

# We Need Functional Doctrine

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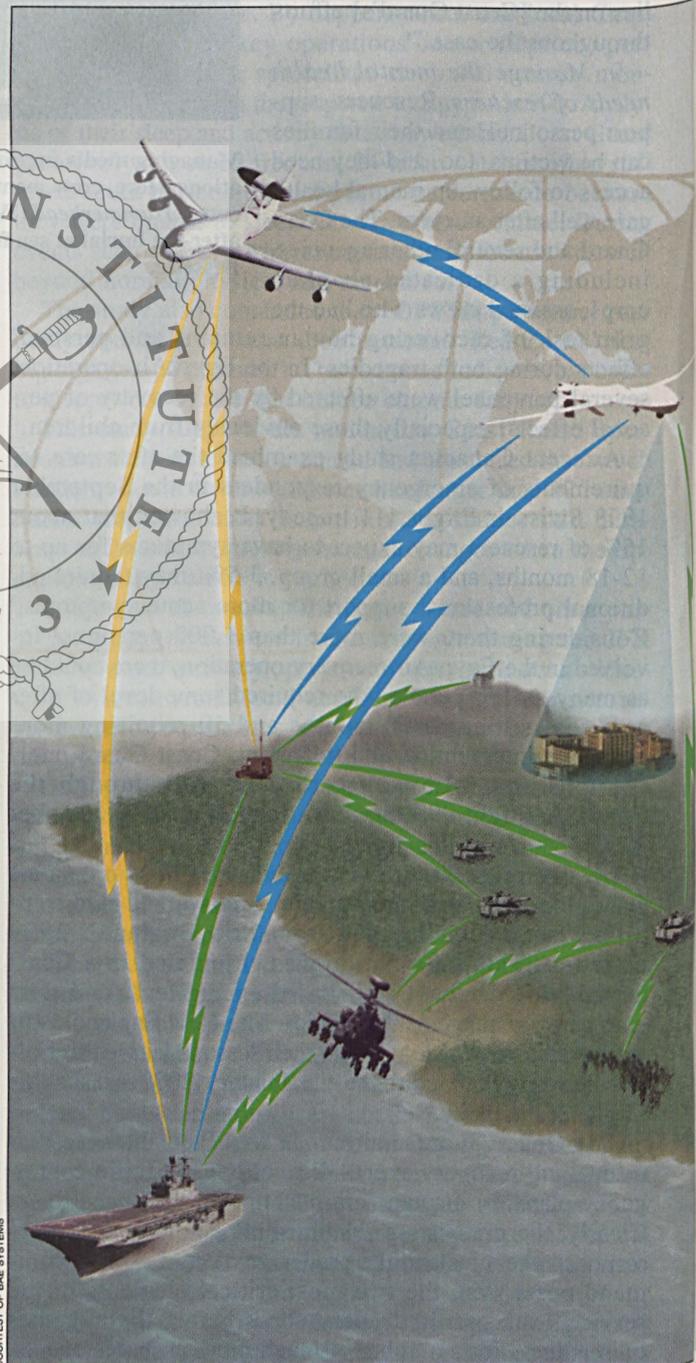
**The lack of joint-service interoperability can be traced to a lack of joint doctrine to guide commanders. The services need a functional component doctrine that mandates information system compatibility.**

In the years since World War II, interoperability problems among the U.S. armed forces have emerged as a critical vulnerability. Our failure to fight as a joint team is directly proportional to our lack of joint-service interoperability. The Department of Defense (DoD) defines interoperability as "the ability of systems, units, or forces to provide services and to accept services from other systems, units, or forces and to use the services so exchanged to enable them to operate effectively together."<sup>1</sup> Realizing the importance of joint-service interoperability, our political and military leaders passed the National Security Act of 1947.

The National Security Act of 1947 formalized the DoD, including the establishment of the Air Force and the Chairman of the Joint Chiefs of Staff (CJCS). However, the act did not produce the joint-service interoperability that policymakers intended. For example, Operation Urgent Fury in Grenada in 1983 revealed severe problems. Army units could not communicate with Marine Corps units because each service used a different communications system. Three years after Urgent Fury, Congress passed the Goldwater-Nichols Reorganization Act. The act introduced new warfighting paradigms by establishing the Joint Staff. Also, in an effort to bolster joint war fighting, the act gave authority to the CJCS to promulgate joint doctrine. Joint doctrine provides the framework for a unified commander-in-chief (CinC) to form a joint task force (JTF) with service (Army, Navy, Marine Corps) and/or functional (air, land, maritime, and special operations) component commanders.

## *Insufficient Doctrine*

In spite of Goldwater-Nichols, interoperability problems still persist because of doctrinal assumptions. Joint and multiservice doctrines incorrectly assume that by fighting jointly (two or more military departments operating in the same medium) we will be fighting as an interoperable team



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(two or more military departments functioning together). The assumption that current doctrine promotes interoperability is wrong.

Service component commanders—with deeply ingrained doctrine—are effectively guided in employing forces. Functional component commanders—with vague or no ingrained doctrine—are not. Commanders form a JTF around service components because service component commanders are fluent with their own doctrine. In contrast, functional component commanders (excluding the air component) have no doctrine on which to draw. For example, a Marine division is familiar with Marine doctrine and fights effectively as a land component. However, if there are two land commanders, one from the Marine Corps and one from the Army, operating jointly, they do not know what doctrine to follow. Desert Storm employed Marine Corps and Army ground forces that fought on boundaries as service components; no joint force land component commander was identified.

Furthermore, service parochialism ultimately leads each branch to procure incompatible systems. Each service recruits, trains, educates, and even fights independently. Doctrine discusses interoperability as a vision, but does not identify the strategic guidance that will lead our forces to joint interoperability. *Joint Publication 0-2* mandates service components only; functional components are optional.<sup>2</sup> Little guidance exists on just how to employ functional components. Joint and multiservice doctrines state that a combined mode of operation most likely will be used. However, with the exception of the air component, functional employment is hardly mentioned. The *Multi-Service Procedures for the Theater Air-Ground System* (TAGS) describes in detail a combined functional air component and service component JTF.<sup>3</sup> No such detail on the other functional components (land, maritime, special operations) exists in the TAGS manual or any other doctrinal publication.

Because joint doctrine is so vague, JTF commanders revert to the comfort of their own service doctrine. Joint and multiservice doctrinal publications have increased over the past several years, but interoperability problems have not gone away because today's doctrine does not facilitate joint interoperability within functional mediums. Journals such as *Joint Force Quarterly* and *Proceedings* regularly publish articles advocating functional components. However, with the exception of the joint force air component commander (JFACC), joint doctrine does not effectively guide functional component commanders.

As the Chairman of the Joint Chiefs of Staff, General Colin Powell compared a joint warfighting team to a football team. Expanding the football analogy, we should view the JTF commander as the coach, who has been empowered by the owner (CinC) as the commander. The coach relies on his players to be properly trained, equipped, and transported to the playing field on game day. On the battlefield, the JTF commander relies on his service component commanders to provide equipment and logistics. More important, football coaches rely heavily on the coordinators of offense, defense, and special teams to execute specific functions. The coordinators also must determine the means to best employ those functions in a fluid and uncertain environment. Just as the football coach relies on

his coordinators, the JTF commander should rely on functional component commanders to execute air, land, sea, and special operations.

### *Doctrine Revisited*

In a 1958 amendment to the National Security Act of 1947, Congress directed the armed forces to integrate "into an efficient team of land, naval, and air forces."<sup>4</sup> Unfortunately, joint doctrine, as applicable to the "air, land, and naval forces," is either vague or nonexistent.

The services must amend the TAGS manual to provide guidance to JTF commanders for functional component war fighting. For functional component commanders to fight effectively within their medium (air, land, maritime, special operations), they must have tactical control over jointly assigned forces. My proposal is not for a single "purple" service, or for a purely functional component JTF to be used for every situation. Rather, I propose an integrated JTF that can lead to synergy through the application of the specific strengths each service will bring to a major conflict.

Currently, when CinCs choose to employ a combined service and functional component structure, confusion ensues. *Joint Publication 3-0, Doctrine for Joint Operations*, briefly describes functional component commands but does not identify the armed forces provided to functional commanders. Our armed forces always should be prepared to fight as functional components in keeping with the vision of an integrated air, land, and sea team. Marine Corps General Anthony Zinni, former CinC U.S. Central Command, made clear that he is a proponent of this view: "There will be no more occasions . . . where Marines fight one ground war and the Army fights a different ground war. There will be one ground war and a single land component commander."<sup>5</sup>

In contrast, Marine Corps General Charles Krulak, former Commandant of the Marine Corps, writes that "it is misguided to impulsively organize joint forces along purely functional lines."<sup>6</sup> He explains that although a functional basis will negate service parochialism and achieve jointness, it will not provide the most effective force for all operations. For example, a JFACC was not required for operations in Somalia so it would have been misguided to have organized a JTF with an air component. Each joint force should be organized for the mission at hand and seek the greatest flexibility possible; however, JTF commanders must be prepared to exercise all options with utmost proficiency and understanding. Since publications do not exist for the land, maritime, or special operations force components, service-parochial doctrine has emerged prominently on the modern battlefield. JTF commanders will not become proficient in functional war fighting until functional component doctrine is implemented for all functional components. Once implemented, CinCs can conduct realistic training that can further refine functional doctrine. In the wake of Desert Storm, Thomas Coakley wrote, "Joint exercises, emulating the way we will fight, can also generate doctrinal revisions that will reduce interoperability problems and unnecessary duplication."<sup>7</sup>

CinCs and JTF commanders will be able to find the synergistic effect of a wide range of service capabilities

by empowering functional components. Specific missions identified by law should not change. The Navy should continue to control the seas and project power. Marine expeditionary units should continue to respond to crises. However, when a CinC is given a mission from the National Command Authorities, he will know that he can form a JTF ready to be victorious, as a joint team, under any type of structure.

### *Mandate for Interoperability*

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*Joint Publication 6-0* emphasizes that "JTF commanders must develop operational procedures that provide interoperable, compatible, C4I networks."<sup>8</sup> We must make functional capability a reality, and we must begin with those tasks associated with command, control, communications, computers, and intelligence (C4I). Without functional capability in this area, services will compete for limited procurement dollars for individual service systems instead of mounting a cooperative budget initiative for a joint system. In addition, services will acquire incompatible systems that will result in chaos on the battlefield. Incompatible C4I systems make interoperability nearly impossible.

Several joint publications mandate that the JTF commander ensures the compatibility of C4I systems. Unfortunately, the publications do not provide guidance on how to do this. The Joint Theater Air and Missile Defense Organization also emphasizes the importance of C4I interoperability: "Only a force that can fight as an integrated, interoperable family of systems, leveraging the different services' capabilities, will be successful."<sup>9</sup>

As units and joint forces work together by function, C4I interoperability problems will surface. Functional commanders will determine solutions that must be given to the CinC, who can communicate with the U.S. Joint Forces Command (USJFCOM). USJFCOM, as the joint service integrator and provider, should serve as a mediator between the warfighting CinCs and the service chiefs for C4I acquisitions. USJFCOM also should relay the interoperability concerns from the warfighters in the field so that the services can work together to find common ground before procuring disparate systems.

All too often, U.S. forces are segregated by service rather than integrated by function. When I was in Saudi Arabia in 1998 as part of a joint tactical digital information link (TADIL) improvement team, I was amazed at the separation of functions by services and the lack of C4I interoperability. The Army, Navy and Air Force could not communicate with one another effectively. The JFACC was established but could not function effectively because the service components operated with incompatible C4I equipment. I witnessed similar problems when I was in Korea (Foil Eagle) and Italy (Allied Force). The JTF commander must ensure a joint force employs diverse capabilities to complement each service. Isolating missions by service, however, also isolates by functional medium, resulting in poor synergy.

### *Resistance to Interoperability*

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The mandate for C4I interoperability is obvious. Anyone with a computer understands the confusion caused by

incompatible systems. Why, then, has there been such a tendency for resistance? To understand the resistance, we must appreciate the power of tradition. The Constitution itself differentiates among the services when it states that Congress should "raise and support Armies . . . provide and maintain a Navy." In *Command, Control and the Common Defense*, Dr. Kenneth Allard states that the deeply ingrained paradigms of our armed forces are responsible for the interoperability problems in modern warfare. He writes that "the existence of inter-service rivalry is merely the outward manifestation of service autonomy that, although redirected by the National Security Act of 1947, was by no means eliminated."<sup>10</sup>

In addition, service parochialism feeds C4I interoperability problems. Each service builds its own C4I systems, considering interoperability only as an after-thought. Parochial systems contributed to interoperability failures on the battlefields of Grenada, Iraq, Somalia, and Kosovo. Dr. Kenneth Allard reemphasizes the belief that legislation promotes service parochialism:

The residual powers [Title 10 U.S. Code] that gave the services the right to organize, train, and equip their forces virtually guaranteed that each service would procure a different system oriented primarily toward the requirements of its operational environment and preferred weapons system.<sup>11</sup>

The National Security Act of 1947 was supposed to unite the services as a joint team. However, at the 2000 Robert McCormick Tribune Foundation Seminar, General Zinni stated that he had little confidence in the National Security Act: "It created a situation in which the biggest rival of any U.S. armed service is not a foreign adversary but one of its sister services . . . So we fight each other for money, programs, and weapons systems."<sup>12</sup>

President Dwight D. Eisenhower recognized the necessity for teamwork more than 50 years ago, but one year into a new millennium CinCs still discuss problems with interoperability. Neither doctrine nor law has solved the problem. Interoperability was identified as an area of weakness during operations in Panama, Iraq, and Somalia. Even Operation Allied Force was not immune. The final report to Congress on the Kosovo campaign found that "problems in communications interoperability persisted throughout the campaign."

### *Information Managers*

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Detailed synchronization of joint forces will be enhanced through the use of jointly trained information managers (IMs) who must be identified in functional component doctrine. In *Network-Centric Warfare*, David Alberts and John Garstka write that "providing battlespace awareness requires that data and information from multiple sources be collected, processed, transported, fused, placed in appropriate contexts, and presented in ways that facilitate rapid and accurate inferences."<sup>13</sup> In today's information age, forces cannot synchronize assets and capabilities without managing information. Not all services have addressed the concern over information management but the Marine Corps has drafted an information man-

agement publication (MCWP 6-23). The Marine Corps thinks of information management this way:

The process by which information is obtained, manipulated, directed, and controlled. It includes all processes involved in the creation, collection, and control, dissemination, storage and retrieval, protection, and destruction of information.<sup>14</sup>

Someone must be identified to manage the overwhelming amount of information our joint systems will produce or JTFs will be paralyzed by information overload.

Information overload can be remedied by establishing IMs with each functional component. Recognizing the importance of information management, in *Command in War* Martin Van Crevald wrote, "The history of command can thus be understood in terms of a race between the demand for information and the ability of command systems to meet it."<sup>15</sup> We must grasp the C4I system concepts early and begin to scrutinize methods of managing the information they will produce. As the services procure and field various systems to fight the next war more effectively, they must incorporate those systems into the air, land, maritime, and special operations components.

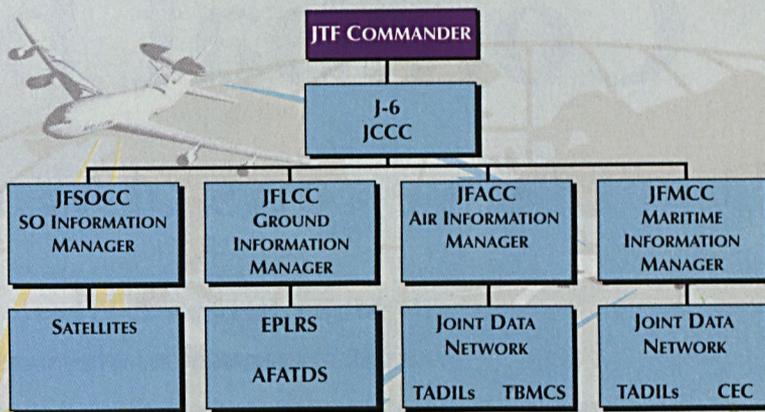
Figure 1 illustrates the information managers that should be formally established by joint doctrine for the functional components. Each functional component IM must fuse the information networks such as TADILs for air and enhanced position location reporting system for land. For example, the joint interface control officer (JICO) recently has been established to fuse the joint data network, consisting of TADILs. No other functional component IM exists because doctrine does not exist for the other functional areas.

After each functional component IM fuses the information within his functional area, his "picture" should be relayed to the other functional and service components as well as the J-6, Joint Communications Control Center (JCCC). The JCCC is responsible for "managing the C4I connectivity and communications that extend from the CinC's headquarters to the deployed location of a JTF and its elements."<sup>16</sup> After receiving the information from each functional component, the JCCC can fuse the information and transmit a consolidated picture to the JTF commander.

### Interoperability through Functional Warfighting

Congress and the military have been advocating interoperability since 1947. In the years following the Goldwater-Nichols Reorganization Act of 1986, joint doctrine has emerged, but it has failed to emphasize the importance of functional components. As U.S. forces fight together, information fails to flow freely, and interoperability becomes a problem. In today's information revolution in military affairs, failure to manage informa-

**Figure 1: Functional Component Information Managers**



**AFATDS: Advanced Field Artillery Tactical Data System**  
**CEC: Cooperative Engagement Capability**  
**EPLRS: Enhanced Position Location Reporting System**  
**JCCC: Joint Communications Control Center**  
**JFACC: Joint Force Air Component Commander**  
**JFLCC: Joint Force Land Component Commander**  
**JFMCC: Joint Force Maritime Component Commander**  
**JFSOCC: Joint Force Special Operations Component Commander**  
**TADIL: Tactical Digital Information Links**  
**TBMCS: Theater Battle Management Core System**

tion properly will result in defeat on the battlefield. To remedy this, functional component doctrine—mandating C4I compatibility and information managers—must be written and implemented. We must inculcate functional doctrine now so we can achieve interoperability and win wars in the future.

<sup>14</sup>Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms* (Washington, DC: Department of Defense, 1994), p. 233.  
<sup>15</sup>Joint Publication 0-2, *Unified Action Armed Forces* (Washington, DC: Department of Defense, 1995), p. IV-2.  
<sup>16</sup>*Multi-Service Procedures for the Theater Air-Ground System* (Washington, DC: Department of Defense, 1998), p. VII-2.  
<sup>17</sup>Joint Publication 0-2, p. I-1.  
<sup>18</sup>Gen. Anthony Zinni, USMC (Ret.), "A Commander Reflects," *U.S. Naval Institute Proceedings*, July 2000, p. 35.  
<sup>19</sup>Gen. Anthony Zinni, USMC (Ret.), "Challenges in the Central Region," *Joint Forces Quarterly*, Spring 2000, p. 20.  
<sup>20</sup>Thomas Coakley, *Command and Control For War and Peace* (Washington, D.C.: National Defense University Press, 1991), p. 184.  
<sup>21</sup>Joint Publication 6-0, *Doctrine for C4 Support Systems Support to Joint Operations* (Washington, DC: Department of Defense, 1995), p. I-7.  
<sup>22</sup>*Joint Theater Air and Missile Defense Organization* (Washington, DC: Department of Defense), p. 6.  
<sup>23</sup>Kenneth Allard, *Command, Control, and the Command Defense* (Washington, DC: National Defense University Press, 1996), p. 113.  
<sup>24</sup>Allard, *Command and Control*, p. 197.  
<sup>25</sup>Zinni, "A Commander Reflects," p. 35.  
<sup>26</sup>David Alberts and John Garstka, *Network-Centric Warfare*, 2d Ed. Rev. (Washington, DC: Department of Defense, 1999), p. 133.  
<sup>27</sup>*Marine Corps Warfighting Publication 6-23*, pp. 1-2.  
<sup>28</sup>Martin Van Crevald, *Command in War* (Cambridge, MA: Harvard University Press, 1985), p. 88.  
<sup>29</sup>*CJCSM 3115.01, Joint Data Network Operations*, p. 8.

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