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The Command And Control Joint Integrating Concept:
Spreading The Word

Topic: C2 Concepts and Organization

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Abstract

What is the Command and Control (C2) Joint Integrating Concept (JIC)? How does it fit into the big picture? What is in the C2 JIC? These questions are answered in this paper as a method to get the message out to the C2 community about the importance of this document.

The C2 JIC promotes the development of C2 capabilities for agile, decisive, and integrated force employment in all phases of combat and supporting operations, as required by the National Military Strategy (NMS) 04. Developed by US Joint Forces Command and approved by the Joint Chiefs of Staff in August 2005, the C2 JIC lays the foundation for a rigorous analysis of capability gaps and redundancies through a Capabilities-Based Assessment (CBA) process.

The C2 JIC establishes a set of capabilities, tasks, attributes, conditions, and standards that will enable a future Combined (Joint) Force Commander to exercise C2 of a campaign with multinational and interagency dimensions. However, the scope of this concept extends beyond just the Combined Joint Forces Commander. Most of the document addresses all C2 functions across the full range of military operations, extending from the operational down to the lowest tactical level, while accommodating strategic guidance and reporting to the strategic level.

The C2 JIC is online at http://www.dtic.mil/futurejointwarfare/concepts/c2_jic.pdf
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The Command And Control Joint Integrating Concept: Spreading The Word

A.   *What is the C2 JIC?*

The Command and Control (C2) Joint Integrating Concept (JIC) promotes the development of C2 capabilities for agile, decisive, and integrated force employment in all phases of combat and supporting operations, as required by the National Military Strategy (NMS) 04. Developed by US Joint Forces Command and approved by the Joint Chiefs of Staff in August 2005, the C2 JIC lays the foundation for a rigorous assessment and analysis of capability gaps and redundancies through a Capabilities-Based Assessment (CBA) process. The C2 JIC is online at http://www.dtic.mil/futurejointwarfare/concepts/c2_jic.pdf

The C2 JIC establishes a set of capabilities, tasks, attributes, conditions, and standards that will enable a future Combined (Joint) Force Commander to exercise C2 of a campaign with multinational and interagency dimensions. However, the scope of this concept extends beyond just the Combined Joint Forces Commander. The central idea, capabilities, tasks, and attributes described in this document address all C2 functions across the full range of military operations (ROMO), extending from the operational down to the lowest tactical level, while

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accommodating strategic guidance and reporting to the strategic level. Only the conditions and standards are more narrowly focused to apply to a Combined Forces Commander during the initial phases of major combat operations.

The JIC focuses on the human aspects of Command and Control, applying the principles of network centric operations to the processes, procedures, and interrelationships represented within the Combined Task Force (CTF). It does not include discussion of information networking capabilities, since these capabilities are covered within the Net-Centric Operations Environment Joint Integrating Concept.

This concept was developed as a collaborative effort involving all Combatant Commands, all Services, the Office of the Secretary of Defense, and representatives from non-DoD agencies. During its eight-month development, the C2 JIC was reviewed and discussed at the 3 and 4-star level over a dozen times. Senior military leaders gave clear and specific direction concerning the kind of command and control capability they wanted and as a result, the C2 JIC directly reflects their most current thinking. More than any other document, it captures the collective JCS vision on the future of joint and coalition C2.

B.   How Does It Fit In To The Big Picture?

The C2 JIC is part of the Family of Joint Future Concepts, also called the Joint Operations Concepts (JOpsC). The JOpsC is a hierarchical family of concepts that are used to underpin investment decisions leading to the development of new capabilities beyond the Future Years Defense Program (FYDP). Joint Future Concepts are developed from top-level strategic guidance, providing a top-down baseline for identifying future capabilities. New capability requirements, materiel or non-materiel, must relate directly to capabilities identified through the family of Joint Future Concepts.

At the top of the JOpsC hierarchy is the Capstone Concept for Joint Operations (CCJO). It broadly describes how the joint force is expected to operate in the mid to far term and identifies the key characteristics of the Future Joint Force. Joint Operating Concepts (JOCs) are operational-level descriptions of how a Joint Force Commander will accomplish a strategic objective through the conduct of operations within a military campaign construct (e.g., Major Combat Ops, Stability Ops, etc). Joint Functional Concepts (JFCs) describe how the Future Joint Force will perform a particular military function across the full range of military operations (e.g., Battlespace Awareness, Joint C2). Finally, Joint Integrating Concepts (JICs) describe how a Joint Force Commander will integrate capabilities to generate effects and achieve an objective (e.g. Integrated Air Missile Defense, Seabasing). All of the approved Future Joint Concepts can be found at: http://www.dtic.mil/futurejointwarfare/

All of the Future Joint Concepts feed the Joint Capabilities Integration and Development System (JCIDS). In DOD's Capabilities-Based Planning framework, Joint Future Concepts link strategic guidance to the identification, development and integration of joint force capabilities. Results of the JCIDS capabilities-based asseessmentof the concepts provide the requirements for the Defense Acquisition System (DAS) and the Planning, Programming,

Budgeting and Execution System (PPBES), as well as the changes to Doctrine, Organization, Training, Materiel, Leadership, Personnel, and Facilities (DOTMLPF).

C.   What Is In The C2 JIC?

The C2 JIC describes how leaders perform C2 functions by including time-proven capabilities and formalizing new capabilities. Per Joint Pub 1-02, Command and Control is defined as the exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. Command and control functions are performed through an arrangement of personnel, equipment, communications, facilities, and procedures employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of the mission. (JP 1-02)

Additional functions that the JIC addresses are the fundamental role of a commander to exercise leadership of his command and to leverage the support of mission partners, which we define as those organizations not under his direct authority (hence, not under his control). Further, C2 is the ability to recognize what needs to be done in a situation and to ensure that effective actions are taken. At its core, command and control is about decision making and the individuals who make decisions. In 2015, Joint C2 will be a joint decision-making process that is dynamic, decentralized, distributed, deployable, and highly adaptive. Enabled by a collaborative information environment, skilled joint planners, and standard operating procedures (SOPs), the Joint Force Commander will be able to have a networked, dispersed, joint force that can work together in a virtual problem space, accessing any piece of information, any place and at any time, in response to any operation.

The C2 JIC preserves and leverages the core functions and principles of C2 while explaining how technology and other opportunities can be exploited to enable C2 to be performed more effectively to meet the more demanding world environment of the future. In developing future C2 capabilities, it is important to preserve the enduring principles that underpin the effectiveness of military C2 -- specifically *unity of command/unity of effort*, the *authority, responsibility, and accountability of the commander* and *the principle of the offensive*. With this in mind, the central idea of the C2 JIC is stated as follows:

Drawing upon global resources and considering global consequences, commanders will plan and execute complex regional operations conducted by an interdependent Joint force and typically involving non-DoD agencies and other nations.

Commanders will employ powerful, pervasive, real time horizontal and vertical information sharing and collaboration capabilities and leader-centric presentations of actionable information accessible down to the lowest tactical levels of command.

They will employ agile, adaptive C2 structures and broad decentralization of decision authority whenever appropriate.

This approach will help to achieve:

- *Improved situational awareness, knowledge and understanding that is widely shared among commanders, staffs and operators*
- *More rapid and effective planning/decision making and execution, enabling the commander to control the pace and scope of operations*
- *Better synchronization of operations and integration of capabilities, resulting in enhanced unity of command within the Joint force and unity of effort with mission partners*

D.   The Capabilities And Tasks

The C2 JIC defines eight capabilities, which are further delineated into 55 tasks (4-10 tasks per capability). They address all of the C2 functions identified as part of the future warfighting environment. It is assumed that by accomplishing the tasks associated with each capability to a satisfactory level (meets standards), we will achieve the central idea of the C2 JIC. The capabilities and tasks are as follows:

Capability 1. Exercise Command Leadership. This is the ability to exercise authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of a mission. Command leadership is the art of motivating and directing people and organizations into action to accomplish missions. Commanders must be able to exercise effective leadership of an interdependent joint force in rapidly changing scenarios involving complex distributed, simultaneous or sequential operations, often with other agencies and nations. Unity of effort and the authority and accountability of the commander must be preserved. Associated tasks include:

1.1 Promote adherence to the law of war and accepted behavior norms
1.2 Establish and promulgate rules of engagement (ROE)
1.3 Take care of personnel
1.4 Delegate decision authority
1.5 Encourage subordinates to exercise initiative consistent with commander's intent
1.6 Develop subordinate leaders
1.7 Establish and cultivate relations with mission partners
1.8 Manage risk
1.9 Manage dissemination of information to the public; align public information
    dissemination with strategic communications objectives of higher authority
1.10 Assess operational readiness

Capability 2. Establish/Adapt Command Structures and Enable Both Global and Regional Collaboration. Commanders must be able to quickly establish or adapt command structures across the force and within the staff tailored to the mission, and to create the processes that will enable horizontal and vertical collaboration. They must have a menu of alternative schemes for organizing the components and defining command relations, with associated guidance on when and how to apply them. It is essential that the infrastructure be in place to enable rapid reaction to new crises. Related tasks include:

2.1 Organize the staff to align with the conditions of the mission environment, assign roles, and establish internal collaborative structures and processes

2.2 Establish/refine the joint task force component organization and integrate capabilities

2.3 Establish/refine command relationships to enable appropriate coordination relationships, including lines of authority and accountability

2.4 Identify collaboration requirements; establish the collaboration infrastructure requirements

2.5 Establish/refine collaboration structures and processes across the force, including standing and ad hoc functional cells and communities of interest (COIs)

2.6 Establish collaboration mechanisms (business rules, systems interface, etc.) with mission partners

Capability 3. Develop and Maintain Shared Situational Awareness and Understanding.
This capability includes the ability to access a "common operational picture" (COP) presenting current and forecast information on adversary and friendly forces, neutral elements, the environment and geospatial information. The "picture" is built through access to both processed and raw data from sensors, analysts and other sources, and through collaborative analysis and assessment of this data. SA, transformed into knowledge through synthesis, experience, and collaboration, enables situational understanding. The tasks included under this capability are:

3.1 Access and integrate intelligence information and forecasts, including information on adversary, neutral and non-combatant entities of interest; collaboratively assess and share implications

3.2 Employ blue force tracking capability; provide access and integrate information on location, identity, status, capabilities and limitations of friendly forces ("Blue Force SA"); collaboratively assess and share implications

3.3 Access and integrate geospatial and environmental information and forecasts; collaboratively assess and share implications

3.4 Reachback for subject matter expertise

3.5 Present tailored, relevant, synthesized, actionable information to promote understanding

3.6 Collaboratively conduct comparative, multi-discipline assessment of adversary strengths and vulnerabilities versus our own

3.7 Collaboratively develop and share understanding of regional/local diplomatic, political, economic, and cultural factors

Capability 4. Communicate Commander's Intent and Guidance. Commander's intent is a concise expression of the operational purpose and desired end state. As the impetus for the planning process, it may also include the commander's assessment of the adversary commander's intent and an assessment of acceptable operational risk. In the net-centric collaborative environment, the commander's intent must be shared early and often to enable parallel planning and self-synchronized execution. Associated tasks are:

4.1 Receive strategic mission and guidance

4.2 Collaboratively conduct mission analysis

4.3 Create, shape, and synchronize guidance with mission partners' concerns in mind; align agendas to the extent practical

4.4 Promulgate initial commander's intent and guidance, including operational objectives, to subordinate echelons and staff and ensure it is understood

4.5 Periodically (as required) update commander's intent and guidance and ensure it is understood

4.6 Direct action through mission-type orders to subordinate echelons

4.7 Delegate authority for mission planning and execution to subordinate commanders as appropriate with clear bounds

Capability 5. Plan Collaboratively. This capability involves an effects-based approach that directly ties offensive actions to campaign objectives, drawing on global resources and considering global consequences. Planning must be conducted with the collective knowledge of the decisions and plans of others to produce coherent integration. Planners must be able to focus on exploiting critical adversary vulnerabilities and must consider friendly critical capabilities and potential collateral damage. Parallel, distributed, collaborative planning capabilities and improved assessment tools are needed to compress process timelines. However, collaboration does not imply decision making by committee or consensus. The ability to assess the suitability of a plan through wargaming and mission rehearsal prior to execution is also needed. Related tasks include:

5.1 Form collaborative planning teams across components, missions, functions, and geographies and with mission partners

5.2 Collaboratively develop, analyze, and select the COAs, branches, and sequels.

5.3 Collaboratively develop joint/coalition campaign plan, including the synchronization matrix

5.4 Collaboratively develop operational plans across the full ROMO, employing all appropriate joint capability areas:

Joint Air Operations	Joint Battlespace Awareness
Joint Space Operations	Defense Support to U.S. Civil Authorities
Joint Land Operations	Joint Force Generation
Joint Maritime/Littoral Operations	Joint Force Management
Joint Irregular Operations	Joint Homeland Defense
Joint Information Operations	Joint Global Deterrence
Joint Access and Access Denial	Joint Shaping
Joint Protection	Joint Stability Operations
Joint Logistics	Joint Interagency/IGO/NGO Coordination
Joint Net-Centric Operations	Joint Public Affairs Operations

5.5 Assess effectiveness of plans and prepare for execution

Capability 6. **Synchronize Execution Across All Domains.** Effective planning is an essential means of achieving synchronized action, provided the plan remains appropriate to the situation and is executed properly. However, in keeping with the adage that "no plan survives contact with the enemy," the commander must be able to achieve synchronization when operations are not executed as planned. This can be done through centralized redirection, as in the past, or in a decentralized manner through self-synchronization of subordinate forces. The latter is the preferred method for future C2, but this approach may not always be feasible or appropriate. The commander must have the ability to employ

whichever method of synchronization is appropriate to the situation. Self-synchronization requires subordinates to have a clear understanding of the commander's intent, shared SA and operational trust, good communications and the ability to act without detailed direction from above. Tasks associated with this capability include:

6.1 Communicate and disseminate plans and orders to all echelons and to mission partners
6.2 Authorize and enable execution and self-synchronization of subordinate forces as
    appropriate
6.3 Synchronize/self-synchronize operations within and among physical and functional
    domains across the full ROMO employing all appropriate joint capability areas:

Joint Air Operations	Joint Battlespace Awareness
Joint Space Operations	Defense Support to U.S. Civil Authorities
Joint Land Operations	Joint Force Generation
Joint Maritime/Littoral Operations	Joint Force Management
Joint Irregular Operations	Joint Homeland Defense
Joint Information Operations	Joint Global Deterrence
Joint Access and Access Denial	Joint Shaping
Joint Protection	Joint Stability Operations
Joint Logistics	Joint Interagency/IGO/NGO Coordination
Joint Net-Centric Operations	Joint Public Affairs Operations

6.4 Synchronize operations with DoD agencies and coalition members
6.5 Coordinate operations with non-DoD national agencies and international organizations
6.6 Synchronize execution between/across phases
6.7 Synchronize mission handover during operation
6.8 Validate targets prior to attack (combat identification [CID])

Capability 7. **Monitor Execution, Assess Effects, and Adapt Operations.** This capability builds upon Capabilities 3 and 4 in particular. Commanders need the ability to maintain SA, assess plan execution effectiveness and rapidly update plans by identifying alternative COAs and redirect forces as circumstances change. Commanders and their staffs must have visibility over friendly unit decisions and capabilities, and the ability to monitor and react to changes in adversary status. Planners must be able to predict desirable and undesirable attack consequences, and anticipate how effects may propagate throughout an adversary's system. The ability to respond rapidly and effectively to changing circumstances will enable commanders to maintain the initiative. The tasks included under this capability are:

7.1 Monitor tactical operations; assimilate information; assess compliance with commander's
    guidance and intent, including ROE; intervene in subordinate actions as needed
7.2 Track, shift, reconfigure (i.e., control) forces, equipment, sustainment, and support, even
    en route
7.3 Collaboratively assess achievement of planned effects
7.4 Collaboratively identify and assess implications of unintended effects
7.5 Collaboratively, rapidly re-plan and synchronize operations to adapt to changing situation
7.6 Adapt operations to changing situations through initiative and self-synchronization when
    practical

7.7 Respond to emerging requests for support from subordinate commands and mission partners

7.8 Determine when desired objective, end-state or phase points have been reached

Capability 8. Leverage Mission Partners. The commander must be able to achieve/maintain unity of effort and to leverage the capabilities of mission partners not under his command. Mission partners may include other DoD units, non-DoD agencies, coalition, and international organizations. He does this through coordination, collaboration, influence, persuasion, negotiation, and diplomacy as appropriate. Associated tasks are:

8.1 Communicate mission objectives and support needs
8.2 Coordinate with mission partners to gain actionable commitment
8.3 Provide support as feasible and appropriate
8.4 Understand situation-specific negotiating power

E. Applying Attributes And Standards

Once the tasks were developed, the next step was determining which attributes to apply and then set appropriate standards. This proved to be the most difficult part of writing the C2 JIC. Specific attributes were assigned based on the task requirement instead of the entire concept. This allowed individual standards to be generated for each task. Only the most relevant/important attributes were chosen even if more could apply.

The standards apply to performing the given task under the conditions addressed in Section 5 of the JIC (Conditions Section). These are task performance standards, not system performance standards. System performance standards will be based on the DOTMLPF solutions to achieve the specific task identified by the Capabilities-Based Assessment.

The mindset used to develop the standards was: "I am the JTF commander and I (and my staff) have successfully accomplished this task. This is how I would describe and measure my success. The 2010 standards are where I, as the commander, would like to be in 2010. The 2020 standard is where to strive for after achieving 2010 standard." The standards have been developed based on best military judgment regarding the level of capability that will be needed in the future military environment to execute the concept, tempered with consideration of what level is likely to be achievable.

Some standards have percentages associated with them showing improvement over time (e.g., Completeness), while others provide only an absolute acceptable level of performance with no increase between 2010 and 2020 (e.g. Security). They are a starting point for the CBA, and are expected to be refined during the analysis process.

The following are two examples of the how the attributes and standards are applied to a given task within a capability. The first example weighs heavily on technical solutions to meet the task requirements while the second example has more human aspects identified in the attributes and standards:

Capability #3: Develop and Maintain Shared Situational Awareness / Understanding

Task 3.2: Employ blue force tracking capability; provide access and integrate information on location, identity, status, capabilities and limitations of friendly forces ("Blue Force SA"); collaboratively assess and share implications

Attributes	2010 Standard	2020 Standard
Accuracy Timeliness Completeness Accessibility Security	Accuracy—Blue forces location conforms to truth, within the acceptable error required by the operational to tactical warfighter (Blue Force SA criteria). [1] Timeliness--The mission and mission capability information is available in time to conduct the task/mission at hand **90% of the instances.** Completeness— Mission and mission capability information is available on **90% of the forces.** Accessibility—**Tactical through operational** level forces can access and use blue force situational awareness. Security-- No compromise of information that impairs current operational effectiveness. No compromise of classified information.	Accuracy— Blue forces location conforms to truth, within the acceptable error required by the operational to tactical warfighter (Blue Force SA criteria). Timeliness--The mission and mission capability information is available in time to conduct the task/mission at hand **95% of the instances.** Completeness— Mission and mission capability information is available on **99.9% of the forces.** Accessibility — Tactical through operational level forces **and authorized mission partners** can access and use blue force situational awareness. Security-- No compromise of information that impairs current operational effectiveness. No compromise of classified information.

Capability 8: Leverage Mission Partners

Task 8.2: Coordinate with mission partners to gain actionable commitment.

Attributes	2010 Standard	2020 Standard
Understanding Coherence Operational Trust Completeness	Understanding— **90% of personnel** receive necessary guidance and act in accordance with that guidance **70% of the time**. Coherence–**70% of the mission partners' activities** are mutually supportive and result in the success of the campaign plan. Operational Trust – **70% of partners' activities** meet or exceed expectations and are favorable to the commander's mission. Completeness—The aggregate of the mission partners' activities support the specified and implied tasks of the joint/coalition campaign/synchronization plan.	Understanding— **95% of personnel** receive necessary guidance and act in accordance with that guidance **85% of the time**. Coherence–**85% of the mission partners' activities** are mutually supportive and result in the success of the campaign plan. Operational Trust – **85% of partners' activities** meet or exceed expectations and are favorable to the commander's mission. Completeness—The aggregate of the mission partners' activities support the specified and implied tasks of the joint/coalition campaign/synchronization plan.

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[1] This standard points the analyst to a separate body of experts to ensure the latest criteria are implemented. In this case, the JBFSA IPT Authority – Co Chaired by Army G8 and JFCOM J85 (JROCM 128-03, 13 Jun 03). The mission of the JBFSA IPT is to coordinate with Services, Combatant Commands, and Agencies to develop an integrated, interoperable JBFSA capability for the warfighter. The IPT will assess warfighter requirements with an end goal of delivering JBFSA solutions to the Services, Combatant Commands, and Agencies for integration and fielding.

F.   What Are The Next Steps?

Now that the C2 JIC is an approved published document, JFCOM J9 C2 Team's mission is to evaluate, advance, and help operationalize this concept.

In order to evaluate the C2 JIC, we must assess if we are moving towards the goals of this concept. At the same time, we must also assess if all pieces of this concept are valid. One method of evaluation includes leveraging or taking advantage of other experimentation being conducted at JFCOM and across the greater Joint Concept Development and Experimentation (JCDE) Community. Events will be chosen based on purpose, scope, context, and usefulness of this type of evaluation. An event can be defined in many forms, such as a single exercise, a week-long wargame, an experiment that continues over several weeks/months, or even a time-slice of an actual operation. Since C2 is conducted in every mission, we gain the benefits by assessing C2 during an event with minimal stress on the original experiment planners. This evaluation plan should be used to gain that high-level insight and point us to areas that require more work / refinement.

In this case, the Evaluation Hypotheses are:
1) By assessing our performance against the C2 JIC task standards, we will be able to determine which areas need the most improvement. (Advance)
2) By assessing the importance of the C2 JIC task accomplishment compared to actual events, we will learn which areas of the JIC are with or without merit. (Validate)

Advancing the C2 JIC is another area of concern. By presenting at forums such as CCRP, we are able to inform the C2 community of the latest thoughts of the senior military leaders. Finally, our team is supporting the CBA efforts already underway, which will help operationalize the C2 JIC.