

“Finnishing” the Force

Achieving True Flexibility for the Joint Force Commander

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As opposed to finding independent solutions, we are trying to find joint, collaborative solutions that best support the joint warfighter in any spectrum of war.

—Gen John Corley, USAF, Retired
Commander, Air Combat Command



The US military has never been more capable. In the past, we found sophisticated jammers, sensors, and command and control (C2) systems only at the operational level of war (typically

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as part of the air or maritime components). Today they appear in the backpacks and vehicles of frontline troops. Similarly, although the highest-end capabilities were once tasked only against strategic objectives, today's C2 and data-distribution systems allow operational-level capabilities to provide direct support to ground troops. Even though these capabilities permit unprecedented joint flexibility and recent changes in joint doctrine make possible the joint tasking of tactical assets, many of the latest capabilities remain organized and controlled as if they can support merely a single component.¹ Key examples include ground-based signals intelligence sensors and organic airborne reconnaissance assets not organized, trained, or equipped for independent availability to the joint force. As we will see below, such assets as the Army's MQ-1C Gray Eagle or man-portable electronic jammers are intended to deploy as part of a larger single-component force, with little consideration given to their overall joint utility.

But what if things were different? What if the joint force commander (JFC) had not only knowledge—based on the expertise and experience of joint planners—of the capabilities of all our tactical and operational systems but also the tasking tools and authority to incorporate specific capabilities into the operational design of a joint campaign? Conversely, what if tactical commanders enjoyed the same fidelity of tactical control over joint assets as they do with their own organic assets? (The joint assets would include not just traditional, direct-support assets such as close air support [CAS] but the full range of joint capabilities.)

We face a future of severe fiscal constraints, rapidly emerging regional conflicts (consisting of both asymmetric and near-peer foes), and the likely need for both joint and coalition partnerships in any operation. Consequently, professional joint planners must seek new ways to take advantage of all existing US capabilities—regardless of echelon or service—and increase flexibility for the JFC. Many smaller Western nations are familiar with this problem, one born of limited forces that must fill multiple joint requirements. Finland is one such country, and Finnish operational thinking may prove instructive. This

article uses the Finnish model as a case study to support three key reforms to traditional US force presentation towards a more capable joint task force (JTF): (1) enabling JTF planners to take a capabilities-based approach to requesting forces, (2) making it possible to separate traditionally organic forces from their parent units for small-scale deployment and employment, and (3) increasing the flexibility of joint-relevant forces (the use of both operational forces that do not normally provide direct support to tactical units and traditionally tactical units as operational assets) by increasing their connectivity to make them more supportive of and responsive to the full spectrum of joint C2.

The Joint Relevance of New Tactical Capabilities

Recent years have seen a tremendous increase in sophisticated capabilities fielded at the tactical level. Take, for example, the ITT Electronic Systems Counter Radio-Controlled IED [improvised explosive device] Electronic Warfare (CREW) 2.1 vehicle-mounted jammer (up to 25,000 of which are on contract for purchase by the US Army). It uses a digitally controlled, 30-watt transmitter that can cover the entire HF/VHF/UHF spectrum, jam multiple frequencies simultaneously, and cover both broad areas and spot targets.² In situations involving asymmetric targets near a border or those in which the JFC possesses insufficient electronic warfare (EW) capability at the joint level to attain the desired effects, these types of systems could act as key gap-fillers in a joint operational plan. They also pose problems for joint planners in terms of electronic deconfliction and fratricide.



Marine carrying a Thor II backpack-mounted counter IED jammer. (Reprinted from "Marine Corps Photos," US Marine Corps, 13 February 2012, <http://www.marines.mil/Photos.aspx?igphoto=768>.)

Tactical intelligence, surveillance, and reconnaissance (ISR) has also seen huge advances in miniaturized capabilities. For instance, the AN/MLQ-40 vehicle-borne multisensor signals intelligence system can "detect, monitor, identify and selectively exploit Radio Frequency (RF) Signals for Intelligence information providing situational awareness and potential targets for Tactical Commanders. The exploited signal data can be relayed via voice or data through the organic Wideband Beyond Line of Sight (WBLOS) SATCOM communications system."³ With both wide-area coverage and the ability to distribute data to joint exploitation centers, these ground-based sensors could significantly add to the JFC's collection capabilities. The joint use of such a system, however, would require distribution of ISR data to the joint and opera-

tional levels as well as the traditional tactical level. Operational C2 mechanisms must also be in place to task these systems as joint assets.



US Army photo

AN/MLQ-40 Prophet

Perhaps the most capable system fielded at the tactical level is the US Army's MQ-1C Gray Eagle. A variant of the General Atomics MQ-1 Predator, the Gray Eagle is a 3,600-pound airplane with a 56-foot wingspan, a 25,000-foot service ceiling, and a payload of up to 400 pounds of external stores. The Army has a long-term plan to equip each of its divisions with a company of 12 Gray Eagles.⁴ Ultimately, these aircraft achieve a true multirole operational capability, including air-to-ground fires, ISR, and EW.⁵ The Army plans to procure and field this capability as an aviation support element for use as an organic asset. Despite efforts to make this platform available for joint use (see the section on Task no. 11, below), it is not yet available to the JFC as a separate, taskable capability. Since the Gray Eagle flies above the coordinating altitude in joint airspace, we already face the problem of incorporating it into the joint airspace planning process. Tasking the Gray Eagle as a joint operational asset will require putting in place the same type of tasking and C2 tools that already exist for Marine Corps and Navy aviation (more on that later).



US Army photo

MQ-1C Gray Eagle

Recent Conflicts and the Need for Joint Flexibility

The recent operation in Libya or the ongoing North Atlantic Treaty Organization (NATO) operations in Afghanistan are the types of scenarios in which these capabilities could prove useful at the joint level. In Operation Unified Protector, for example, during enforcement of the no-fly zone over Libya, the US Navy and other NATO maritime forces supported the air component even as they carried out their own maritime tasks. This support included supplying C2 for tactical air assets and conducting surveillance missions with tactical unmanned aircraft.⁶ However, since neither US nor NATO doctrine specifies a mechanism for either the JTF headquarters or a supported component to incorporate these capabilities into joint-level plans, key joint tasks tend to go to components that will address them with single-domain solutions.⁷ Although a few areas of traditional joint integration (such as CAS and tactical mobility) have mature tactics, techniques, and procedures (TTP) and liaison structures for effective integration, other areas such

as ISR, EW, and multiechelon communications do not. Therefore, joint support at the tactical level in these areas tends to occur on an ad hoc basis with less-than-optimal coordination. Opportunities to plan for joint cross-cue, provide a mechanism for dynamic joint retasking, or simply synchronize joint operations and increase efficiency can be lost.

Another example of the need for greater joint flexibility at the tactical level took place during surge operations in Operation Iraqi Freedom. This period focused on classic counterinsurgency operations instead of corps-level planning. Every battalion commander needed the ability to plan and execute operations independently—tasks that often depended on the predictable availability of operational-level capabilities, regardless of the priority of that particular action in the overall scheme of maneuver.⁸ Maintaining the integrity of tactical-level operations and ensuring that joint-level assets promised during the planning phase remain available for execution, regardless of changes in the operational picture, were more important to the overall success of a counterinsurgency campaign than constantly shifting assets to meet perceived operational priorities. Future counterinsurgency JFCs might therefore be willing to risk inefficiency at the operational level rather than pull promised joint assets from tactical commanders just when they need them most.

Thus, in Iraqi Freedom, the traditional model was inappropriate to the new fight. Not only did tactical commanders have difficulty planning their operations 72 hours or more in advance (to comply with the doctrinal 72-hour air tasking order [ATO] cycle) but also the sudden removal of a capability in favor of higher priorities could make it impossible for tactical commanders to carry out their operations.⁹ Ad hoc solutions were created to overcome doctrinal deficiencies in Operations Iraqi Freedom and Enduring Freedom, but the doctrinal model remains the same. Moreover, since the joint force air component commander (JFACC) had no visibility on the operations conducted at the battalion level—and no mechanism to understand the real-time ISR

needs of tactical commanders—he could not respond to emerging ISR requirements.¹⁰ The traditional liaison elements in place (e.g., air liaison officers [ALO], an air component coordinating element at the corps level, and a battlefield coordination detachment at the combined air and space operations center [CAOC]) concentrate for the most part on translating apportionment into allocation—primarily to provide CAS to the Army. They are neither set up nor intended to offer real-time coordination of joint ISR, EW, and C2.

Similarly, the fact that tactical commanders had no real-time visibility on the status of operational ISR assets, even when those assets were in the local area, meant that they would have no warning prior to reallocation and no way to fill that gap with other available assets. Joint doctrine gives tactical commanders a means of accessing the full range of joint fires, but for ISR, communications relay, and EW, a doctrinal or procedural solution remains elusive although ad hoc solutions were devised during Iraqi Freedom (see the section on intelligence liaison officers [ILO], below).

Expanding Traditional Joint Air Tasking to Include New Tactical Capabilities

In traditional joint operations, during which a component commander has organic air assets not needed for organic tasking, those assets are typically made available to the JFC. In fact, according to Joint Publication 3-30, *Command and Control for Joint Air Operations*, the JFC has the authority to make available components' organic air forces for joint tasking. To determine which ones to provide for joint air operations, the JFC will consult with component commanders and identify excess air capabilities. Typically, the commander of Air Force forces is designated the JFACC and becomes the supported commander for strategic attack, air interdiction, and airborne ISR.¹¹ For instance, carrier strike group F-18s that belong to the joint force maritime component commander (JFMCC) would typically be "retained for employment in

support of the assigned joint maritime missions."¹² When the JFMCC has excess capabilities—F-18s not required for assigned joint missions or for fleet defense—he or she will give them to the JFACC via the joint air tasking process.¹³

The primary mission of the organic air capabilities of the Marine air-ground task force's (MAGTF) aviation combat element (ACE) is to support the task force's ground combat element. During joint operations, the MAGTF's aviation assets normally support its mission requirements, and these organic air requirements in support of subordinate elements within the task force are prioritized and scheduling conflicts are resolved by the MAGTF commander.¹⁴ In the unlikely event the MAGTF has excess air capabilities, those assets will be given to the JFACC for theater air tasking, including air defense, long-range interdiction, and long-range reconnaissance.¹⁵

Once the components identify and provide excess air capabilities (including unmanned aircraft systems [UAS], typically identified as an ISR asset) to the JFC, the JFACC becomes the component responsible for planning, coordinating, allocating, and tasking. In accordance with JP 3-30, "the JAOC [joint air operations center] should request ISR support from the JFC or another component if available assets cannot fulfill specific airborne ISR requirements. It is imperative [that] the JFACC remains aware of all surveillance and reconnaissance capabilities that can be integrated into joint air operations."¹⁶ But this does not necessarily mean that all resources are pooled for maximizing the JFC's theater-wide surveillance and reconnaissance effects. In the case of Marine UASs (as well as Army UASs), these are considered organic ISR assets—even if their parent unit is neither tasked nor deployed.¹⁷ Indeed, given the existence of an identified best practice of pooling and optimizing the use of organic UASs to support Marine operations, the Marines do not extend this practice to the joint level. This is true even when Marine capability is present in a joint operations area but Marine ground operations have not yet commenced.¹⁸ That is, even

though the MAGTF contains highly capable ISR assets, if it has not yet begun ground operations, those assets will sit idle.

Once operations begin, though, the Marine unmanned aerial vehicle squadron (VMU)—a UAS unit attached to the MAGTF—will provide, through the MAGTF's ACE, the task force commander with UAS capability in either a general or direct-support role. Under general support, the ACE commander will supply UASs to the force as a whole, ensuring that all MAGTF elements have the best access and that "priority of support to subordinate elements will likely go to the unit that is the main effort."¹⁹ When the ACE and VMU operate in a direct-support role, UASs support a specific, designated unit.²⁰

The Marines of the I Marine Expeditionary Force (Forward), for example, became both the MAGTF and Regional Command–Southwest during Enduring Freedom and faced an ISR resource-management challenge. The problem involved optimizing the use of ISR capabilities against coalition and NATO requirements. The solution included making organic aviation assets available to the priorities of required mission sets. Essentially, the Marines integrated air reconnaissance UASs in concert with other functions of aviation.²¹

Integrating Operational Capabilities at the Tactical Level—ALOs and ILOs

Another instance of increased flexibility came in the form of the ILO in Iraqi Freedom and Enduring Freedom. Beginning in 2006, the US Air Force began to deploy experienced ISR officers and noncommissioned officers to divisions and regional commands in Iraq and Afghanistan as part of the ALO contingents. Their purpose, although not yet enshrined in a joint doctrine document or tactics manual, was to improve the integration of the Air Force's ISR capabilities into Army and Marine tactical operations, assist with the planning of the use of those assets in ground operations, and optimize their employment

when tasked to provide direct support. According to Lt Gen David Dep-
tula, former USAF/A2, this partnering brought about

better understanding and results for the collection requirements of
ground commanders; improved partnering between ground force intelli-
gence staffs, CAOC ISR division analysts, and . . . [distributed] analysts to
work time-sensitive analytical questions pertaining to current operations;
and exceptional situational awareness for ISR crews regarding the details
of current operations in which they will participate.²²

During Iraqi Freedom and now in Afghanistan, the Air Force embed-
ded ILOs within each deployed division as well as at key nodes such as
the JTF headquarters and special operations forces headquarters—and
with maneuver units engaged in high-priority operations. Typically,
they were embedded in ground units as a means of better synchroniz-
ing operational ISR support with maneuver and fires. They also took
advantage of the inherent ISR capabilities of joint-fires assets such as
fighters with advanced targeting pods, incorporating them into the
tactical-collection plans of ground units. This type of capability, which
has come to be known as nontraditional ISR, supplied a key gap-filler
for units engaged in ISR-intensive counterinsurgency operations.²³
However, the use of ILOs was never added to joint doctrine or sourced
as part of ALO unit-manning plans. The utilization of ILOs in Iraqi
Freedom and Enduring Freedom demonstrates that adding new capa-
bilities is not enough to increase joint flexibility and effectiveness.
Rather, we need a means—typically operator-centric—of planning for
the use of these capabilities, leveraging them in complementary ways
with other capabilities, and integrating them into dynamic operations.

The Finnish Model: An Example of Joint Flexibility

*The main points in strategy for transformation of the Defense Forces are
that the size of the Armed Forces must be equal with the tasks and budget,
they must develop equal effectiveness with fewer resources, and they must
build cooperation within the nation.*

—Gen Ari Puheloinen
Commander, Finnish Defense Forces

In recent years, the Finnish Defense Forces (FDF) have faced wide structural transformation because of aging equipment, the high cost of modernization, and the expensive nature of crisis-management operations. To counter these issues, the FDF is making joint flexibility a primary consideration in the acquisition process, with the goal of moving away from dedicated service capabilities towards more commonality and better cost-effectiveness. In fact, joint operations have been at the heart of Finnish operational thinking since World War II. Central to the FDF are terms like "service shared operations" or "service shared fire."²⁴ Thus, "key areas of Finland are secured in all circumstances, aggression is defied and if needed combatted in a JOINT operation in order to accomplish the end state."²⁵ Figure 1 shows the C2 structure of the FDF along with the level of joint organization.²⁶

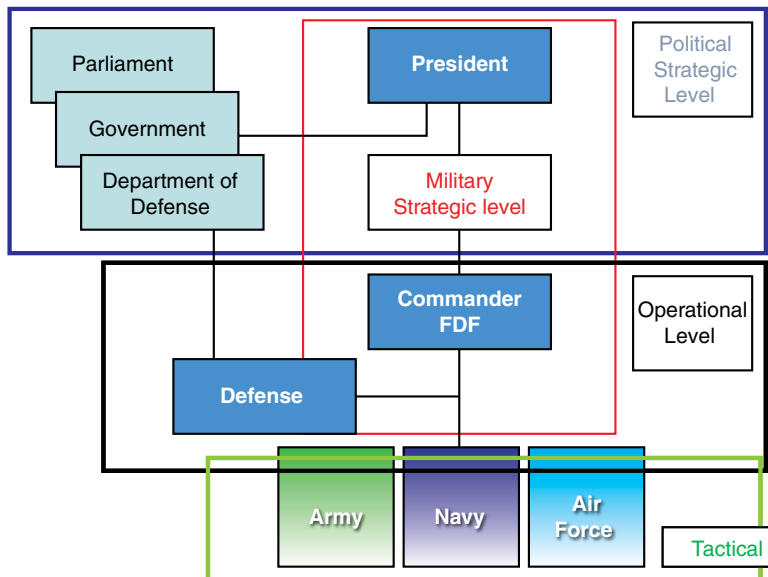


Figure 1. FDF structure. (From Col Pasi Kesseli, "Use of Common Capabilities in the Winter and Continuation War" [lecture presented at the Finnish National Defense University, 5 November 2012].)

The FDF leverages capabilities from the Army, Navy, and Air Force, as well as from a set common capabilities (fig. 2). These capabilities

(mainly joint fires, ISR, and EW), organized along component lines and considered common to joint operations, constitute the bulk of the FDF.

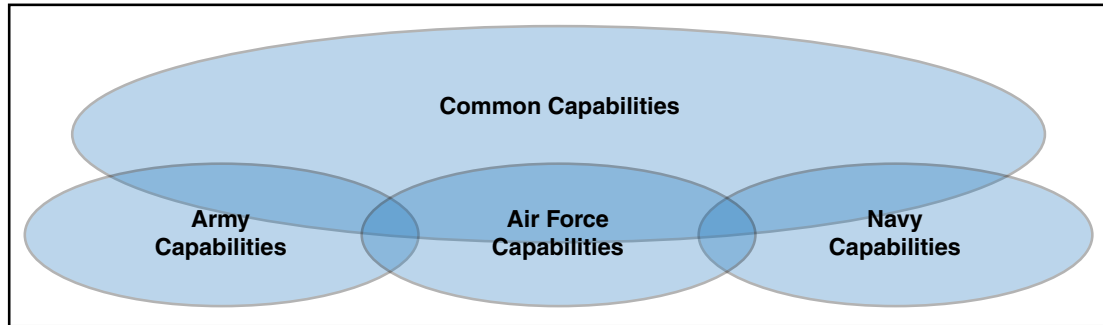


Figure 2. FDF capability organization. (From *Kenttäohjesääntö, Yleinen osa, Puolustusjärjestelmän Toiminnan Perusteet* [Field Manual, General Part, *Basic Structure of the Defense System*], 30.)

Common capabilities are allocated and assigned at the joint level, and the Defense Command plans their use—including service capabilities for use by the commander. Along with key enablers, the Finnish model prescribes joint integration based on a set of common principles for acquisition, training, and organization.²⁷ The key difference here between the US and the Finnish model is that although Finnish planners can reach down to the tactical level to pluck needed capabilities from larger parent units, the US planner cannot tap into something like the MQ-1C without tasking the entire division to which it belongs.

The Finnish service chiefs are generally responsible for planning the independent use of service (noncommon) forces. However, even these forces will be allocated to the Defense Command when needed. This would include any operation to “defend Finland and will be led by the Defense Command using the capabilities of the Army, the Navy and Air Force in addition to the common capabilities.”²⁸

Defense Command prioritizes the use of common capabilities in national/joint operations and returns any excess to the services or to the regional commands. In some cases, the command can delegate a task

to a service.²⁹ During joint operations, Defense Command will ensure a high level of situational awareness for all players by integrating the recognized air, land, and maritime pictures into a common operating picture (COP). The command will then either act as the JTF headquarters or allocate capabilities to operations led by the services. Doing so enables the FDF to mass Finland's limited combat power and concentrate it against the aggressor's most critical vulnerability or center of gravity. Defense Command will also use centralized control with a flat command structure to make decisions more rapidly than the aggressor and operate inside his decision-making cycle. Finnish joint operations are therefore task-oriented, using only those capabilities needed to reach culmination. Other capabilities are then returned to the supporting services.³⁰ In all cases, though, Defense Command will own and distribute the real-time COP and coordinate all operations.

A common Finnish scenario involves the need to move land forces along the coastline to assume an advantageous defensive position. In this case, Defense Command will delegate operational control to Army headquarters. In case of major maneuver, the command will use forces with common capabilities to support the maneuver and may also assume operational control of supporting forces (such as the Navy or Air Force) to support the Army. These would typically be key enablers such as joint fires, information warfare, or ISR.³¹

Admittedly, Finland is a small country with limited resources, and many people might argue that almost any organizational structure would work. However, since future Department of Defense (DOD) budgets will probably continue a downward trend, it is informative to examine smaller militaries and the way they maximize capability with limited resources. This is the primary driver behind the creation of joint "common capabilities." Strategically, Finland must be able to build up and employ joint forces rapidly against single tasks—even if those forces are normally organized at the tactical level or are otherwise organic to the service. Like Finland's Defense Command, the US DOD faces increasingly constrained budgets, smaller force structures,

and the need to organize joint and coalition task forces quickly to respond to small and often asymmetric crises. Thus, a JFC's ability to tap directly into tactical-level units—particularly when they possess key enabling capabilities such as C2, ISR, and EW—could be of key importance. The DOD may benefit greatly from the lessons of the Finnish model. In fact, the Army and Air Force have already given some thought to this type of arrangement for unmanned aircraft.

Task No. 11 and the Use of Organic Unmanned Aircraft Systems

On 30 June 2008, Gen John Corley, commander of US Air Combat Command, and Gen William Wallace, commander of US Army Training and Doctrine Command, agreed to a new concept for the employment of theater-capable multirole unmanned aircraft. This concept grew from an earlier task (no. 11) from the Army–Air Force Warfighters talks in which the chairman of the Joint Chiefs of Staff gave the two services the task of finding a better way to employ these highly capable systems in joint operations.³² The concept called for doctrine, organization, and training, as well as material, leadership, and personnel changes to the Air Force MQ-1/MQ-9 and the Army MQ-1C programs. The goal called for all three platforms to function seamlessly as joint air assets controlled by the JFACC (when deemed necessary by the JFC) and as “near organic” systems when the JFC determined that a ground commander should receive direct support. Figure 3 identifies the data, TTPs, and C2 links needed to execute the concept.

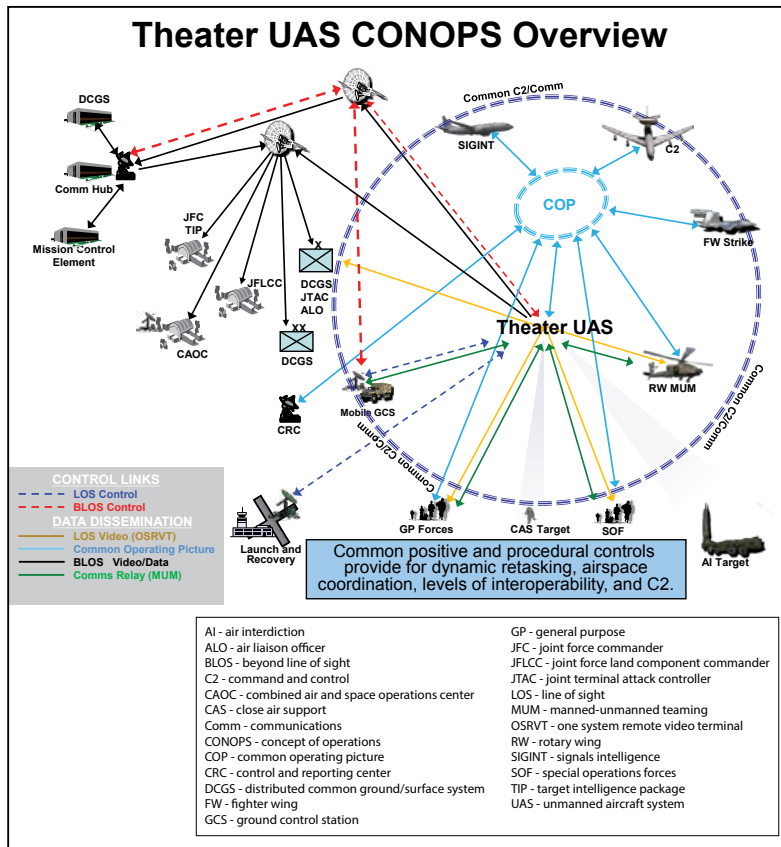


Figure 3. Task no. 11 operational view. (Reprinted from Air Combat Command and Training and Doctrine Command, *The Multi-Role, Theater-Capable, UAS Enabling Concept* [Hampton, VA: Air Combat Command, 2008], 4.)

The idea behind the concept entails building the maximum possible flexibility into these systems by ensuring that the ISR data they produce is compatible with both Army and Air Force ISR exploitation systems as well as Link-16 and Blue Force Tracker tactical data links. The systems should also be able to distribute their ISR data both locally and beyond line of sight. They should respond to both tactical and operational echelons of C2. Task no. 11 requires that operators of these systems be well versed in the joint TTPs and terminology needed for both joint and component integration.

The US Army and Air Force have since taken steps to implement the concept by making adjustments to their organize/train/equip efforts. Changes have been made to joint doctrine and TTPs (e.g., the procedures needed to incorporate Army assets into the JFACC ATO in the same manner as Navy and Marine air assets).³³ The Air Force has also taken advantage of this work to improve support provided to ground units in Afghanistan through habitual association with supported units as well as better visibility and understanding of tactical ground operations. The Army, however, has not yet had the opportunity to demonstrate joint integration of the MQ-1C and, therefore, has been able to test the concept only through war gaming.³⁴

Recommendations:

A Scheme for Greater Joint Flexibility (Plug and Play)

Obviously, the US military is much bigger and has much greater capacity than the FDF. Consequently, under what circumstances would the JFC need to tap into tactical capabilities? Consider the following three vignettes:

1. *A small, regional conflict that threatens a nonvital interest of the United States or its allies but for political reasons requires US involvement.* Operation Unified Protector in Libya offers one such example. In this case, it was politically unacceptable for the United States to take the lead with offensive forces or to introduce ground troops directly into the conflict, despite the fact that a US commander directed the main effort and that the vast majority of key enabling capabilities came from America.³⁵ According to Lt Gen Ralph Jodice, JFACC for Unified Protector, his operation suffered from gaps in ISR and EW due to the lack of the capacity of forces normally available in a large US operation (e.g., U-2s or RQ-4s). In the future, when high-level ISR assets are not available, having access to mitigating organic maritime or land-based capabilities for direct joint tasking could prove decisive.³⁶

2. *The deterrence phase of what is expected to be a major US operation.*
In this case, the United States may need to rapidly demonstrate its ability to respond to regional aggression with flexible deterrence operations while awaiting a larger deployed force. There simply may not be time for a JTF commander to wait for high-end operational capabilities to arrive on station. The JTF, therefore, would need to take maximum advantage of any capabilities that might already be in-theater to produce a decisive deterrent effect. As it stands, organic capability resident within a nontasked or not-yet-active parent unit is not directly available to the JFC.
3. *Simultaneous conflicts breaking out in different areas of responsibility.*
In this case, one of the operations may have a lower priority and thus cannot gain access to a significant number of operational capabilities. As in vignette no. 2, the JTF commander of the lower-priority conflict would have to make the best use possible of whatever capabilities are on hand—such as tapping into tactical-level ISR or EW without tasking the parent unit.

To ease the leveraging of tactical capabilities to satisfy operational-level needs in these vignettes, one would have to make significant changes to joint planning doctrine, joint operational doctrine, and the manner in which those forces are made available to the JFC for tasking.

Reform No. 1: Capabilities-Based Planning

Currently, forces are identified for apportionment through their primary maneuver echelon. For example, a JTF planning staff might learn that a brigade combat team is on the apportionment list, but without amplifying information on the internal capabilities of that team, the JFC would have to rely on the knowledge and experience of the planning staff. That would work fine if an Army officer with appropriate experience happens to be on the team. If no such person is available, then those capabilities would remain invisible to the JTF planning staff. To correct this situation, we need to identify joint capabilities as part of their parent maneuver units during the apportion-

ment process. Thus, when a JTF's J-5 staff is planning an operation and receives global force management appendices with a list of apportioned forces, the appendix could be expanded to include detailed information about joint capabilities. This addition might take the form of another column with the relevant information (see the table below). J-5 planners would also need more training so they will understand the nature of these capabilities and include them in their plans.

Table. Hypothetical global force management appendix identifying joint capability

APPENDIX 1 (U.S. Army Apportionment Tables) to Section IV (Apportionment of Forces) to Global Force Management										
Service/Unit Type/Capability	Bin A			FMID	Bin B			FMID	Joint Capes	Notes
	Units	Eqmt	RLD		Units	Eqmt	RLD			
HQ's										
Corps HQ	1		N+4	5A1	1		N+4	5A2		
	1		N+3	5A4	1		N+3	5A5		
Division HQs	1		S+49	5A7	1		S+51	5A8		
BCT's										
Armored Brigade Combat Teams (ABCT)	6		N+2	5B1	4		N+2	5B4	SIGINT Electronic Attack	
			N+3	5B2			N+4	5B5		
			N+5	5B3			S+48	5B6		
			N+5	5B7			S+54	5B8		
			S+47	5B4						
		S+52	5B8							
Infantry BCT (IBCT)	5		N+2	5C2	4		N+2	5C1	FMV	One IBCT (5C1) is embarked on the Army Preposition ships along with a sustainment brigade, two Eng Bn's, an early medical support element, and JTF-PO (SPOD) package
			N+2	5C3			S+43	5C2		
			N+4	5C4			S+44	5C3		
			S+44	5C4			S+47	5C5		
			S+45	5C8						
Infantry BCT (Air Assault [AASLT])	1		N+14	5C6	1		N+4	5C5		
Infantry BCT (Airborne [ABN])	1		N+1	5C8	1		N+2	5C7		
Striker BCT (SBCT)	1		S+44	5B7	1		N+3	5B6		
Tactical Combat Force (TCF) (BN)	2		S+20		1		S+20			These units are only infantry Bn's and cannot be combined into a IBCT.
			S+30							
Afloat Preposition Units										
										Unit includes equipment for an IBCT, sustainment Bde, 2 eng Bn's, 1 early medical support element, a JTF-PO package, and 22 Bn's of Special Forces (SFG)

FMID - force management identifiers

FMV - full-motion video

JTF-PO (SPOD) - joint task force port opening seaport of debarkation

RLD - ready-to-load date

Reform No. 2: Independent Presentation of Small, Traditionally Organic Units

Currently, submaneuver units (i.e., those not presented as independently maneuverable) are bundled with their higher-echelon main-

maneuver unit. Consequently, a company equipped with tactical jammers would be presented only as part of a larger unit (brigade or division). If the JTF needs access just to the company equipped with jammers, then the force provider may have no mechanism to mobilize and deploy it independently of the parent unit. (This may be the case even though the company will not be called upon to maneuver independently of a larger force—if, for example, the company is needed at a coalition base on a border.) Since we routinely deploy and task small units with operational capabilities from all four services, this should simply be a matter of extending this ability to units that do not traditionally deploy on their own.

This would constitute a "plug-and-play" approach to joint capabilities. In the example of an infantry company with backpack jammers, the JFC will need to access that unit via the time-phased force and deployment data sourcing process in order to include it in the operational plan for purposes of C2, sustainment, and so forth. Then, as the JFC designs the overall C2 structure, the unit could be aligned with the appropriate tactical C2, basing, and sustainment elements—and included in the support plans of the units responsible for those basing locations.

Reform No. 3: Flat and Flexible Joint Command and Control

For maritime capabilities, we can expect a maritime component commander with associated tactical C2 of maritime forces. The maritime component, therefore, can assume the task of using maritime organic capability as a joint asset. But the JFACC should be able to control air assets normally organic to the land component—or do so in the absence of land forces that would exercise tactical C2. For example, as part of Task no. 11, the enabling concept specifies the need for an MQ-1C company to interface with a CAOC, integrate into the ATO and master air attack plan process, and receive those ATO instructions. The air component's tactical C2 elements would then control that company.³⁷ This process drives training and equipment as Gray Eagle companies take on the task of preparing to function as joint air assets.

For small land units that will deploy without their higher-echelon tactical C2, the issue becomes a bit trickier. They must either interface directly with the JTF headquarters or attach themselves to another component (perhaps special operations or the JFACC for ISR). In either case, they would need the connectivity to interface with the appropriate C2 network as well as training in the appropriate joint TTPs. In most cases, though, the TTPs already exist (e.g., joint CAS). So the main task amounts to training for units not previously trained to function as joint assets.

A practice of providing the JFC with daily status reports of high-demand, low-density organic assets already exists. For instance, each day the US Navy reports the status of SM-3 and Tomahawk land-attack missiles within the fleet to the Joint Staff and to the geographical combatant commanders. Without integrated solutions, this data has to be sent via PowerPoint briefs or Excel spreadsheets.³⁸ The commanders, therefore, are aware of the numbers and types of SM-3s and missiles aboard ships operating in their area of responsibility and have the means to task those weapons, but the information sharing is less than optimal. We need a better solution—the ability to inject data into the COP—to allow better JFC tracking and tasking.

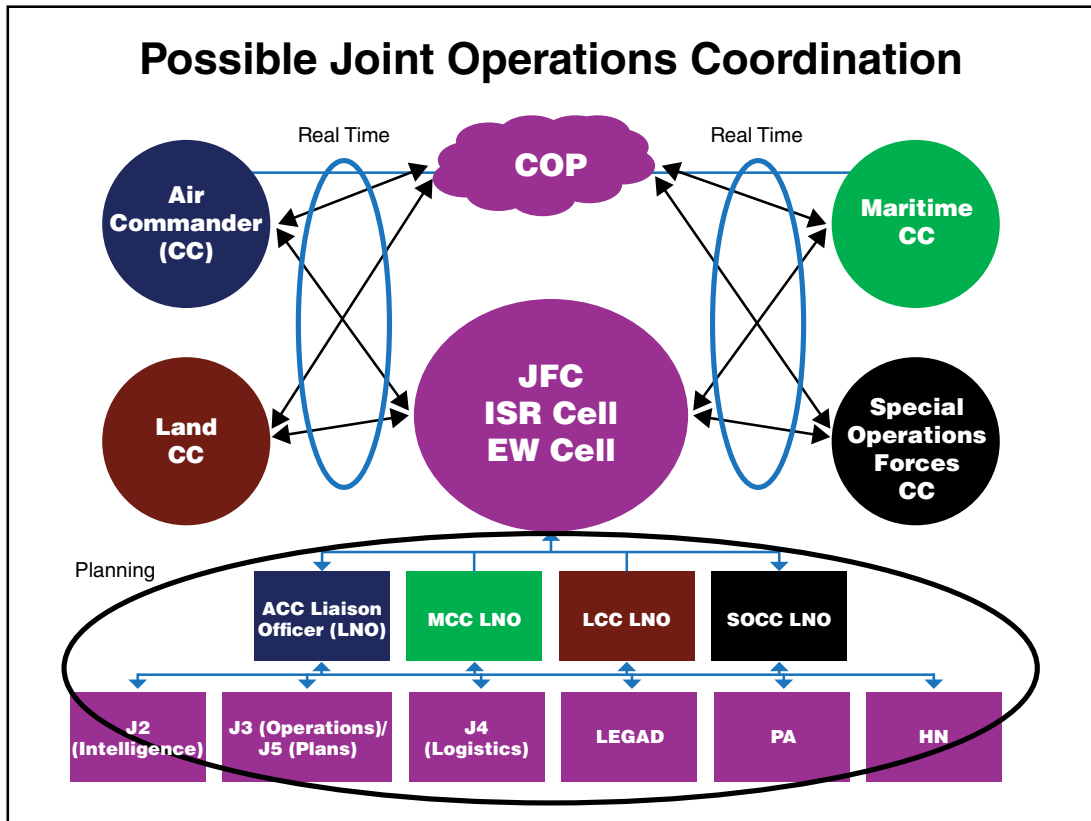
For the converse problem of better support to the tactical commander, the effectiveness of ILOs embedded with ground units has been well documented. We should expand this liaison presence to mirror the CAS approach, with liaisons at every echelon from division to battalion. These ILOs not only should be experts on operational ISR capabilities (both airborne and within other domains) but also should have the training and authority to match tactical ISR desired effects to available sensors and exploitation elements—and even exercise tactical (but not terminal) control over operational sensors, just as forward air controllers exercise tactical control over CAS assets. However, we would not expect ILOs to exercise air traffic control, as we do with forward air controllers.

If manning restrictions prevent the training and deployment of more ILOs, then the role of the joint terminal attack controller should be expanded to include ILO and EW liaison duties. Doing so would require both additional training and improved connectivity with ISR/EW collection platforms and their associated exploitation elements. These elements (i.e., the distributed common ground/surface systems) could then be leveraged to provide greater ISR fusion and analysis (as well as knowledge of sensor and platform capabilities) to the controllers in order to ease their burden and increase their capabilities. Finally, we need real-time coordination at the joint level in the form of ISR and EW coordination cells that perform a number of functions:

- Provide real-time joint coordination to mass joint sensors and jammers on specific objectives.
- Facilitate cross-cueing of joint ISR and EW.
- Offer real-time guidance to components to change the weight of effort against dynamic targets inside the execution phase.
- Analyze component ISR products to arrive at fused, joint intelligence assessments and feed the decision-making process.
- Ensure that all players tasked against joint objectives maintain and facilitate a high level of situational awareness.
- Assist the J-3 and J-5 staffs with planning for the use of joint capabilities.

Figure 4 shows a possible coordination scheme among joint-level execution, planning, and the various components. We should note that coordination cells at the joint level will not act as tactical C2 agencies, nor will they provide guidance directly to tactical units. The components will still fill those roles. Rather, joint cells will coordinate with ISR and EW cells within the component headquarters to conduct the above functions. Similarly, large-scale operations with sufficient forces to obviate the need to tap into tactical-level forces for joint tasks may not need these cells. For smaller-scale operations described in the three vignettes, however, small coordination cells on the JTF level will

be in the best position to derive maximum efficiency and flexibility of joint forces.



ACC - air component command
 HN - host nation
 LCC - land component command
 LEGAD - legal adviser
 MCC - maritime component command
 PA - public affairs
 SOCC - special operations component command

Figure 4. A possible scheme for small JTF coordination

The Life You Save Could Be Your Own

The United States and its allies face uncertain times—those marked by pop-up regional conflicts, shrinking defense budgets, and insufficient forces to carry out assigned tasks. We may no longer be able to afford the luxury of retaining our most sophisticated capabilities as organic elements of a component or maneuver unit. At times, for reasons of politics, finances, or simple priority, a JTF commander will need access (i.e., visibility during the planning process, the ability to task tactical units independently of their parent maneuver units, and operational C2 of traditionally tactical assets) to the full capabilities of all assigned forces. As a steward of our national resources, the joint force would be remiss if it did not explore every possibility to provide just that. As a result, joint capabilities must be available not only for joint planning purposes but also for joint tasking, even in the absence of their parent maneuver units in a traditional C2 architecture.

At the same time, we must make sure that the tactical commander has access to the most sophisticated operational capabilities when appropriate and available. Doing so will involve not only simple connectivity but also liaisons and forward controllers who are experts in the application of joint military power—individuals who have the visibility and authority to leverage high-end joint capabilities to great tactical effect. Perhaps we cannot predict the next conflict, but we can build maximum flexibility within the joint force to fight it. ✪

Notes

1. For example, according to the latest version of Joint Publication (JP) 3-30, *Command and Control of Joint Air Operations*, 10 February 2014, http://www.dtic.mil/doctrine/new_pubs/jp3_30.pdf, "Theater-capable UASs . . . can be used to support the JFC" (III-32). Furthermore, JP 3-32, *Command and Control for Joint Maritime Operations*, 7 August 2013, http://www.dtic.mil/doctrine/new_pubs/jp3_32.pdf, notes that "the JFMCC [joint force maritime component commander] provides a unique complement of sensors and sensor fusion capability to support joint requirements and advocates for the use of other component and national assets to provide optimum support to maritime operations. Sonar capabilities and the

ability to relocate surveillance and reconnaissance assets may provide additional options to the JFC. Close coordination with other component commanders and the communications system directorate of a joint staff (J-6) early in joint planning is essential to aligning architectures with platform and sensor employment plans to optimize intelligence, surveillance, reconnaissance, and associated processing, exploitation, and dissemination systems throughout the joint force" (II-7).

2. "JCREW: ITT Wins Contracts for Land Mine Jammers," *Defense Industry Daily*, 3 October 2011, <http://www.defenseindustrydaily.com/edo-wins-88m-contract-for-land-mine-jammers-03196/>; and "CREW Vehicle Receiver/Jammer (CVRJ): Roadmap to Capabilities," Exelis, accessed 2 June 2013, <http://www.exelisinc.com/solutions/CREW-Vehicle-Receiver-Jammer/Pages/default.aspx>.

3. "AN/MLQ-40(V)4 Prophet Spiral 1 +," L-3 Communications, Linkabit Division, n.d., accessed 21 May 2013, <http://www2.l-3com.com/linkabit/products/>.

4. Kris Osborn, "Army Expanding, Upgrading Gray Eagle Fleet," US Army, 28 June 2012, <http://www.army.mil/article/82790>.

5. "ER/MP Gray Eagle: Enhanced MQ-1C Predators for the Army," *Defense Industry Daily*, 16 December 2013, <https://www.defenseindustrydaily.com/warrior-erm-p-an-enhanced-predator-for-the-army-03056/>.

6. "Insitu ScanEagle Works with NATO on Libyan Missions," *Defense Daily* 251, no. 32 (16 August 2011), http://www.defensedaily.com/Assets/File/txt/DD_2011-08-15_17-31.txt.

7. "The JFC should attempt to meet the organic needs of the component commanders, while ensuring the JFACC has the assets available to execute JFC assigned JOA [joint operations area]-wide operations. These decisions will typically change as the phase of an operation changes. As with any joint capable asset, the JFC retains the authority to use any UAS asset to meet the needs of the JFC mission. How theater-capable UAS operations are managed and planned will vary based on the type and phase of an operation." JP 3-30, *Command and Control of Joint Air Operations*, III-32. Also, "sensor capability resident in the joint maritime force may support the joint force collection plan and may be integrated into the joint data network. Sensor tasking procedures, allocation of collection assets, and product dissemination should be determined early in the planning process." JP 3-32, *Command and Control for Joint Maritime Operations*, III-11. The following guidance is provided to joint-level collection managers with regard to tasking joint ISR assets: "The list of viable collection disciplines, systems, and sensors is reviewed for current availability (to include estimated downtime if not available) and the addition or deletion of capabilities. Coordination with adjacent and higher HQ and national agencies will determine the availability of theater and national resources." JP 2-01, *Joint and National Intelligence Support to Military Operations*, 5 January 2012, III-24, http://www.dtic.mil/doctrine/new_pubs/jp2_01.pdf. Typically, joint-level collection managers constrain themselves to operational-level ISR assets to collect against joint targets rather than trying to task an organic asset directly.

8. Lt Col Michael L. Downs, "Rethinking the Combined Force Air Component Commander's Intelligence, Surveillance, and Reconnaissance Approach to Counterinsurgency," *Air and Space Power Journal* 22, no. 3 (Fall 2008): 70.

9. *Ibid.*, 72.

10. Col James M. Waring, Lt Col Carl L. Giles, and CW3 John A. Robinson, "The 19th BCD in Counterinsurgency Operations," *Field Artillery*, July–August 2005, 17.

11. JP 3-30, *Command and Control of Joint Air Operations*, II-2.

12. Ibid., II-17.
13. Ibid.
14. Marine Corps Warfighting Publication (MCWP) 3-42.1, *Unmanned Aerial Vehicle Operations*, 14 August 2003, 2-2, <http://www.marines.mil/Portals/59/Publications/MCWP%203-42.1%20Unmanned%20Aerial%20Vehicle%20Operations.pdf>.
15. JP 3-30, *Command and Control of Joint Air Operations*, II-16.
16. Ibid., III-27.
17. Anthony C. Bolden, Lt Col George J. David, and Brian R. Mahoney, "Airborne ISR: A New Way to Command and Control Organic Assets," *Marine Corps Gazette* issue 95, no. 8 (August 2011): 45–48.
18. Ibid., 46, 47.
19. MCWP 3-42.1, *Unmanned Aerial Vehicle Operations*, 2-2.
20. Ibid.
21. Bolden, David, and Mahoney, "Airborne ISR," 47.
22. David A. Deptula and James R. Marrs, "Global Distributed ISR Operations: The Changing Face of Warfare," *Joint Force Quarterly* 54 (3rd Quarter 2009): 113.
23. Capt Kevin Pratte, "Sensor Packaging—Making the Most of NTISR," *Air Land and Sea Bulletin* issue 2007-03 (September 2007): 13.
24. Lt Cdr Ville Vanska, "JOINT Operations in Finnish Operational Art" (predoctoral thesis, Finnish National Defense University, 2011), 2.
25. Translated from Kenttäohjesääntö, Yleinen osa, *Puolustusjärjestelmän Toiminnan Perusteet* (Helsinki: Suunnitteluosasto, Pääesikunta, Edita Prima Oy, 2008), 73, 95. [Field Manual, General Part, *Basic Structure of the Defense System*, J-5 Defence Command.]
26. Col Pasi Kesseli, "Use of Common Capabilities in the Winter and Continuation War" (lecture presented at the Finnish National Defense University, 5 November 2012).
27. Kenttäohjesääntö, Yleinen osa, *Puolustusjärjestelmän Toiminnan Perusteet*, 31.
28. Ibid., 109.
29. Ibid., 29–32, 35–36, 38.
30. Vanska, "JOINT Operations," 16.
31. Ibid., 72.
32. Paul Boyce, "Air Force, Army Leaders Discuss New UAS Concept of Operations," US Army, 2 July 2008, http://www.army.mil/article/10570/Air_Force__Army_leaders_discuss_new_UAS_concept_of_operations/.
33. See JP 3-30, *Command and Control of Joint Air Operations*, III-32 through III-34.
34. Mr. Anthony Parlati (formerly of the Air Combat Command Predator/Reaper Operations Branch), telephone interview by Lt Col Matt Martin, 30 May 2013.
35. Ian Brzezinski, "Lesson from Libya: NATO Alliance Remains Relevant," *National Defense Magazine*, November 2011, <http://www.nationaldefensemagazine.org/archive/2011/November/Pages/LessonFromLibyaNATOAllianceRemainsRelevant.aspx>.
36. Lt Gen Ralph Jodice, Skype interview by Lt Col Matt Martin, 29 May 2013.
37. See USAF Air Combat Command and USA Training and Doctrine Command, "The Army–Air Force Multi-Role, Theater-Capable, UAS Enabling Concept," USAF Air Combat Command and USA Training and Doctrine Command, 2008.
38. Based on the authors' experience.



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