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White Paper
on
Capabilities Based Planning

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This paper is not endorsed by the Department of Defense.
The ideas within this paper are presented only to solicit feedback
from the MORS conference attendees.

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Purpose

The purpose of this paper is to gather viewpoints from across the Department of Defense on Capabilities Based Planning (CBP) as constructive input for a follow-on CBP instruction effort.

Background

The 2001 Quadrennial Defense Review (QDR) stated “The United States cannot know with confidence what nation, combination of nations, or non-state actors will pose threats...decades from now. [A capabilities based strategy] focuses more on how an adversary might fight [and] requires identifying capabilities that U.S. military forces will need to deter and defeat adversaries who will rely on surprise, deception, and asymmetric warfare...” (Sep 01)

With that in mind, in March 2003, the Secretary of Defense chartered the Joint Defense Capabilities Study to examine how the DoD develops, resources, and provides joint capabilities. The recommendations from that study were reflected in the Strategic Planning Guidance (SPG) for Fiscal Years 2006-2011 (March 2004), calling on the department to institutionalize capabilities-based planning, and directing the Under Secretary of Defense for Policy to oversee development of a CBP strategy consisting of five parts: 1) an overarching policy, 2) implementation of adaptive planning, 3) reform of future force planning, 4) an analytic agenda to support adaptive and future force planning, and 5) recommendations regarding long-term requirements for institutionalizing CBP.

Though the Secretary directed that Capabilities Based Planning be used across the department, his initial guidance did not provide accompanying implementing instructions. As a result, the elements of CBP and the linkages among them remain undefined. Despite the lack of an overarching implementing instruction, the Department has moved forward attempting to meet the Secretary’s guidance; however, considerable challenges remain. **The process we call CBP today:**

- Consists of separate and independent processes and process owners that have been clustered together and labeled the ‘Capabilities Based Planning process’
- Presents separate and distinct views of the future, capability gaps, priorities, and remedies to the senior leadership of the Department without a basis of common assumptions
- Is a collection of separate processes that compete against each other rather than working together to produce the best recommendations for decision
- Produces multiple #1 capability priorities versus a system that works together to produce a comprehensive list with a single #1 priority.

To establish a common framework within the white paper, Capabilities Based Planning is defined as: “Planning under uncertainty to provide capabilities suitable for a wide range of modern-day challenges and circumstances while working within an economic framework that necessitates choice.”¹

¹ Analytic Architecture for Capabilities Based Planning, Mission-System Analysis, and Transformation. Davis, P. RAND 2002. This is the working definition for the paper and recognizes that it does not specifically address force management issues, but suggests that it is implied in the definition.

Methodology

With the stated purpose and an overall goal of determining CBP improvement recommendations, the following methodology will be used:

- Present a list of desired attributes for Capabilities Based Planning
- Describe the state of the current “As-Is” capabilities process
- Articulate valid criticisms and challenges regarding the “As-Is” process
- Identify the root causes behind criticisms and challenges
- Recommend improvements to CBP based on the root causes

Desired Attributes of Capabilities Based Planning

Capabilities Based Planning should have an implementing instruction.

CBP is a label for an arrangement of sub-processes or elements.² Orchestrating the elements to produce capabilities requires an overarching integrating instruction. The instruction must define the CBP element roles, relationships, and business rules. The instruction must also guide and time interactions of the CBP elements to support senior leader decisions to influence the Planning, Programming, Budgeting, and Execution system (PPBE). This instruction, once implemented, is the foundation for a successful Capabilities Based Planning process. This attribute answers the Department’s question, “*How does the Department implement CBP?*”

Capabilities Based Planning should identify what the future joint force needs to be prepared to do.

CBP requires a methodical approach for assessing the needs of the future joint force. Based on strategic guidance, war plans, etc., the Department, using common planning horizons, must identify the range of military missions the joint force of the future will be required to accomplish in a given period. Next, from a variety of standard and non-standard intelligence sources the Department must identify all plausible threat capabilities that could challenge the future joint force. The Department then must narrow down the range of possible threat capabilities to the ‘most-likely’ and ‘most-dangerous’ challenges based on the Defense strategy.

A Capabilities Based force that is best suited for the ‘most-likely’ and ‘most-dangerous’ range of threats will require that all elements within CBP hold a common understanding of the future as well a common understanding of how the joint force will operate. Without a common understanding, the possibility arises for gaps and seams in our capability development process. The method used to assess the future must also be transparent to the Department and the conclusions should be continuously measured and reviewed for accuracy.

This attribute answers the Department’s question, “*What does the joint force need to be prepared to do?*”

² The sub-process or elements of CBP refer to major processes in the Department. These include the Analytic Agenda, Joint Concepts, Joint Capabilities Integration Development System (JCIDS), Adaptive Planning, and the Defense Acquisition System. Throughout the rest of the paper, the term ‘element’ will be used to describe these activities.

Capabilities Based Planning should assess the programmed joint force capabilities against what the joint force needs to be prepared to do.

CBP requires establishing a baseline of performance for the programmed force in order to make assessments against the most-dangerous and most-likely threat capabilities. This assessment results in a joint force baseline of programmed capabilities and a list of joint force capability gaps. The capability gaps are then prioritized based on strategic guidance.

This attribute answers the question, “*How does the Department assess capability gaps in the joint force and what are the priorities of the gaps?*”

CBP should develop solutions for prioritized capability gaps.

The list of prioritized gaps requires that a decision be made whether to accept risk or solve the gap. There are several options within CBP that can be used to solve a capability gap. Solution options include:

- **Writing concepts** to determine potential options to solve the gap, followed by experimentation to determine the best option for solving the capability gap
- **Identifying a materiel or non-materiel solution**
- **Studying** the gap further if the problem is inadequately scoped

Selecting the best option is based largely on how much information is known about the gap. Information to consider includes the operational needs, the ability to solve the gap with current capabilities, cost, technology advancements, and the impact joint interdependence has on the gap.³

This attribute answers the Department’s question, “*How does the Department solve capabilities gaps?*”

Capabilities Based Planning should be fiscally constrained.

As stated, cost is a factor in determining which solution is chosen to solve a capability gap. Though this means being fiscally informed, it also requires CBP be fiscally constrained. Fixing the budget top line forces choices in capabilities based planning. These choices could include adding new capabilities to the force while at the same time perhaps divesting less needed capabilities. Most cases divestitures pay for new capabilities. A performance baseline of the programmed force therefore, should be used to inform decision makers of the value of their decisions regarding capability improvement. The bottom line is that with a zero sum resource environment, new capabilities can only be funded by divestitures.

This attribute answers the Department’s question, “*How does the Department find the resources to pay for the new capabilities?*”

³ Joint interdependency is the creation or development of one capability by combining two separate programs regardless of Military Department.

Capabilities Based Planning should manage current force capabilities.

CBP is more than developing capabilities. CBP must also manage the fielded capabilities. Metrics are required to assess the readiness and sufficiency of the current force. When the assessment reveals unacceptable risk, it must provide the bridge for input to develop an appropriate capability.

For a single process to span both capability development and capability management, it is necessary that the CBP elements use a common taxonomy of capabilities. This taxonomy allows for mutual understanding of ideas and lessens the room for interpretation errors across the elements. The following describes the details required for a functional capability's taxonomy:

- Capabilities need to be classified in like groups
- Capability classifications need to have the depth to inform senior leaders on the readiness of fielded capabilities by area and the vision for what the capabilities need to become by area
- Capability vision statements need to include what new capabilities are desired and what capabilities are potential divestiture candidates
- Capability areas must have measures developed to provide consistent information on the state of the capability area

Once the Capabilities based force is mapped to a taxonomy and measures developed for the capability areas; cross capability discussions will be more informed, making force management by capabilities possible.

This attribute answers the question, *“How does the Department manage a Capabilities-Based Force?”*

The state of the “As-Is” capabilities process

SPG 06-11 tasked the USD(P) to “develop recommendations for capabilities-based planning policies, procedures, and lexicon.” As of today, there is no formal overarching policy to define or guide CBP. However, there are several elements within DoD that contribute to capabilities development. The elements were developed independently, each with their own guidance documents defining their unique purpose. These elements include:

- Strategic Guidance documents and Planning, Programming, Budgeting, and Execution System (PPBE)
- Analytic Agenda
- Joint Concepts
- Joint Capabilities Integration and Development Systems (JCIDS)
- Defense Acquisition System

What follows is a brief description of the elements in the “As-Is” capabilities process.

Strategic Guidance/PPBE

Strategic Guidance documents at the uppermost levels include: The National Security Strategy (NSS), The National Defense Strategy (NDS), and The National Military Strategy (NMS). Emanating from the Strategic Guidance documents are mission guidance and force planning documents. Mission guidance documents issued down the operational chain of command include the Unified Command Plan (UCP), Contingency Planning Guidance (CPG), Strategic Guidance Statements (SGSs), Transformation Planning Guidance (TPG), Security Cooperation Guidance (SCG), Joint Strategic Capabilities Plan (JSCP), and Global Force Management Guidance (GFMG). Force planning documents include: The Quadrennial Defense Review (QDR) report, Strategic Planning Guidance (SPG), Fiscal Guidance (FG), and the Joint Programming Guidance (JPG). A few observations about Strategic Guidance include:

- Documents are developed on independent timelines by different agencies and are not updated on a regular basis
- Ideas from one document are not carried across to other documents
- Contradictions exist in the documents
- The quantity of strategic documents can be simply overwhelming
- The Department tends to focus on the QDR, SPG and JPG, which are produced to specifically influence resource allocation

Analytic Agenda

The Analytic Agenda (AA) “facilitates the implementation of strategic QDR priorities and enables more collaborative, transparent, and responsive analysis for planning, programming, acquisition, concept development, experimentation, and training across the department.”⁴ The AA supports senior leader decision-making across the Department and is comprised of the following activities:

- Defense Planning Scenarios (DPS). The DPSs are selected, developed, and updated by OSD. Each DPS includes a scenario and a friendly force (“Blue”) concept of operations (CONOPS) that is based on the application of the Joint Operations Concepts (JOpsC) family of joint concepts to specific conditions, including geography and enemy force capabilities. The individual DPSs capture assumptions, limitations, and capabilities required to implement military actions across the range of military operations. Services are expected to use the DPSs as a starting point for analyses supporting planning, programming, and acquisition efforts.
- Multi-Service Force Deployment (MSFD). The MSFD builds on the DPS guidance. The MSFD is a detailed “Blue” and “Red” CONOPS, as well as a listing of the capabilities required (forces) for the directed DPS scenario. Based on OSD guidance, the Joint Staff orchestrates the building of the MSFD.
- Analytic Baselines (AB). The AB comprises a scenario, a CONOPS, and integrated data used by the DOD components as the foundation for strategic analysis. Examples of AB

⁴ SPG 08-13 page 7. Quote is unclassified.

include scenarios and supporting data used for computer assisted wargames and theater campaign simulations.

- Baseline Security Posture (BSP). The BSP reflects the anticipated steady state requirements of the force.
- Operational Availability (OA). The OA are the primary studies commissioned by OSD to support senior leader decisions that employ the activities of the AA. The Terms of Reference for OA studies are developed by the Joint Staff.

Joint Concepts

Joint Concepts visualize future operations and describe how a commander might employ capabilities necessary to meet future military challenges. They cover a period beyond the FYDP, 8-20 years in the future. Joint Concepts include:

- The family of Joint Operations Concepts (JOpsC):
 - Capstone Concept for Joint Operations
 - Joint Operating Concepts
 - Joint Functional Concept
 - Joint Integrating Concept
- Joint Experimentation (JE). The purpose of JE is to:
 - Deliver rapid prototyping of capabilities to improve joint warfighting
 - Inform senior leader through actionable recommendations from experimentation of options from current and future force investments
 - Address the operational needs of the joint community
 - Leverage the ability of the Joint Concepts Development and Experimentation (JCD&E) community to provide capability and shaping contributions over a required period of time
- Prototyping
 - Advance Concept Technology Demonstration (ACTD)
 - Joint Concept Technology Demonstration (JCTD)

The ideas for new concepts are solicited by a data call from Services, COCOMs, and agencies. The Joint Concepts Steering Group will review then proposed concept topics and presents them to the senior leadership for approval.⁵ Once written, the completed concepts are used to guide “blue” force CONOPS in the DPS development and provide the key starting point for Capabilities Based Assessments (CBA).

⁵ Approval authority for the Capstone Concept for Joint Operations and the Joint Operations Concepts is the SECDEF through the CJCS. The approval authority for Joint Functional Concepts and Joint Integrating Concepts is the Joint Requirements Oversight Council. (CJCSI 3010.0B)

Joint Capabilities Integration and Development Systems (JCIDS)

The JCIDS, the Defense Acquisition System and the planning, programming, budgeting and execution (PPBE) process form the principal DOD decision support processes for transforming the military forces to support the national military strategy and the defense strategy. JCIDS implements an integrated capabilities-based approach that leverages the expertise of all government agencies to identify improvements to existing capabilities and to develop new warfighting capabilities. JCIDS uses joint concepts and integrated architectures to identify prioritized capability gaps and integrated joint DOTMLPF and policy approaches (materiel and non-materiel) to resolve those gaps. JCIDS documents, capturing capability needs, are prepared and submitted for staffing as needed and do not follow a specified timeline.

The results, or outputs, from the JCIDS process are used individually to assess capability gaps and proposed solutions. The following documents are key components to JCIDS.

- Joint Capabilities Document (JCD). Captures the results of a Functional Area Analysis (FAA) and Functional Needs Analysis (FNA) and describes/documents capability gaps in the planned and programmed force
- Initial Capabilities Document (ICD). The ICD documents the JCIDS analyses (FAA, FNA, FSA) that describe one or more capability gaps in the planned and programmed force and identifies potential materiel approaches
- Capabilities Development Document (CDD). The CDD captures the information necessary to develop a proposed program(s), normally using an evolutionary acquisition strategy
- Capabilities Production Document (CPD). The CPD addresses the production attributes and quantities specific to a single increment of an acquisition program
- DOTMLPF Change Recommendation (DCR). The DCRs are generated by combatant commands, Services or agencies when it is necessary to change joint DOTMLPF resources to meet a capability gap. They are primarily non-materiel in nature

These documents are the basis for milestone decisions identified in CJCSI 3170.01E⁶ and the DoD 5000 series.

Defense Acquisition System

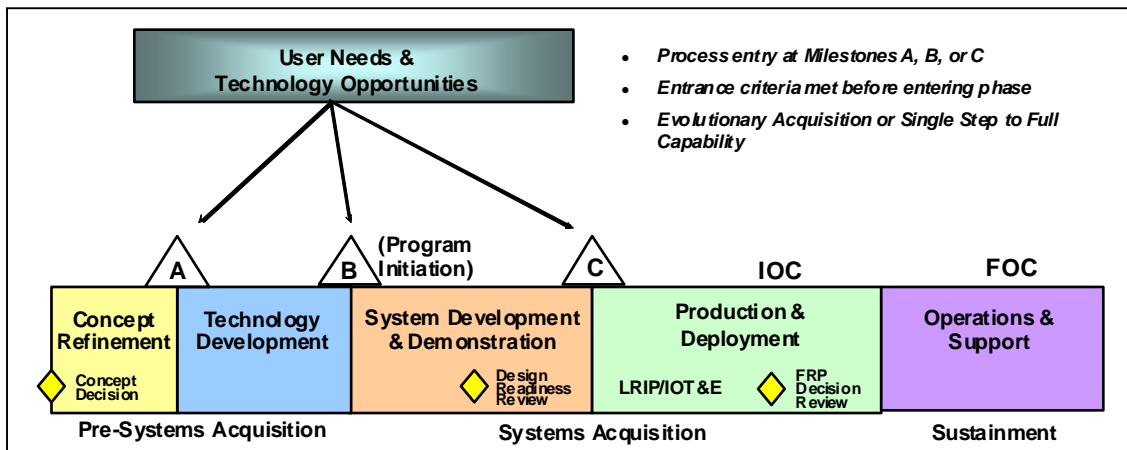
The Defense Acquisition System (DAS) is governed by the DOD 5000 series of publications and governs all defense technology projects and acquisition programs. The DAS is closely linked to, but separate from, JCIDS. The DAS identifies and defines the milestones and decisions required to transition an identified capability need to a fielded capability. JCIDS identifies the “needed capability,” ensures the capability need is validated by the JROC, and provides the analytic underpinnings to enable the appropriate milestone decision authority to make subsequent acquisition decisions. The defense acquisition management framework is depicted in the illustration below. The key decisions associated with this framework are the milestone A (MS A), milestone B (MS B), and milestone C (MS C) decisions.

⁶ Operation of the Joint Capabilities Integration and Development System

- MS A- This milestone marks the end of concept refinement and the beginning of the technology development phase. The milestone decision authority (MDA) will approve the technology development strategy (TDS), but a favorable decision DOES NOT mean that a new acquisition program has been initiated.
- MS B- This milestone signifies program initiation and beginning of system development and demonstration (SDD). The purpose of the SDD phase is to develop a system or an increment of capability; reduce integration and manufacturing risk; and ensure operational supportability. Programs that enter the acquisition process at Milestone B shall have an ICD that provides the context in which the capability was determined and approved, and a CDD that describes specific program requirements.
- MS C- This is the Production and Deployment phase and is designed to achieve an operational capability that satisfies mission needs. Milestone C authorizes entry into LRIP (for MDAPs and major systems), into production or procurement (for non-major systems that do not require LRIP) or into limited deployment in support of operational testing for MAIS programs or software-intensive systems with no production components.

To support the milestone decisions listed above, the capability development process must provide the following capability documents prior to those decisions:

- ICD for MS A
- CDD for MS B
- CPD for MS C



Criticisms and challenges of the “As-Is” process

What follows is a synthesis of the most commonly held criticisms concerning the capabilities development process:

- Issues that deal with timing or synchronization
 - The short-term needs of warfighters tend to be repeated year after year, rather than being satisfied and taken off the list

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- DPS not updated on a regular basis
- Activities of Capabilities Based Planning not synchronized with PPBE
- Timeframes are inconsistent -- different definitions/understandings of near, mid, and long-term timeframes

- Issues that deal with focus
 - There is no top down guidance to focus concept development on the most important areas
 - Multiple sources and products are used to describe future challenges
 - Operational Availability studies not informed by totality of capability gaps
 - Concepts and experimentation are not informed by common capabilities gaps
 - The JROC is not focusing on the highest priority topics/issues
 - There are too many concepts
 - No prioritization of gaps or capabilities – no comprehensive list of gaps within a functional area to be prioritized
 - Concepts driven from the bottom up rather than top down
 - Organizations work around JCIDS

- Issues that deal with the linking of Capabilities Based Planning elements or activities
 - No overarching Capabilities Based Planning policy,
 - Concepts and experimentation are not adequately linked
 - JCDE not informed by the Functional Capabilities Board and vice versa
 - Use of JCA as common lexicon not implemented across DOD
 - No transparent means to recommend trade offs
 - Integration across capabilities areas undefined and poorly understood
 - JCIDS/CBP is thought of as one in the same process
 - CBP is too complicated and cumbersome
 - Concepts are not informed by each other

Assessments of the criticisms appear indicative of larger, perhaps systemic problems.

The Root Causes for Capabilities Based Planning Challenges

CBP does not have implementing guidance

CBP is not institutionalized. Senior leaders directed the use of Capabilities Based Planning in 2003; however, the implementing procedures for CBP were not developed. The components of CBP and the relationships among the components have also not been identified or defined. Operating CBP without policies and procedures has created seams and overlaps in the capabilities development process.

Interactions within CBP are not defined

CBP interactions among the elements in the “As-Is” process are undefined and as a result, the elements have defined their own roles and relationships among the other elements to support

senior leader guidance. Each element has a different perspective of what their role is, and their relationship with the other elements. Arguably, the effect of *self-determination* among the elements means that each element attempts to execute the entire CBP process individually with each element attempting to present their view of gaps, remedies, and priorities to the same senior leadership based on different assumptions.

CBP elements lack focus

In addition to the lack of implementing instructions, the CBP community does not have a focusing construct. Without the benefit of this construct, CBP elements much like their interactions above, defined their own priorities. The capabilities resulting from independently developed priorities may produce sub-optimized or redundant solutions, resulting in wasted resources. The Department does not have an analytic method to determine if it is working on the right or most important issues and to resolve those issues in methodical way.

CBP is difficult to understand and is overly complex

CBP complexity can be attributed largely to the lack of an overarching CBP instruction for the reasons listed above. In addition to separate elements defining their roles from their own perspectives, there is no standardization within the current “As Is” process. Standardization issues include the lack of a capability’s taxonomy, the lack of a common set of assumptions, and the lack of common planning horizons to discuss force baselines, and the lack of measures to assess capability performance.

In summary, because an implementing instruction for Capabilities Based Planning was not produced that defined the roles, relationships, and linkages of, and among the CBP elements; CBP has not lived up to its expectations. The unintended consequences of operating CBP without an instruction include the elements *self-determining* their own role, focus, priority, and relationship among the other elements. *Self-determination* has also resulted in the lack of unity of effort among the elements to support the joint warfighter. *Self-determination* has not created a competition of ideas, but a rather a competition between the CBP elements that must be sorted out at the highest levels. Furthermore, *self-determination* has created seams and overlaps in the capabilities development process and made the entire enterprise virtually impossible to comprehend or sort out.

Recommended Improvements to Implement the Capabilities Based Planning

While there are many ideas throughout this paper that potentially could be incorporated in a follow-on CJCSI CBP instruction effort; what follows in this section are a select few recommendations that address the root causes of problems with the CBP process.

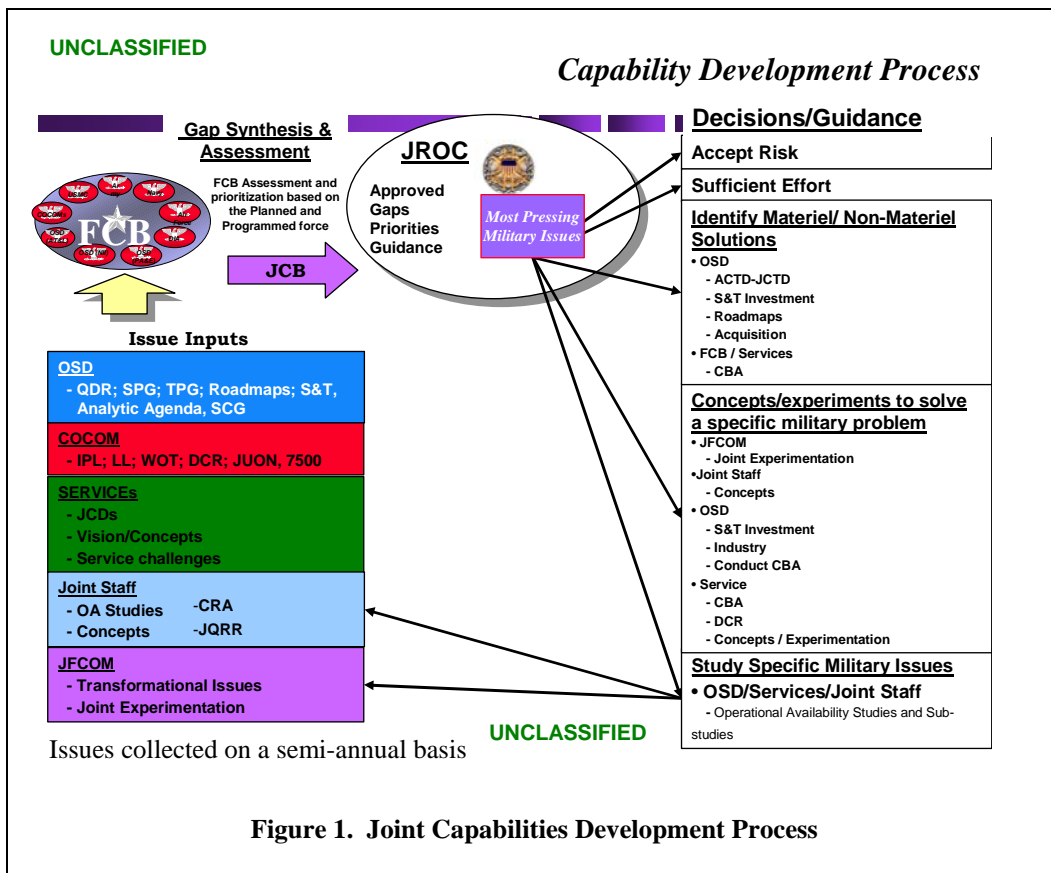
The **primary** recommendation is to develop and implement an overarching Capabilities Based Planning instruction to guide and synchronize the elements. Not only will the proposed instruction specifically address our first root cause (the **lack of implementing guidance**) but it also will assist in resolving the other root causes, as well.

The **second** root cause deals with fact that the **interactions** (inputs and outputs) between each element have not been defined or agreed upon. CBP must holistically view the inputs and outputs of each element to determine what interactions are required and how they should be

synchronized to support senior leader decisions and PPBE. In many cases, one will find that efforts of the individual process owners are either too late to support decisions or have been duplicated by other elements of CBP.

The CBP instruction is the ideal platform to accomplish this effort. It will delineate roles, responsibilities, and linkages among each element of CBP. It will guide and synchronize the entire Capabilities Based Planning process to meet budgetary process timelines and inform senior leader decisions supporting strategy and policy. This means that the efforts of all CBP elements will be timed to support the biennial budget cycle as well as the annual program reviews that collectively prepare formal, strategic and programmatic recommendations for the Chairman to present to the Secretary for decision.

The **third** root cause deals with the **lack of focus** among the CBP elements. The instruction will provide some focus to our efforts but is insufficient by itself. What is needed is a focusing construct that provides priorities and guidance to the day-to-day activities of the capabilities development process. The JROC leadership has expressed this concern and indicated that they wanted to provide greater guidance to the Services, Functional Capabilities Boards (FCBs), and other agencies that allow them to focus on the most important issues, thereby providing focus for the elements. The vehicle, or mechanism, proposed to provide this focus is depicted in the Capabilities Development Process in figure 1 below.



The Capabilities Development Process also deserves a brief discussion. The process depicts the collection and a holistic assessment of issues from across the Department on a semi-annual basis rather than viewing these issues independently throughout the year. This will allow

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the FCBs to deconflict similar issues and resolve duplications before assessing and providing recommendations to the JROC. The recommendations to the JROC will result in an approved list of Most Pressing Military Issues (MPMI). The MPMI provides the focus that the CBP elements currently lack.

The final recommendation attempts to address the **complexity of CBP**. It is not possible to eliminate all the complexity within CBP, but one can mitigate complexity by making the process easier to understand and execute. The first critical element in making CBP easier to understand had already been stated: A comprehensive instruction will inherently increase the community's ability to understand the process, and will also foster education on and acceptance of the process.

To truly understand the overall CBP process, it will be important for each CBP element sponsor and their constituents to understand the role of their element in relationship to each of the other CBP elements and work to maintain that balance in the CBP process. This may require "rescheduling" assessments or reports currently outlined in element directives to be more responsive to senior leader decisions and the PPBE cycle. Additionally, each element is resourced constrained and must understand the priority of effort as identified in the MPMI and focus their efforts accordingly. The education and institutionalization of the proposed directive, will make CBP easier to understand and will result in a more effective process.

Conclusion

The elements that constitute the Capabilities Based Planning process are relatively well defined, but because they were developed in parallel without an overarching construct, Capabilities Based Planning has not been fully realized. The key recommendations in this paper require the development of an overarching construct or instruction that delineates the roles, responsibilities and linkages necessary to implement CBP. Further, the CBP community and senior leaders must understand the process and how the elements work together to produce the comprehensive recommendations, timed to support major decisions. These recommendations, if implemented, will enable Capabilities Based Planning to realize its fullest potential.

Please send comments concerning this white paper to LTC Todd Key via email at keyte@js.pentagon.mil.