

Think Tank Paper Draft 2 for SOS Class 17C

In order to counter the advanced capabilities of peer nations, our individual Services need to fight as a cohesive team that dynamically re-prioritizes and employs an effects-based approach to operations (EBAO) through extremely responsive and interconnected weapons systems. Our current system is not sufficient for this task. The essential capability that we need to acquire is fluid exercise of influence, command and control (iC2) at the lowest tactical level. iC2 differs from traditional command and control (C2) in that it emphasizes lateral coordination in order to align effects supporting the overall commander's intent, rather than routing those decisions up and down a formal chain of command. To achieve this goal, we have identified four primary lines of effort. First, "jointness" needs to be emphasized and ingrained in our Airmen, Soldiers, Marines, and Seamen from the very onset of their training - as early as initial skills training. Second, the acquisitions systems for command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR) need to be jointly run and continuously interoperable with Department of Defense (DoD) and national level agencies. Third, those interoperable systems need to be employed by the Combatant Commands (CCMDs) in order to create a dynamic Common Operating Picture (COP) that generates a tailored User Defined Operating Picture (UDOP) in order to facilitate rapid orientation and decision making. Fourthly, that decision making process must be redrawn to take place at the lowest level possible, and within the expanded concept of iC2.

To maximize long term interoperability of forces, military personnel need to be exposed to and even develop within a joint environment from early on in their career. To accomplish this, we propose the development of Joint Skills Training Centers (JSTCs). Members of career fields that require joint interoperability and share the most commonalities across services (intelligence, cyberspace operations, communications, certain aviation career fields) could be trained in a consolidated cross-service school. These schools would create myriad advantages for the joint environment. Personnel in separate services would develop similar skillsets enhanced by several services' expertise, a common vocabulary, a common understanding of the most important principles underlying their work, and familiarity with common systems. At an operational level, the inclusion of joint-trained personnel would streamline decision-making by reducing required crosstalk and service-centered, biased thinking. This would in turn accelerate the effective reaction speed of joint forces in a dynamic, multi-domain battlespace.

This is not a simple task - but it has been shown to work in various scenarios, such as the Defense Language Institute's (DLI) Foreign Language Center and Joint Cyber Analysis Center. Those programs have highlighted complicating factors¹, including the various Services' different standards, different screening processes, and unique training pipelines extant for all of these career fields. To mitigate this, we suggest a joint oversight (like DLI's Defense Language Steering Committee)² that will develop common definitions, standards, and metrics. These standards should focus on skills development and underlying principles rather than specific technical application.³ A common screening process needs to be established across the Services for areas with a higher rate of student attrition - similar to the way that the Defense Language

¹ Rand, "Training for Cyber Warriors."

² <http://www.dtic.mil/whs/directives/corres/pdf/516041p.pdf>

³ AFFOC reference to critical skills development / enhanced decision making.

Aptitude Battery (DLAB) is employed. This minimizes stress on the school's limited resources, and ensures graduates have a better probability of meeting the joint standard.

After establishing a common framework of understanding, the warfighters need interoperable systems. Extant incompatibilities in C4ISR technologies negatively impact our operations by requiring workarounds for redundant, aging, and non-interoperable systems. Political differences, budget battles, and the divergent goals of the individual services render it impracticable to seek for full integration of acquisitions programs without driving up costs to an unacceptable degree. However, the communications systems and programs that underpin our operations must be integrated from the design phase to operational employment, rather than being forced together after fielding. In order to accomplish this, the Office of the Undersecretary of Defense for Intelligence should assume a supervisory role in coordinating that portion of the Defense Acquisitions Process. Such a policy change would enhance inter-service compatibility and thereby facilitate efficient sharing of information, a key requirement for utilization of the iC2 model.

Once baseline interoperability is established within the human component and the communications infrastructure, execution of the joint mission becomes the focus. Up until this point, the aforementioned responsibilities and tasks fall under the purview of the Service Chiefs operating in conjunction with the Office of the Secretary of Defense. For execution, however, the necessary tasks shift from the "organize, train and equip" responsibilities⁴ to the geographic and functional CCDRs who utilize those provided forces to conduct operations. CCDRs must establish a true COP that relies on a tailored personal view where the traditional C2 model is replaced by iC2 model, allowing centralized direction and dynamic decision making. The importance of a COP is not new in military doctrine; however, the COP needs to be fundamentally restructured in order to serve the lateral coordination underpinning multi-domain operations. The Army Field Manual 6-0 defines a COP as "is an operational picture tailored to the user's requirements, based on common data and information shared by more than one command. Ideally... a single display."⁵ Although relevant, this is an incomplete definition when applied to modern technologies. A modern COP would be a dynamic aggregation of machine-driven and human-produced data that inherently filters and correlates relevant information based on a combination of automated and interventional processes that can provide a common understanding to users at all levels, based on their immediate and long-term needs. A COP that meets these requirements would be a prerequisite for effective iC2-based operations.

Therefore, the COP itself is no longer a product that can be displayed as a whole, but a networked aggregation of ongoing Joint Intelligence Preparation of the Operating Environment, Blue Forces Operational Information, and Commander's Intent. The individual user at each level will access and display a UDOP that he can define and modify dynamically to display the most relevant information to the decisions he needs to control or influence. Some of the information provided through such a UDOP will be event-driven and pushed to the user after operational needs have been identified. For lower frequency, higher-data volume operations, the UDOP will

⁴ Preface, 3.c of Joint Publication 1, Doctrine for the Armed Forces;
http://www.dtic.mil/doctrine/new_pubs/jp1.pdf

⁵ <http://www.globalsecurity.org/military/library/policy/army/fm/6-0/chap3.htm>

provide a system with which to pull that information as those decision events and requirements arise. This system would provide the information necessary to enable effective iC2 for warfighters at all levels of decision-making.

The effectiveness of this COP/UDOP is largely dependent on the successful implementation of the desired interoperable C4ISR systems through integrated acquisitions processes. However, other difficulties with the Joint Force operating structure need to be addressed. First, the practices of over classification and stove-piping of information need to be substantially curtailed or eliminated. Over classification of information and effects in a COP prevents the decision makers who most need the information from being able to access it in a timely and effective manner. The current, frequently stove piped intelligence reporting processes need to be opened up and incorporated to feed efficiently into the COP database. This does not mean that every user has access to the entirety of the COP database - permissions varying by user or by mission set are a valid security tool, but they must not be so restrictive as to interfere with job accomplishment.

Second, as aforementioned, this section falls primarily under the responsibility of the CCMDs and their associated CCDRs to execute. Under the current structure, this results in a minimum of nine DoD COPs, not including national intelligence service contributions, creating artificial fault lines along the edges of CCMD Areas of Responsibility (AORs). Those fault lines within information sharing effectively represent stove-piping at a higher echelon, and need to be removed. Additionally, the CCMDs within the DoD need to seamlessly integrate their COPs with contributions from the Services, the Defense Intelligence Agency (DIA), the National Security Agency (NSA), the National Geospatial-Intelligence Agency (NGA), and the National Reconnaissance Office (NRO) as well as other agencies outside of the DoD. In line with our recommendations on joint C4ISR systems acquisition, the Secretary of Defense and/or Undersecretary of Defense for Intelligence should drive the effort and require adoption by all subordinate echelons.

Thirdly, prioritization of Intelligence, Surveillance and Reconnaissance (ISR) as well as analytical efforts needs to be fundamentally restructured. As the Joint Force continues to rapidly expand its collection capabilities across the electromagnetic spectrum in terms of volume and resolution, the human analytical capacity will fall farther and farther behind. In order to address this, maximal use of automated screening process to identify potential information of interest needs to be incorporated into the “processing” step of tasking, collection, processing, exploitation and dissemination (TCPED) for intelligence gathering efforts. In addition, the Joint Force as a whole needs to adhere much more effectively to the principles of collection management and specifically to the delineation between collection operations management and collections requirements management.⁶ The identification of intelligence requirements and the coordination of the various assets and operations that satisfy them must be two separate (albeit integrated) processes in order to prevent the inefficient use of high value, low density ISR assets or related capabilities.

An actor with battle network parity constitutes a much different threat than the current asymmetric warfare paradigm allows for. Operationally, the joint force is poorly organized for

⁶ JP2-01, http://fas.org/irp/doddir/dod/jp2_01.pdf

action against such an actor. Specifically, across all domains, the decision-making and tasking process is overly centralized, limiting or altogether denying the ability of the warfighter or tactical-level leaders to make decisions that could have a large impact on the operational or strategic picture. Currently, acting on targets of opportunity requires high-level decision-makers' involvement. Against an adversary with battle network parity, this is too slow a process. In order to sufficiently react to a strong adversary, some decisions currently made by operational- or strategic-level leaders should be delegated to lower levels of authority.

In order to accomplish this, we envision the integration of the iC2 model into operational execution, coupled with the clear COP/UDOP introduced above. The iC2 model assumes tighter integration of services and intelligence at all levels of leadership, to include both information sharing and a common strategic guidance.⁷ Unlike the current organization, this model of command and control provides the warfighters and leaders a more complete picture of the entire battlespace, allowing a more decentralized approach to the application of joint effects. In this model, it would be incumbent upon commanders to communicate a clear but not inhibitive restrictive commander's intent, in line with paradigm of centralized command and decentralized execution. This would enable tactical leaders the ability to leverage multi-domain assets on the strategic level, if necessary, while continue to meet operational or tactical measures of effectiveness.

Challenges with this approach are primarily centered on shouldering thinkers at the tactical level with potentially strategic-level decisions. Historically, tactical operators, in the absence of specific guidance, have made operationally or strategically significant decisions with both positive and negative effects. This approach increases the risk of tactical decisions having a catastrophic strategic impacts. This in turn could jeopardize strategic or national aims. This risk can also be mitigated by providing a more complete operational picture to operators than is currently available, they are more likely to be able to operate within their commander's intent.

If these changes can be implemented across the Joint Force, then we will realize a significant increase in our effective combat capability, and correspondingly an increase in our diplomatic credibility when engaging with our military peers. These changes will not be implemented quickly or without significant difficulty in overcoming the barriers listed above. But, if our nation is to retain the level of influence throughout the world that we have been accustomed to and that we see as crucial to the maintenance of our national security concerns, then we must address the significant deficiencies in our ability to operate against a peer network. If we fail to do so, we risk the loss of credibility and diplomatic influence at best, and, at worst, catastrophic failure in a conflict that we cannot afford to lose.

⁷ "iC2: Advancing our Understanding of Command and Control" (Aug 2016 Think Tank Paper)