



SEAPOWER THROUGH ENGINEERING

3.3.3

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3.3.3 JOINT CAPABILITIES INTEGRATION DEVELOPMENT SYSTEM (JCIDS)

TIME: 1.0 HR

TOPIC LEARNING OBJECTIVES

Upon successful completion of this topic, the student will be able to:

1. Recognize the interface between the Defense Acquisition System and the Joint Capabilities Integration and Development (JCIDS) System and identify the governing documents.
2. Recognize the importance of the Capability Requirements and Capabilities-Based Assessment (CBA) Process, and the phases associated with the CBA process.
3. Recognize the purpose of the following user-developed documents and the correlating phase of the acquisition system: Initial Capabilities Document (ICD), Capability Development Document (CDD), and CDD Updates.
4. Recognize the importance and priority of exploring materiel and non-materiel solutions.
5. Identify the role of the Joint Requirements Oversight Council (JROC) and Joint Staff in the requirements validation and approval process for defense acquisition programs.
6. Recognize the user's (Warfighter's) role and tools in identifying capability deficiencies.
7. Identify the aspects of the Joint Capabilities Integration and Development System (JCIDS) as it applies to acquisition of Information Technology (e.g., Net-Ready, interoperability, architecture, reuse).
8. Recognize why Command, Control, Communications, Computers, and Intelligence (C4I) interoperability must be considered with all affected U.S. and Allied systems.

STUDENT PREPARATION

Student Support Material

1. None

Primary References

1. CJCSI 3170.01 Series, Joint Capabilities Integration and Development System.
 2. Manual for the Operations of the Joint Capabilities Integration and Development System.
 3. CJCSI 5123.01 Series, Charter of the Joint Requirement Oversight Council (JROC) and Implementation of the Joint Capabilities Integration and Development System (JCIDS).
 4. CJCSI 6212.01 Series, Interoperability and Supportability of Information Technology and National Security Systems
 5. Capabilities-Based Assessment (CBA) User's Guide Version 3 March 2009
 6. DoD and SECNAV 5000 Series
- Additional References
1. DAU ISA1011 Basic Information Systems Acquisition
 2. DAU ISA201 Intermediate Information Systems Acquisition

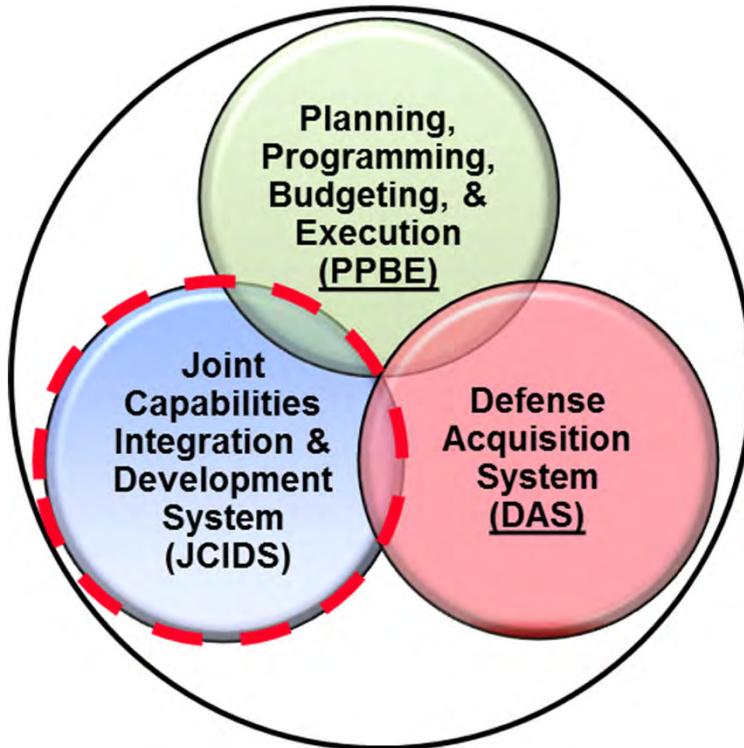


Overview

- Introduction
- JCIDS Analysis
- Capability Documents
- Key Players in the Process
- Document Validation



Decision Support Systems



- **JCIDS – Requirements (Warfighters)**
- **PPBE – Money (Financial Folks)**
- **Defense Acquisition System – Materiel (Acquisition Framework)**

The three decision support systems operate continuously and must interface on a regular basis to enable DoD leadership to make informed decisions



Why do we need JCIDS?

- Primary objective of JCIDS:

- To ensure the Joint Warfighter receives the capabilities required to successfully execute the missions assigned to them
 - Capability = the ability to achieve an objective in a military operation
 - Requirements identified through JCIDS can be either materiel or non-materiel
 - Institutionalize a Joint capability need requiring a materiel solution
 - Initiate the acquisition management process

DoD defines and validates requirements through JCIDS



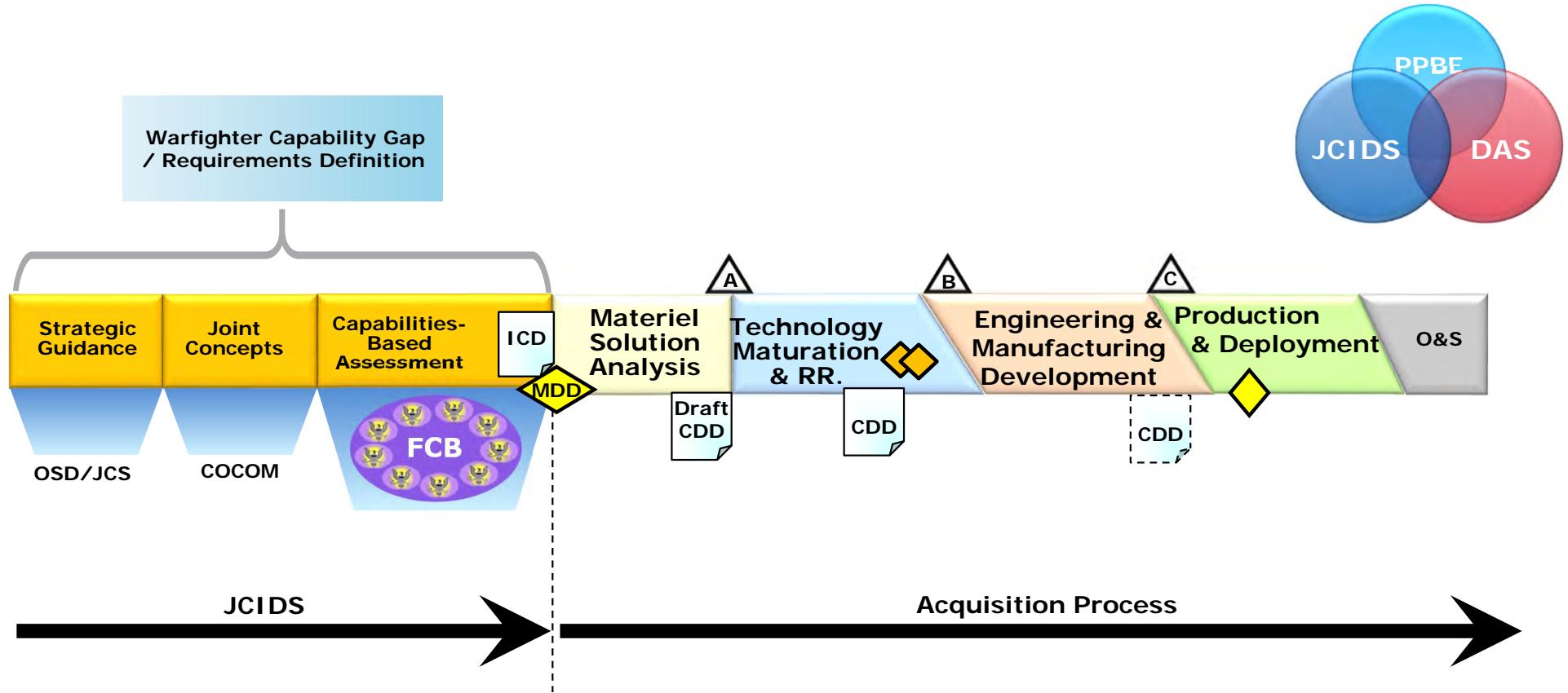
Why do we need JCIDS?

- JCIDS supports:
 - The statutory requirements of the JROC and CJCS to validate and prioritize Joint military capability requirements
 - The acquisition process by providing validated capabilities and associated performance criteria to be used as a basis for acquiring the right weapon systems
 - The PPBE process with prioritization and affordability advice
- JCIDS plays a key role in identifying the capabilities required by the warfighters to support the National Defense Strategy, the National Military Strategy, and the National Strategy for Homeland Defense
- JCIDS process (CJCSI 5123.01) seeks to work in concert with other Joint and DoD decision processes (DoD 5000 series) to provide those capabilities

DoD defines and validates requirements through JCIDS



JCIDS Relationship to DAS



JCIDS is often referred to as the requirements generation process; the DoD defines and validates requirements through the JCIDS



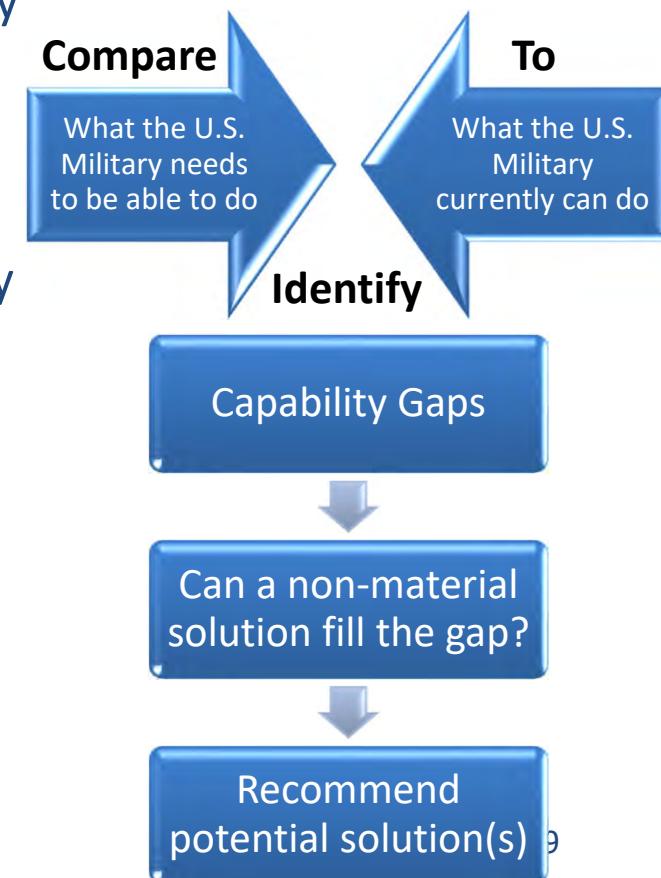
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Capabilities Based Assessment (CBA)

- The first step of the JCIDS process is to conduct a CBA, which analyzes the military's capability needs and gaps, and recommends both materiel (i.e., acquisition) and non-materiel solutions to address the gaps
- A CBA may be initiated by any DoD organization, or it may be based on an approved Joint Concept, a Concept of Operations (CONOPs), or an identified operational need
- The objective of the CBA is to validate capability gap(s) by providing
 - Identification of the mission; the capabilities required and their associated operational characteristics and attributes
 - Capability gaps and associated operational risks
 - An assessment of the validity of a non-materiel solution
 - A potential recommendation on a type of solution to be pursued





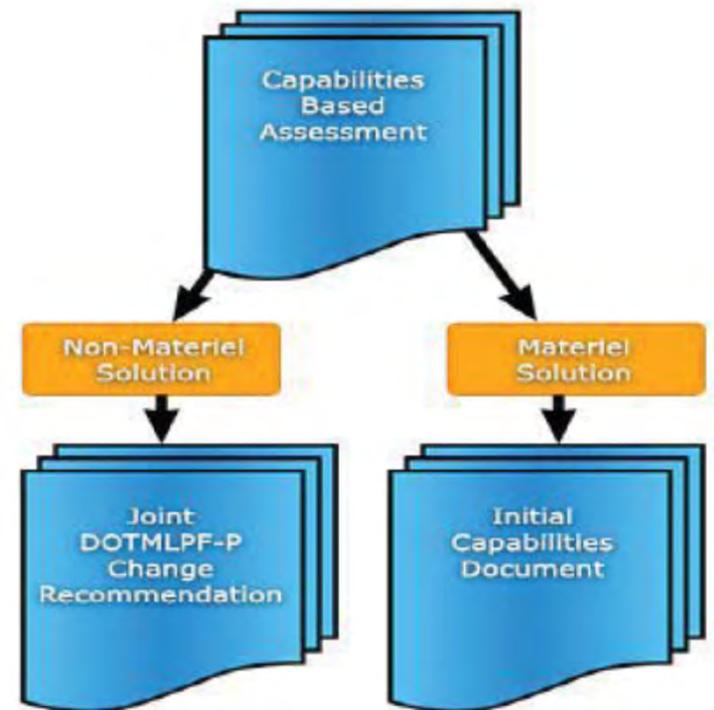
CBA Recommended Solution

- CBA recommends one of two solutions based on the identified capability need, either a materiel solution or a non-materiel solution:
- Materiel Solution
 - A new item developed or purchased to satisfy one or more capability requirements (or needs) and reduce or eliminate one or more capability gaps
 - Materiel solutions are executed in the Defense Acquisition System (DAS) process and are guided by validated capability requirement documents from JCIDS
- Non-materiel Solution
 - A defense acquisition program (non-developmental, modification of existing systems, or new program) that satisfies identified capability needs
 - Non-materiel solutions are usually faster and much less expensive than developing a new system
 - Changes in doctrine or updates to policy are examples of non-materiel solutions



CBA Recommended Solution, cont.

- The CBA can support implementation of both non-materiel and materiel solutions
- CBA consists of three phases:
 1. Study definition
 2. Need assessment
 3. Solutions recommendation
- If the CBA supports a non-materiel solution, then a DOTMLPF-P Change Recommendation (DCR) is developed to implement the non-materiel solution
- If the CBA supports a materiel solution, an Initial Capabilities Document (ICD) is developed



DOTMLPF-P: Doctrine, Organization, Training, Materiel, Leadership, Personnel, Facilities, Policy



DOTMLPF-P Change Recommendations (DCR)

- DOTMLPF-P Change Recommendations (DCRs) represent more refined requirements documents tailored toward a particular non-materiel approach for a capability solution, while capability documents represent more refined requirements documents tailored toward a particular materiel approach for a capability solution

D – Doctrine [fundamental guiding principles]

O – Organization [how DoD organizes to fight]

T – Training [how DoD prepares to fight tactically]

M – Materiel [the existing equipment]

L – Leadership and education [the professional development leaders need]

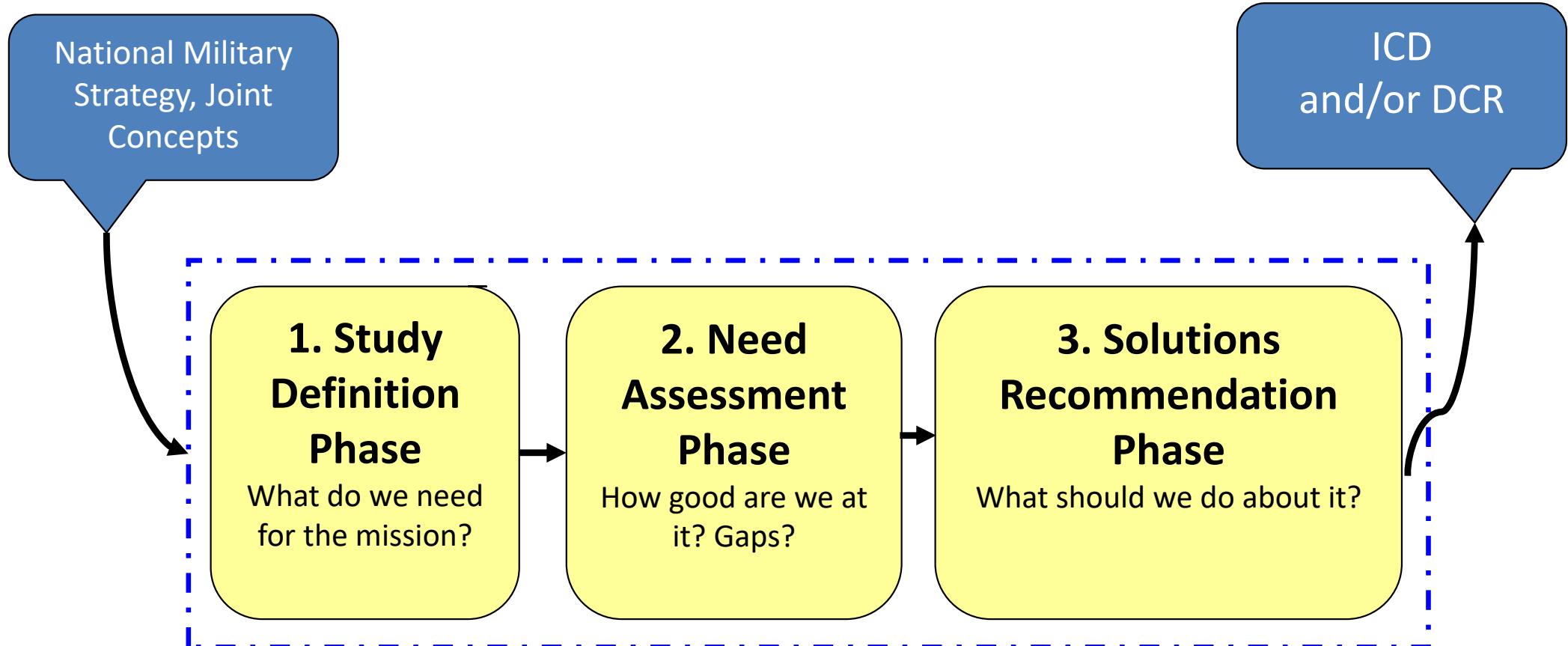
P – Personnel [people needed to accomplish the mission]

F – Facilities [property, installations, and industrial facilities that support DoD forces]

P – Policy [policies that impact the conduct of military operations]



CBA Analysis



CBA = 3 phase assessment to analyze needs & recommend solutions



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Capability Documents

- For a materiel solution, the next step in the JCIDS process is preparing capability documents
- Documentation developed during the JCIDS process provides formal communication of capability needs between the operator and the acquisition, test and evaluation, and resource management communities
- JCIDS uses two primary documents to articulate joint capability needs:
 - Initial Capabilities Document (ICD)
 - Approved prior to Materiel Development Decision
 - Governing document through M/S B
 - Capability Development Document (CDD)
 - Draft CDD and Final CDD
 - Approved prior to M/S B
 - Governing document post-M/S B through M/S C
- Analysis of Alternatives (AoA) is an additional JCIDS support activity performed during MSA Phase



Initial Capability Document

- Initial Capabilities Document (ICD)
 - Summarizes a CBA and justifies requirements to resolve a capability gap or set of capability gaps for a given timeframe to include possible solutions for the **Materiel Solution Analysis** and **Technology Maturation & Risk Reduction** acquisition phases
 - Summarizes the results of DOTMLPF-P analysis
 - Supports the Materiel Development Decision (MDD), Analysis of Alternatives (AoA), the Acquisition Strategy, and the M/S A decision
 - Can be developed by the Joint warfighter, the Joint Staff or other functional agencies or sponsors

*The ICD documents a capability gap
and sponsors further refinement of a materiel solution*



Capability Development Document

- Capability Development Document (CDD)
 - Defines authoritative, measurable, and testable capabilities for the **Engineering and Manufacturing Development** acquisition phase
 - Captures the information necessary to deliver an affordable and supportable capability within one or more increments of an acquisition strategy
 - Specifies the performance attributes, including KPPs, necessary to design a proposed system(s) to deliver the capability that fills the capability gaps identified in the ICD
 - Establishes the program technical baseline
 - Can be updated as a program nears the end of development for each increment
 - Update production attributes and quantities, system specifications, or clarify subsequent increments in an evolutionary program

CDD is validated and approved before M/S B

*Approval of M/S B by a Milestone Decision Authority
is normally the **formal initiation of an acquisition program***

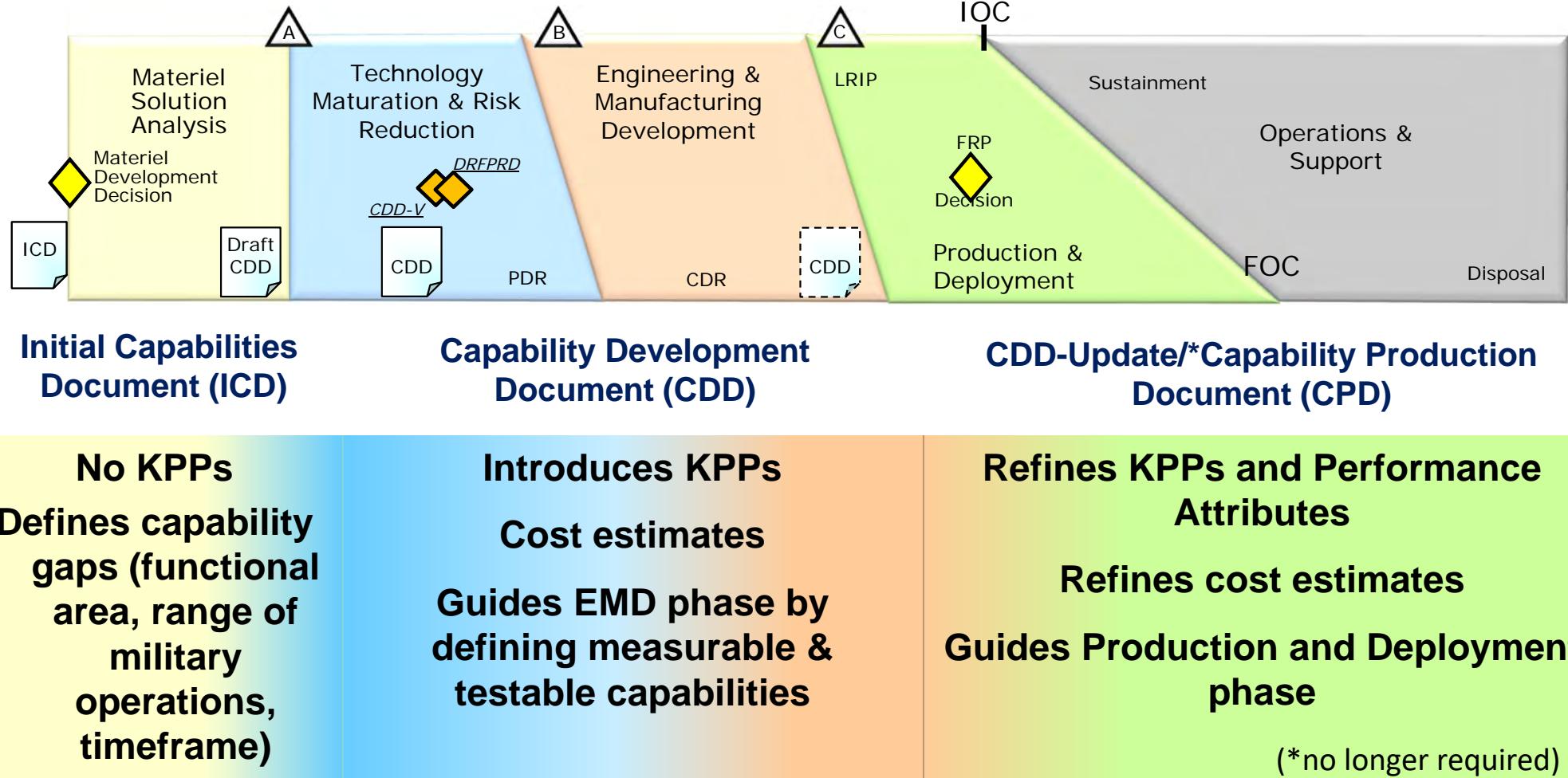


Capability Production Document

- Capability Production Document (CPD)
 - Defines authoritative, measurable, and testable capabilities for the Production and Deployment phase of an acquisition program
 - Refines the CDD threshold and objective values for performance attributes and KPPs
 - Finalized after Critical Design Review (CDR) and is validated and approved before the M/S C
- 2018 update to JCIDS Manual removed the requirement for a CPD
 - CDD - Update completed as needed to support production



JCIDS within DAS



Initial Capabilities Document (ICD)

No KPPs
Defines capability gaps (functional area, range of military operations, timeframe)

Capability Development Document (CDD)

Introduces KPPs
Cost estimates
Guides EMD phase by defining measurable & testable capabilities

CDD-Update/*Capability Production Document (CPD)

Refines KPPs and Performance Attributes
Refines cost estimates
Guides Production and Deployment phase
(*no longer required)

*Operational requirements development is a **team effort**; all stakeholders should be involved; involve the warfighter in technical requirements development*



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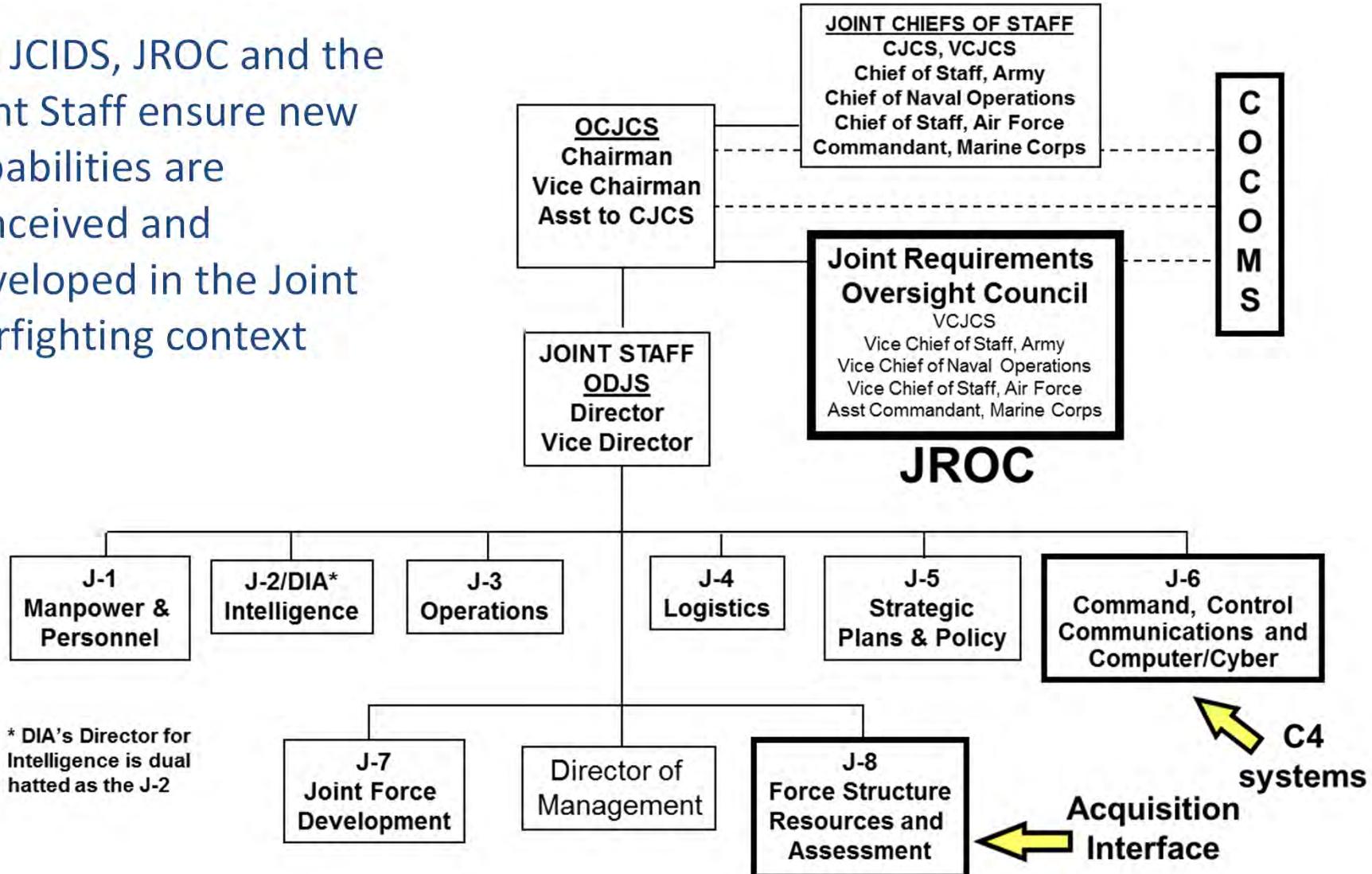
JCIDS Key Players

- The Joint Staff J-8/Deputy Director for Requirements (J-8/DDR) serves as the Gatekeeper for the JCIDS process
- This is done through an open process that provides the Joint Requirements Oversight Council (JROC) the information they need to make decisions on required capabilities
- The key players are:
 - Chairman of the Joint Chiefs of Staff
 - JROC
 - Joint Capabilities Board (JCB)
 - Functional Capabilities Board (FCB)
 - JCIDS Gatekeeper (J-8)
 - Deputy Director for C4/Cyber (J-6)



Key Players on Joint Staff

Via JCIDS, JROC and the Joint Staff ensure new capabilities are conceived and developed in the Joint warfighting context





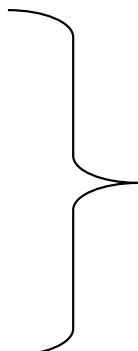
Joint Chiefs of Staff

- The Chairman of the Joint Chiefs of Staff (CJCS) is the principal military adviser to the President, Secretary of Defense, and the National Security Council (NSC)
- The Chairman sets the agenda and presides over the Joint Chiefs of Staff (JCS) meetings
- JCIDS establishes procedures that support the Chairman and Vice Chairman of the JCS and the JROC in advising the SECDEF in identifying and assessing Joint military capability needs



Joint Requirements Oversight Council (JROC)

(Established by Goldwater-Nichols Act of 1986)

- The Joint Requirements Oversight Council (JROC) is the highest level board and is the process owner for the JCIDS process
 - Unless otherwise delegated, the JROC provides final validation of capability requirements, review/approval of joint prioritization, and final adjudication of any other issues
 - Approves capability documents designated as JROC Interest
 - Validates Key Performance Parameters (KPPs)
 - Supported by the Joint Capabilities Board (JCB)
 - Manages the Functional Capability Boards (FCBs)
 - Members of the JROC
 - Vice Chairman, JCS (Chair)
 - Vice Chief of Staff, Army
 - Vice Chief of Staff, Air Force
 - Vice Chief of Naval Operations
 - Vice Chief of Space Operations
 - Assistant Commandant, USMC
- 

The Vice Squad

JROC ensures new capabilities are conceived & developed in a Joint warfighting context



Joint Capabilities Board (JCB)

- Joint Capabilities Board supports the JROC
 - Assists the JROC in accomplishing Title 10 responsibilities
 - Review and endorses documents and adjudicates lower-level issues prior to validation by the JROC
 - Preserves 4-star forum for complex, contentious issues
 - Frames issues to facilitate JROC decisions and limits JROC info briefs
- JROC Interest documents
 - JCB assesses the documents based on recommendations from the lead and supporting Functional Capability Boards (FCBs)
 - Forwards documents to the JROC for validation and approval
- JCB Interest documents
 - JCB will validate the KPPs and approve the documents based on recommendations from the lead and supporting FCBs



Functional Capabilities Boards (FCBs)

- FCBs are a permanently established body responsible for the organization, analysis, and prioritization of Joint warfighting capabilities within an assigned functional area within the JCIDS analysis process
 - Supports the JROC by integrating Stakeholder views in concept development, capabilities planning, and force development
 - Responsible for all aspects, materiel and non-materiel, of its assigned functional area
 - Provides assessments and recommendations
 - Assesses capabilities, priorities, and tradeoffs across the range of functional areas
 - Participates in the annual Capability Gap Assessment (CGA)
 - Provides the assessments and recommendations required for the JROC to validate and prioritize (if required) Joint military capabilities needed to comply with guidance
- Flag/General Officer Chairman; O6 Warfighter representation from all interested agencies (Combatant Commanders (COCOMs) included)

FCBs are responsible for integrating Stakeholder views in concept development, capabilities planning, and force development



Joint Staff

Deputy Director for Requirements (J-8)

- Gatekeeper for the JCIDS process
 - Manages overall flow of documents into and out of the JCIDS process for staffing and validation
 - Assigns Joint Staffing Designation (JSD) of JCIDS documents
 - Determines the lead and supporting FCB for capability documents
- Chairman of the Joint Capabilities Board (JCB)
 - Assists the JROC in carrying out its duties and responsibilities
- Oversees FCB process to ensure
 - Cross-functional area integration
 - Prioritization of capabilities across the FCB portfolios
 - Identification of FCB best practices
- Coordinates with Director of National Intelligence (DNI) Mission Requirements Board (MRB)
 - DNI – post 9/11 Commission position which coordinates Intelligence Community efforts
 - MRB validates requirements for acquisition of intelligence systems of Intelligence Communities



Joint Staff Director for C4/Cyber (J-6)

- Validates Net-Ready performance attribute (as KPP/KSA)
 - Net-Ready performance attribute documents the requirements for IT and NSS interoperability and guides system evaluations and certification
 - Must concur if Net-Ready performance attribute is deemed inappropriate for JROC Interest, JCB Interest, and Joint Integration documents
- Performs IT and NSS interoperability and supportability certifications on all CDDs designated as JROC Interest, JCB Interest or Joint Integration
- Validates Interoperability Certification
 - Performed and issued by JITC and required before Full Rate Production

J6 validates Net-Ready performance attribute & interoperability testing by JITC



Importance of Interoperability

- A key aspect of the JCIDS review, validation and approval process is making sure that each weapons system is capable of interoperability
- Interoperability: The ability of the systems, units, or forces to provide services to and accept services from other systems, units, or forces, and to interoperate with other U.S. Forces and Coalition partners effectively
- Importance: Non-compliance or inadequate compliance with interoperability capabilities, increases the likelihood that C4I systems will not be interoperable
 - Putting *lives and equipment at risk*
 - *Effective operations* requires interoperability
 - It is *too costly to develop stovepipe systems* that serve limited purposes

C4I interoperability must be considered for all U.S. and Allied systems



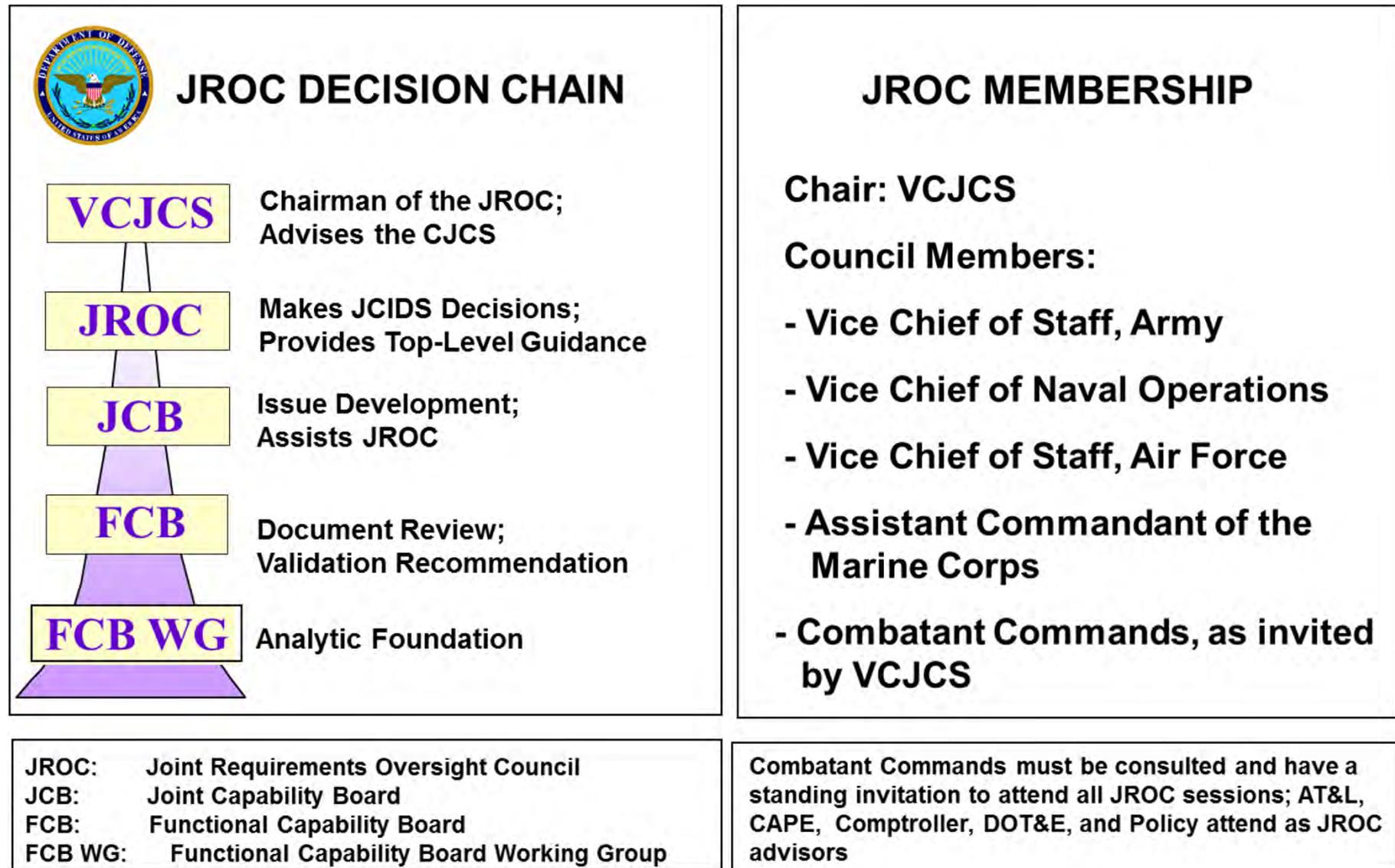
Requirements for Acquisition of Information Technology

- Interoperability capability needs are documented in the form of a Net-Ready performance attribute as a KPP or KSA and ensures achievement of interoperability for the proposed system
- Net-Ready Attributes
 - Information Technology (IT) must be able to support military operations
 - IT must be able to be entered and managed on the network
 - IT must effectively exchange information
- All systems acquired by DoD must be consistent with our official technical architecture
 - Architecture is defined by Department of Defense Architecture Framework (DoDAF)
 - DoDAF defines Operational and System architectures and encourages their re-use
 - DoDAF defines technical architecture as technical standards, implementation conventions, business rules, and criteria that govern the architecture
 - DoD's official technical architecture is DISR (DoD IT Standards Registry)
 - Architecture views are mandatory parts of a CDD – technical views must be consistent with DISR

Programs must comply with DISR



Requirements Decision Chain





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Who is the Validation Authority?

- Joint Requirements Oversight Council (JROC)
 - All ACAT I, IA
- Joint Capabilities Board (JCB)
 - Other programs (ACAT II & III) with significant impact on Joint warfighting, or that have a potential impact across services, or that impact interoperability in Allied and Coalition operations
- Component/Sponsor (e.g., OPNAV)
 - All others

3 Levels of staffing required depending on “Jointness”



JCIDS Document Review

- Once a JCIDS document has been prepared by the sponsoring Component, Command or Agency, the next step is to submit to the Joint Staff (J-8) for review
- Document review includes:
 - Joint Staffing Designation (JSD)
 - Staffing
 - Functional Capabilities Board review
- The J-8 will determine the degree to which the proposal affects the Joint Force
 - Based on this review, a JSD will be assigned
 - The JSD determines the level of validation and approval of the capability document
- Upon completion of staffing, the lead FCB will review the staffing results and make a recommendation to the appropriate validation authority
- Validation is a formal review of the JCIDS document by an operational authority other than the user sponsor to confirm operational capability need. At a minimum, the validation authority will:
 - Confirm the existence of an identified operational need
 - Verify that non-materiel solutions are not feasible
 - Verify that the threat has been validated and all program certification have been accomplished



Joint Staffing Designators

JROC Interest

Documents describing ACAT I/IA programs, Joint DCRs, and those that have a potentially significant impact on interoperability

ICD Validation Authority

JROC

JCB Interest

Documents describing ACAT II and below programs that have a potentially significant impact on interoperability

JCB

Joint Integration

Documents describing ACAT II and below programs, which require one or more joint endorsements or certifications, but are below the level of JCB Interest

Sponsor

Joint Information

Documents describing ACAT II and below programs, which do not need Joint Staff endorsements, and are below the level of JCB Interest

Sponsor

Independent

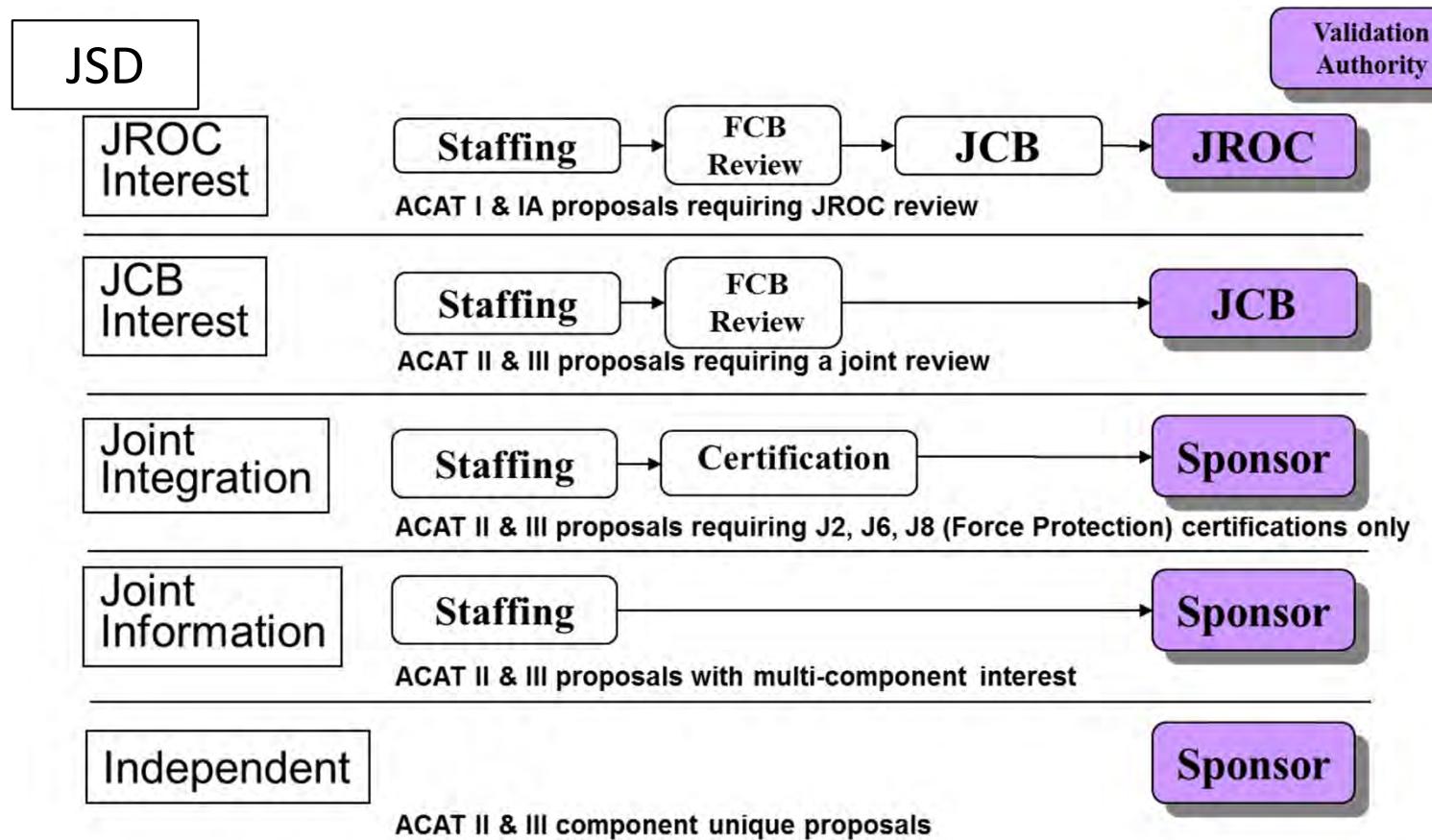
Documents describing all other programs

Sponsor

JSDs are assigned primarily based on the actual or projected ACAT level of the program, and the degree of expected impact on the joint force



JCIDS Review, Validation and Approval



J-8 also assigns lead and supporting FCBs



Summary

- What is the name of the system for institutionalizing a Joint capability need and sponsoring further evaluation of a materiel solution?
- The Capability Documents ICD and CDD are used during which phases of acquisition?
- Which document defines capabilities and how is it transformed into a program start?



Summary

- JROC and the Joint Staff ensure new capabilities are conceived and developed in what type of context?
- The warfighter's role in identifying capability gaps is met through Combatant Commander participation in what?
- Importance of Interoperability