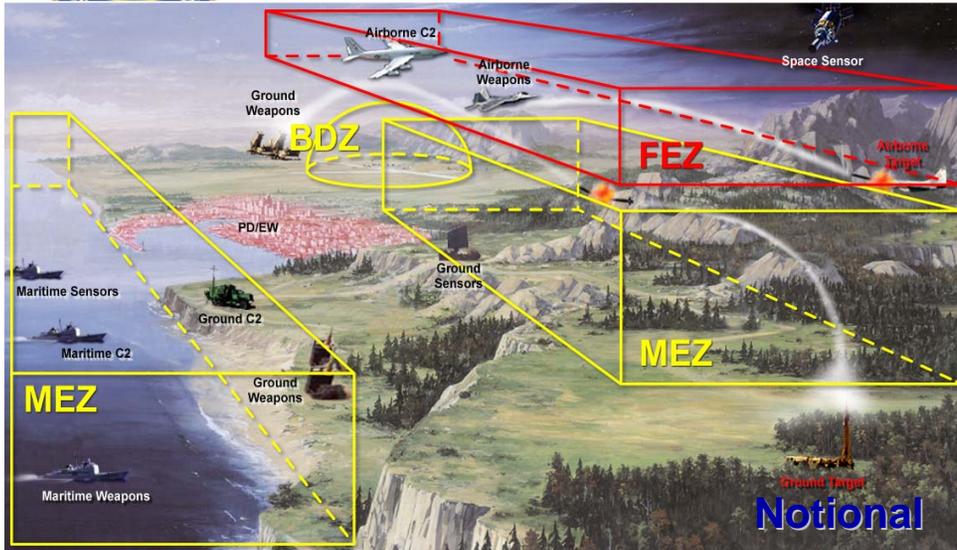
3.2.2. Integrated Capability Assessments, Capability Roadmaps, and Investment Strategies. Using the integrated architectures, the USD(AT&L) shall lead the development of integrated plans or roadmaps. The Department of Defense shall use these roadmaps to conduct capability assessments, guide systems development and 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.

3.2.2. Integrated Capability Assessments, Capability Roadmaps, and Investment Strategies. Using the integrated architectures, the 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, and 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.





2010 AMD Operational View



Today

- Weapon System engagements constrained by procedural controls, target ID and organic sensor limitations
- Joint defense capabilities constrained by inadequate interoperability among weapon systems, sensors, and BMC⁴¹

2010 JEZ

- Single Integrated Air Picture
- Combat ID
- Integrated Fire Control
- Automated Battle Management Aids
- Attack Operations
- Passive Defense/Early Warning
- Joint Collaborative Planning

