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12-14 June 2007, at US Naval Academy, Annapolis, MD

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Original title on 712 A/B: Adequacy of MOM Development During the Capability-based Assessment

(Please use the same title listed on MORSS Form 712 A/B. If the title was changed please list the revised title below.) Revised title:

Presented in: WG(s) #\_24, CG\_\_\_\_\_, Special Session \_\_\_\_\_,

Demonstration, \_\_\_\_\_, Tutorial, \_\_\_\_\_ or Focus Session # \_\_\_\_\_

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# Report Documentation Page

*Form Approved*  
*OMB No. 0704-0188*

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE <b>01 JUN 2007</b>	2. REPORT TYPE <b>N/A</b>	3. DATES COVERED <b>-</b>	
4. TITLE AND SUBTITLE <b>Adequacy of MOM Development During the Capability-based Assessment</b>		5a. CONTRACT NUMBER	
		5b. GRANT NUMBER	
		5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)		5d. PROJECT NUMBER	
		5e. TASK NUMBER	
		5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) <b>DoD CIO Commercial IT Policy 201 12th Street South, Suite 501 Arlington, VA 22202</b>		8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)		10. SPONSOR/MONITOR'S ACRONYM(S)	
		11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT <b>Approved for public release, distribution unlimited</b>			
13. SUPPLEMENTARY NOTES <b>See also ADM202526. Military Operations Research Society Symposium (75th) Held in Annapolis, Maryland on June 12-14, 2007, The original document contains color images.</b>			
14. ABSTRACT			
15. SUBJECT TERMS			
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT
a. REPORT <b>unclassified</b>	b. ABSTRACT <b>unclassified</b>	c. THIS PAGE <b>unclassified</b>	<b>UU</b>
			18. NUMBER OF PAGES <b>13</b>
			19a. NAME OF RESPONSIBLE PERSON

# Adequacy of MOM Development During the Capability-based Assessment

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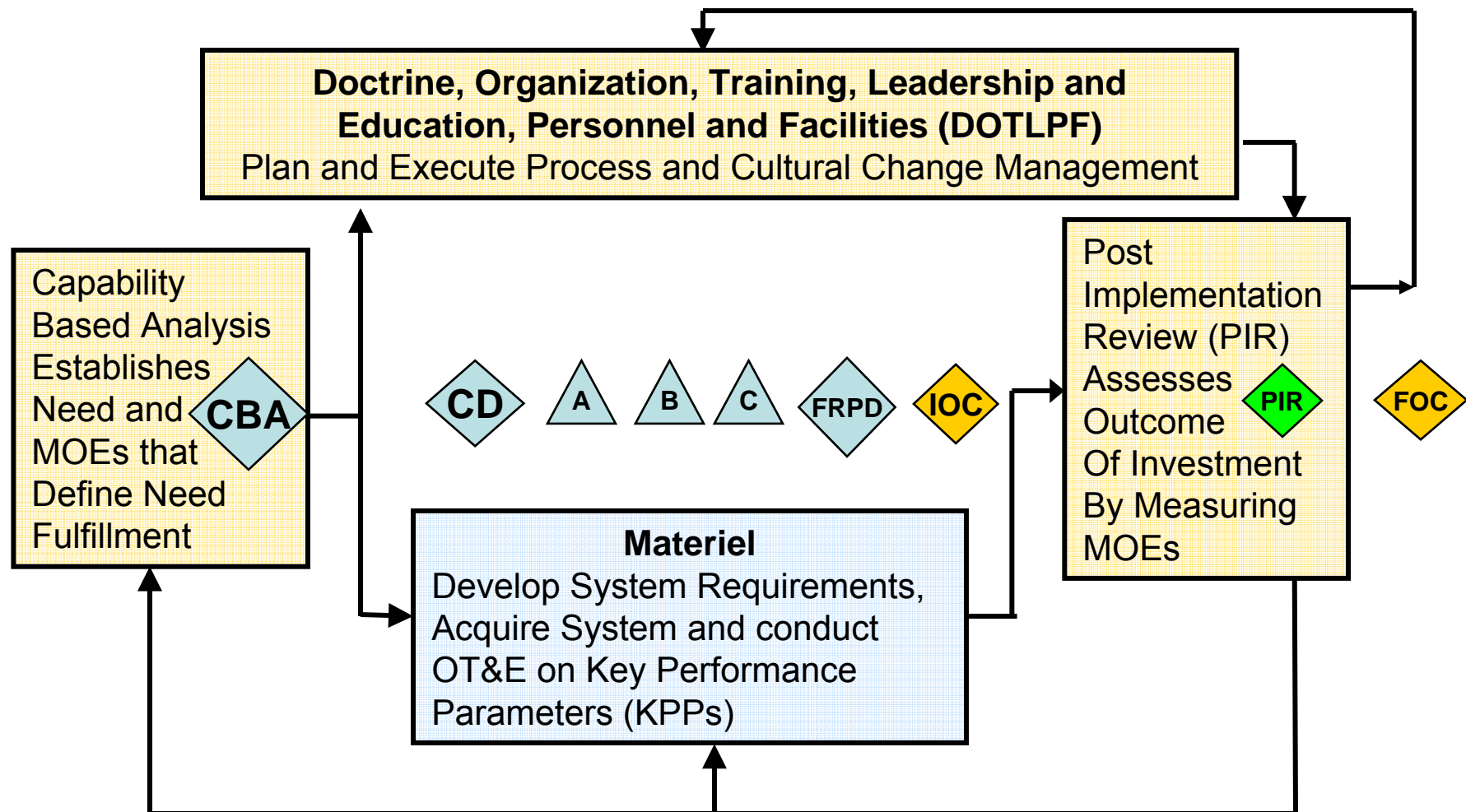
# Focus of Presentation

- Measures of Effectiveness (MOEs) developed during Capability-based Assessment (CBA)
- Reported in CBA reports, the Joint Capabilities Document (JCD) and/or Initial Capabilities Document (ICD)
- In accordance with the Joint Capabilities Integration and Development System (JCIDS) in CJCSI 3170.01E, CJCSM 3170.01
- Mandated by Title 40, Section 11313, Performance and Results-based Management

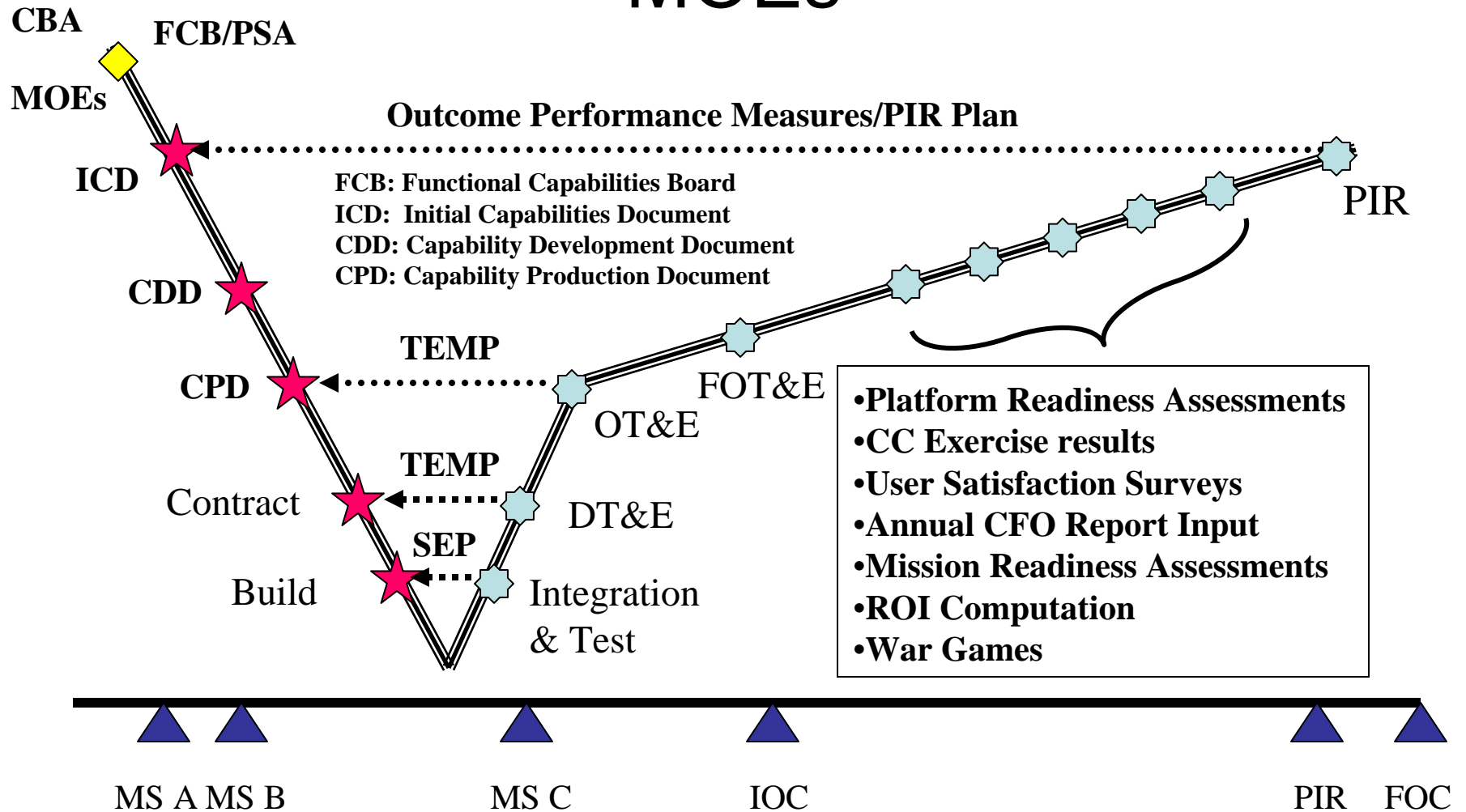
# Definitions and Attributes of MOEs

- MOEs are standards against which the capability of a solution to meet the needs of a problem may be judged. The standards are specific properties that any potential solution must exhibit to some extent.
- Therefore, MOEs are independent of any solution.
- MOEs are a criterion used to assess changes in system behavior, capability, or operational environment that is tied to measuring the attainment of an end state, achievement of an objective, or creation of an effect.
- A meaningful MOE must be quantifiable and a measure to what degree the real objective is achieved.

# MOEs in the Investment Process



# Verification of DOTMLPF Contribution to MOEs



# Evidence of MOE Development Inadequacy

- Of 49 CBA work products (FAA/FNA reports, JCDs, ICDs) reviewed between Dec 05-Apr 07, 18 were deficient
  - 14 designated JROC Interest
  - 4 designated Joint Integration
  - 17 contained no MOEs
  - 1 contained inadequate MOEs

# Typical MOE Situations

- Outcome measures presented but metrics deferred for CDD
- Study team not adequately staffed
- Study team was neither tasked nor funded to undertake analytic approach needed to develop MOEs
- Outcome measures stated but solution performance parameters presented as MOEs
- CJCSM 3170.01 does not explicitly require MOEs for the ICD, CJCSI 3170.01 does require MOEs
- Developed MOEs do not address desired outcomes
- Study team responds to CBA review and comment by developing MOEs

# Cause - Effect Candidates

- Lack of capability analyst training
  - Analyst jumps into solution mode comfort zone
- Capability lexicon confusion
  - Miscommunication amongst analysts and reviewers
- Regulatory MOE requirement inconsistencies
  - Analyst takes path of least work
  - ICD approval available without MOEs
- Inadequate study team guidance
  - Analyst not steered to analytic approaches needed to develop MOEs
- Uneven articulation of functional attributes/measures in Functional Concepts
  - Joint C2 FC exception with excellent set of attributes, measures and even sample metrics

# Recent Trends (Good News)

- Publication of CBA Guide v2 by JS-J8 in Dec 2006
  - Describes CBA process
  - Guidance for study plan and planning
  - Discusses analytic approaches
- Implementation of requirements manager training and certification
  - Memoranda of 9 March 2007, Requirements Management Certification Training Program, MG Vane, J-8 and James Finlye DUSD (A&T)
  - Includes requirements authors, reviewers and validators
  - DAU has training lead
  - Certification process TBD

# Some Remaining MOE Issues

- How can MOEs be allocated?

$$\text{MOE}_{\text{Desired Capability}} = \text{MOE}_{\text{Existing Capability}} + \text{MOE}_{\text{Gap Capability}}$$

$$\text{MOE}_{\text{Gap Capability}} = \text{MOE}_{\text{DOTLPF}} + \sum \text{MOE}_{\text{ICDs}}$$

where DOTLPF =  $f$ (Existing processes + changes needed  
to maximize benefit of materiel investment)□□

- How can MOEs be traced?

Could MOEs be traced through the DOTLPF and materiel acquisition processes in a manner analogous to requirements tracing by the systems engineers?

For further discussion of  
MOEs and their verification in  
the investment process  
visit

<https://acc.dau.mil/CommunityBrowser.aspx?id=31578>