2

Keeping the Edge in Joint Operations

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In the last decade, America's military has demonstrated unmatched operational excellence in combat and in numerous demanding peacekeeping and humanitarian operations, from the stunning victory in the Gulf and the challenging peace enforcement missions so expertly executed in places such as Bosnia and Haiti, to air operations in the sky over Serbia, where we flew some 37,000 sorties and lost only two aircraft and not a single pilot. This chapter is about the steps that we should take to continue this operational excellence well into the twenty-first century. The chapter begins with some observations concerning the key strengths that have facilitated operational excellence to date, then highlights several potential shortfalls that, if not corrected, will undermine future operational effectiveness.

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The views expressed in this chapter are those of the authors and do not reflect the official policy or position of the U.S. government or the Department of Defense.

The post–Cold War period has put the spotlight on peacekeeping and humanitarian operations. Such missions will almost certainly continue to occupy our military in the years ahead, although perhaps less frequently. But we should be careful not to reduce our fighting excellence by our efforts to increase our peacekeeping expertise. America's armed forces must continue to exist first and foremost to fight and win our nation's wars, even as we equip and train them for operations other than war.

While the exact nature and locations of future threats are unknown, it is certain that crises requiring military involvement will nearly all be far from our shores, and thus that power projection will continue to be the fundamental strategic concept of our future force. Properly sized and fully ready strategic air and sea lift will therefore be key to our ability to respond. Efforts to make our combat forces more strategically agile, and the footprint of our support forces and logistics considerably smaller, will yield large dividends.

Strengths to Preserve

Maintaining the U.S. fighting edge requires not only that we address our shortcomings, but also that we understand and preserve those strengths that have been a foundation of our operational excellence: high-quality people, demanding combat training and leader development, integration of cutting-edge technologies into the force, and the advances in "jointness" made possible by the reforms of the Defense Reorganization Act of 1986.[1]

1. The 1986 Defense Reorganization Act is more commonly known as the Goldwater-Nichols Act in honor of Senator Barry Goldwater and Representative William Nichols, the chairmen of the Senate and House Armed Services Committees. This act culminated a four-year effort begun by Chairman of the Joint Chiefs of Staff, General David Jones, and resulted in the most significant changes to the joint system since the National Security Act of 1947 established the Department of Defense. This act "greatly enhanced the authority of the Chairman, established the position of the Vice Chairman, bestowed wide new powers on the CINCs, and provided for actions and procedures to increase the prestige and rewards for joint duty in an attempt to improve the functioning of the joint system and the quality of joint military advice." Ronald H. Cole, et al., *The Chairmanship of the Joint Chiefs of Staff* (Washington, D.C.: Joint Chiefs of Staff, Joint History Office, 1995). For the text of the act itself see *Goldwater-Nichols Department of Defense*

PEOPLE

It is beyond argument that the foundation of U.S. military excellence has been the high quality of the people we have been able to recruit and retain. Thus, high-quality people must remain our highest priority, and under no circumstances should we lower our recruiting and retention standards just to "make the numbers." (For more on these issues, see Chapter 8 by David Chu and John White.) We must provide fully sufficient resources for the most promising recruiting programs, and take those steps necessary to retain the best and the brightest. Fortunately, after a few bleak years, there are signs that recently instituted programs are paying off and that all services will be likely to make their FY 2000 recruiting goals. But if in the end these steps still fail to keep the ranks filled, then we must be prepared to make the tough decision to reduce our force size further, rather than fill our ranks with lower-quality people. Reduction in the quality of people would only result in a second-rate military.

COMBAT TRAINING AND LEADER DEVELOPMENT

U.S. forces have enjoyed an enormous operational advantage as a result of demanding unit and leader training, capped by the tough combat-like experience they undergo in fully-instrumented combat training centers where units are pitted against professional opposing forces under the watchful eye of expert evaluators. But there are unmistakable signs that here the edge is wearing off. High operations tempo and funding constraints mean that units are not able to visit these centers as often as they used to; when they do go, their preparatory home-station training is frequently not what it should be. On occasion, material shortages and funding constraints have reduced the amount of training that crews are able to conduct, particularly with precision-guided munitions. In addition, we have not modernized our major training centers adequately and, as a result, their ability to conduct realistic state-of-the-art training has deteriorated. While there is consensus that we need to modernize our training infrastructure and capabilities, these tend to be sacrificed to pay other bills at budget crunch time. If we are to remain the world's

Reorganization Act of 1986, Statutes at Large 100 (1986). For an interesting retrospective analysis of the impact of Goldwater-Nichols, see Dennis J. Quinn, ed., *The Goldwater-Nichols DOD Reorganization Act: A Ten Year Retrospective* (Washington, D.C. : National Defense University Press, 1999).

best military, unit and leader combat proficiency must not continue to be treated as "bill payers."

CUTTING-EDGE TECHNOLOGY

Today, the United States is the leader in integrating the latest information-age technologies into our weapons platforms and systems (as Chapter 3 by Victor DeMarines details). This has given us unmatched battle-space awareness and an equally unmatched ability to gather, analyze, and distribute vast amounts of information to nearly everyone on the battlefield who might need it. We can strike from great distances day and night, in almost any weather, with far greater precision than was thought possible even during DESERT STORM. We have developed the world's most advanced stealth technologies that allow certain systems to operate virtually undetected in enemy-controlled space. These capabilities, now known as the Revolution in Military Affairs, or "RMA," have put us far and above any other military in the world.[2] But because many these technologies are increasingly available from commercial sources worldwide, we will keep this advantage only if, as Ashton Carter explains in Chapter 6, we manage to be faster and more imaginative in integrating these rapidly advancing technologies into our systems than any potential adversary.

JOINTNESS

Almost without exception, those who fought in DESERT STORM, and those who have watched over our military ever since, point to the changes brought about by the Goldwater-Nichols Act as the foundation of our current operational excellence. While each of our four military services has a proud heritage of operational excellence, our ability to achieve powerful synergies by combining the capabilities of the services in the heat of battle has in the past been due more to the personal relationships and ingenuity of commanders in the field than

2. The Revolution in Military Affairs is so called because of the fundamental changes in the nature of warfare made possible through a combination of new technologies, doctrinal innovations, and organizational adaptations. A concise and excellent discussion of the current RMA appears in James R. Fitzsimonds and Jan M. Van Tol, "Revolutions in Military Affairs," *Joint Forces Quarterly*, No. 4 (Spring 1994), pp. 24–31. Jane E. Gibish has compiled a thorough bibliography on the topic of RMAs, available from the Army War College library web site: <carlisle-www.army.mil/library/bibs/rma.htm>.

design. The failed hostage rescue attempt in Iran in 1980, and lessons learned during the rescue of American medical students in Grenada in 1983, underscored the need for more joint coordination among the services in all areas, from combat operations to doctrine to acquisition of new equipment. The most important contributions of Goldwater-Nichols have been to strengthen the ability of the Chairman of the Joint Chiefs of Staff to provide straightforward, undiluted military advice; to give the unified commanders the necessary authority over military forces assigned to them; and to set up officer assignment procedures to ensure that high-quality, properly trained officers are assigned to joint positions and that they remain there for an adequate length of time. There are those who would reverse these hard-won gains, arguing that jointness has gone too far, but to allow this to happen under the guise of fine-tuning Goldwater-Nichols would be a huge step backwards. To maintain positive momentum begun with Goldwater-Nichols, we should ensure that the United States Joint Forces Command (USJFCOM), formed in 1999 by redesignating the United States Atlantic Command (USACOM), has adequate resources and the senior-level support it needs to carry out its mandate.[3]

As we move forward, we should do so in accordance with our roadmap to the future. *Joint Vision 2020*, endorsed by the Secretary of Defense, the Joint Chiefs, and the unified commanders, lays out broadly the kind of human talent — the professional, well-trained, and ready force — and the operational capabilities that will be required for the joint force to succeed across the full range of military operations in 2020 and beyond.[4]

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3. During the October 7, 1999, JFCOM "Stand-Up" ceremony, Secretary of Defense William S. Cohen charged JFCOM to "embrace your new mission to prepare for the future: To spell out the doctrine and refine the tactics that are going to guide and unite an increasingly joint warfighting force; to shape and educate and train so we will prepare the Total Force for this new art of warfare; to style and sustain the weapons and systems of the future; and to support domestic agencies in the event of an attack on American soil." Entire speech available at <www.defenselink.mil/speeches/1999/s19991007-secdef.html>.

4. U.S. Joint Chiefs of Staff, *Joint Vision 2020* (Washington, D.C.: U.S. Joint Chiefs of Staff, June 2000), available at <www.dtic.mil/jv2020>. This strategic blueprint is intended to guide the services and CINCs in developing future warfighting concepts and capabilities. It is an updated version of *Joint*

There are, of course, a variety of shortcomings that significantly affect our operational capabilities, both now and in the future. A number of these are topics of discussion in other chapters of this book, including intelligence, command and control, information warfare, countering asymmetric threats, and improving our ability to operate with allies.[5] However, improvements in the areas of readiness, the joint requirements process, and joint logistics will lay the foundation for maintaining our fighting edge and remaining the dominant military well into the future. These critical areas are the focus of the remainder of this chapter.

IMPROVING READINESS

Over the last few years, our services have experienced a nagging downward trend in people and equipment readiness. This trend is the result of a combination of factors: a decade-long downsizing, defense budget reductions, and a fairly high number of overseas operational deployments, both large and small. These, in turn, have produced frequent periods away from home and considerable unpredictability in the lives of our service members and, as most of them are married, their families. Fortunately, the FY 2000 and FY 2001 defense budgets halted and, in fact, slightly reversed the years of defense budget reductions. This made possible the funding of a number of important programs that promise to help correct some of these readiness problems. But it would be a serious mistake to assume that we have put our readiness problems behind us.

First, readiness has a number of components: personnel readiness, training readiness, and equipment readiness, each having two or more parts and each part confronting the Defense Department with unique challenges. Historically, our assessments of "readiness" have focused on how prepared units and individuals would be to execute

Vision 2010 (published in 1996), which focused on four operational concepts: dominant maneuver, precision engagement, full-dimensional protection, and focused logistics. To ensure success within these operational concepts, *JV 2020* emphasizes three critical factors: interoperability, innovation, and decision superiority.

5. See Chapter 4 by Robert Hermann on intelligence; Chapter 3 by Victor DeMarines on information warfare; Chapter 5 by Ashton B. Carter and William J. Perry on asymmetric threats; and Chapter 9 on managing relations with allies by Elizabeth Sherwood-Randall.

their missions if we had to go to war tomorrow. Many of the elements that contribute to this, such as training and spare parts, receive funding from operations and maintenance (O&M) accounts; consequently, O&M accounts have traditionally been thought of as readiness accounts.

Lately, however, we have also focused on two other kinds of readiness. "Joint" readiness is the unified commander's ability to execute his or her assigned war plans, given the resources that have been made available and the shortcomings as he or she sees them. "Future" readiness addresses those steps we must take today to ensure that we remain ready in the future, and thus concerns research and development (R&D) and modernization.

Maintaining a high state of readiness, however, does not mean that all units in the force could go to war tomorrow. The services have always had one form or another of "tiered" readiness. For example, in the Army, the XVIIIth Airborne Corps is expected to be able to go to war far more quickly than an Army National Guard division. "First to fight" units receive a higher priority for equipment and personnel than do units that are designated as later deployers. The Navy and Marine Corps have an elaborate cyclical program for the readiness of their carrier battle groups and their Marine expeditionary units, based largely on the demands of peacetime global presence deployments. The Air Force is moving toward a similar approach with its newly established Air Expeditionary Forces. The point is that all units, as a matter of course, go through planned phases when they are more ready or less ready. The challenge is for each service to refine these "tiered" readiness procedures to ensure that the force is as ready as necessary, at a manageable cost.

PERSONNEL CHALLENGES

The number one contributor to readiness is the recruitment and retention of high-quality people. This has become a significant challenge because our sustained, robust economy offers young people enormous opportunities in the civilian sector. Demographic trends also mean a shrinking pool of candidates, at least in the near term. A reduced propensity to enlist further squeezes recruiting, arising in part because fewer and fewer families have a military tradition, and in part because of the absence of a clearly visible threat. The problem is particularly acute in those areas where the services

compete directly for people with the high-technology skills critical to today's high-tech military. The high operations tempo brought about by frequent overseas operational deployments further exacerbates the retention problem, but it would be a mistake to assume that reducing operational deployments alone would cure our personnel readiness problems: in fact, some of the highest retention rates are among personnel who have participated in various operational missions.

For now, what is required is a commitment to provide full resources for the most promising recruiting programs, and to sustain those programs that have proven to add significantly to the retention of high-quality people: programs such as adequate pay and retirement benefits, assured quality healthcare for service members and their families, decent housing and affordable childcare and, perhaps most of all, a challenging job with a fair opportunity for advancement and the feeling of belonging to the best military in the world. But in the end, we must recognize that we cannot forever treat these rising personnel costs as inevitable bills to be paid; rather, like the private sector, we must learn to treat them as costs to be managed.

INCREASED O&M SPENDING AND AGING EQUIPMENT

A significant funding dilemma facing the Defense Department is that although readiness spending, or O&M spending, continues to increase, we are not really buying increased readiness as a result. One reason is that aging equipment requires increasing amounts of money to maintain in combat-ready condition. Another factor is that O&M accounts are vulnerable targets for the payment of big new bills such as environmental clean-up, increased pay, and retirement and health care costs. Yet these issues are not readily apparent when simply looking at funding streams: the reality is that O&M spending is increasing in real terms at a rate of 1–3 percent a year. In FY 2001 it is about $110 billion, and our O&M spending per service member has never been higher.[6]

Next to its troubles of recruiting and retaining top-quality people, the greatest readiness challenge facing the Defense Department is the rapidly increasing cost of maintaining aging equipment. While some

6. Budget data are from DOD National Budget Estimates for FY 2001, <www.dtic.mil/comptroller/fy2001budget/fy2001grbk.pdf>.

modernization was accomplished in the 1990s, the bulk of modernization had already taken place in the 1980s, and much of that equipment is now in need of upgrading or replacement. This is especially a problem in the fixed-wing and rotary-wing aviation fleet. The dilemma is that the Defense Department has to devote increased resources to addressing the problems that affect aging equipment: parts break that did not often break before, others now break more frequently, the service life of platforms reaching the end of their design life must be extended, and the like. Yet every dollar that goes toward maintaining old equipment is a dollar that cannot be spent on replacing it with new equipment; it only postpones the inevitable day when it will have to be replaced. The answer is obvious but very painful. Unless more money is put into modernization and acquisition accounts — more than the $60 billion per year now planned for — and we start replacing aging equipment faster, the cost of material readiness will keep increasing, but material readiness will continue to decline. Perhaps additional acquisition and modernization funds can be freed up through the means described as the Revolution in Business Affairs (discussed in Chapter 7). But if not, then sustained increases to the services' modernization and acquisition accounts will have to be made by the new administration and the Congress.

Other aspects to readiness also require attention. Peacekeeping and humanitarian operations place a disproportionate demand on some "low-density" specialties (those we do not have in great numbers). This is particularly true of EA-6B electronic warfare aircraft, Airborne Warning and Control System (AWACS) aircraft, Joint Surveillance Target Attack Radar System (JSTARS) aircraft, U-2 high-altitude reconnaissance and surveillance aircraft, and the Army's Civil Affairs and Psychological Operations units. All are experiencing very high deployment rates, and as a result, excessive personnel turbulence is undermining crew cohesion and proficiency. Other factors adversely affecting readiness are significant reductions in spare parts inventories without a simultaneous increase in assured spare part deliveries, a shrinking pool of vendors who can rebuild or replace aging parts when they break, and a reduction in the Defense Department's skilled military and civilian labor force. All of these factors contribute to a downward trend in material readiness.

Today the services, the Joint Staff, and the Department of Defense all collect unprecedented volumes of data on everything from unit

and personnel readiness and training readiness to material readiness and joint readiness. The Defense Department provides Congress with quarterly readiness reports that, with classified annexes, run to almost 500 pages. Yet all of this data falls short: what we need is a new system that allows for better assessment of readiness and a vastly increased ability to forecast readiness problems long before they occur, so that early preventive actions can be taken. A major effort to change the readiness reporting system along these lines would be a welcome development. But most crucial is the need to recruit and retain high-quality people and replace aging equipment.

RECOMMENDATIONS — READINESS

For now, the Department and the new President should put highest priority on funding and sustaining the more successful recruiting and retention programs. We should also put much more emphasis on managing personnel readiness by, for instance, reducing disincentives to retention as much as we can. Among those most often cited are broken promises about lifetime medical care and a fair retirement system, and frequent, short-notice relocations and repetitive operational deployments, which are particularly hard on families, and thus a major influence on whether a service member stays or leaves.

To arrest and reverse the rising cost of material readiness caused by aging equipment, the administration and Congress must provide sustained increases to the services' modernization and acquisition accounts.

WHAT ELSE NEEDS FIXING

Increasing funding for modernization, while a necessary condition for future readiness, is not alone sufficient for the task. Shortcomings in military modernization can result not only from inadequate funding, but also from inefficient business practices or a faulty requirement process. Shortfalls in annual funding can force delays or cancellation of some programs: even well-managed programs that meet valid military requirements may fall to the budget axe when services have to balance the books. Incremental reductions in modernization programs can be just as bad: program restructuring may reduce or extend production to the point that key programs become unaffordable. Likewise, inefficient business practices and overly burdensome acquisition regulations can be roadblocks to acquisition of

much needed military capabilities. (In the latter area, the Department of Defense has already made significant gains, reducing reliance on military specifications and adopting commercial practices where feasible; Chapter 7 offers further suggestions for improving the Defense Department's business practices.)

However, neither funding increases nor improvements in business practices can adequately compensate for requirements problems such as lack of interoperability, or more fundamental disconnects between the concepts of operations for related systems fielded by different services. Thus, the key for maintaining the fighting edge in the future is reforming the requirements process so that it better encourages innovation and leads to the best possible equipment for employment by a joint force commander.

Logistics, the other major issue in this chapter, is equally critical for future operational capabilities. Many would consider America's world leadership in strategic transportation and in common and service logistics to be proof that the system needs no structural changes. The corollary to this view looks to new technology to provide all that is needed to improve logistics for the twenty-first century. Emerging information technologies will undoubtedly transform logistics, but the real question is whether we should anticipate this transformation and make logistic organization changes up front, or whether we should allow these technologies to mature within the confines of the existing mix of service, defense agency, and commander-in-chief (CINC) logistic organizations. This chapter argues that in order to provide more responsive support to regional CINCs and to capture the efficiencies and savings that additional centralization would bring, it is time to push change, even if that creates temporary tensions and raises opposition that others would rather avoid.

Improving the Military Requirements Process

Prior to World War II, the Army and Navy were completely separate organizations, each represented by a cabinet-level secretary. Each service received its own budget and procured its own equipment. Following World War II, the Secretary of Defense occupied the single defense post in the cabinet, presiding over the Departments of the Army, the Navy, and the newly created Air Force. With a small staff,

the Secretary had the task of integrating and prioritizing the efforts of the three military departments; however, the tasks of generating requirements, budgeting for, and fielding new equipment remained with the individual services. During the 1960s, Secretary of Defense Robert McNamara instilled business discipline in the Pentagon's budget process by establishing the Planning, Programming, and Budgeting System (PPBS) to link spending better to strategy. Yet the initiative to start new programs remained with the services. Secretary McNamara's attempt to compel the Air Force and Navy to acquire a common fighter broke down when divergent requirements caused the Navy to withdraw from what ultimately became the Air Force's F-111.

The services maintained the initiative if for no other reason than that they retained most of the expertise for analyzing their respective requirements for what they needed in order to dominate their mediums of warfare. As discussed previously, however, the Goldwater-Nichols legislation initiated sweeping changes that elevated the role of the Chairman of the Joint Chiefs of Staff, and bolstered the support available from the Joint Staff. Since then, the individual service requirement proposals have come under increased scrutiny as CINCs, the Joint Staff, and the Office of the Secretary of Defense (OSD) have pushed for greater interoperability of new systems and better definition of joint concepts of operations.

This section argues that the Chairman should provide more detailed guidance to the services earlier in the requirements process by setting joint interoperability standards and shaping service initiatives, thus laying a foundation for future trade-off decisions both within and across service boundaries. To provide the best possible guidance to the services, the Chairman will benefit from CINC inputs, robust joint experimentation, and rigorous analysis. The Joint Staff has already taken steps down this path, which are to be applauded, but the bar should be set even higher. While some may dismiss this as "not bold," or an endorsement of the status quo, they should look at the progress that has already been made, and recognize that more radical alternatives — such as stripping the requirements functions out of the services, or even abandoning a requirements-based process altogether — are flawed, and risk breaking the force.

UNDERSTANDING THE REQUIREMENTS PROCESS

The requirements process should accomplish several key functions. First, it should generate and validate new requirements in order to address deficiencies in capability, replace or upgrade aging systems, or take advantage of emerging technologies. More often than not, ideas for new military systems come from the individual services, sparked by expertise in their respective competencies. Other organizations are also beginning to play an increasingly prominent role: defense agencies, especially those with combat support roles, propose requirements in areas such as logistics, intelligence, communications, and missile defense. Occasionally, the staffs of the Secretary of Defense and the Chairman of the Joint Chiefs of Staff, responding to inputs from the unified commanders and exercising their own top-down perspectives, identify requirements that may not fall within the unique core competencies of any particular service. In the future, JFCOM's joint experimentation efforts should also generate new requirements.

New major system proposals require Joint Requirements Oversight Council (JROC) validation prior to becoming actual programs. The Chairman of the Joint Chiefs of Staff is the chairman of the JROC, but has delegated its daily operations to the Vice-Chairman of the Joint Chiefs of Staff, the only person to whom the law allows the Chairman thus to delegate. The Vice Chiefs of the four services represent their Chiefs on the JROC. A common misconception is that these senior officers vote on proposals; in fact, no voting *per se* takes place during JROC deliberations. Decisions are usually the result of consensus reached during debate. A lack of consensus by the JROC members on an issue would be referred to the Chairman of the JCS for resolution. Thus, in much the same manner as with a corporate board, the rigor of JROC decisions partially depends on the individual characteristics of the JROC participants.

Initial JROC validation has historically been rather perfunctory following its original charter as a "clearinghouse" for service ideas. From the beginning, the JROC lacked the objective and rigorous analytical capabilities needed to show compelling cause for canceling a program over the objection of the sponsoring service and any associated political supporters. Recent years have witnessed significant efforts to address these shortcomings. The formation of the Joint Warfighting Capabilities Assessment (JWCA) teams in 1994 provided

"analytically based insights designed to stimulate and inform discussions among the four-star JROC members."[7] The Chairman's recent direction to the JROC to make more decisions "up front" by guiding services toward the technology investments and system purchases that will achieve the highest payoff in terms of future joint warfighting capabilities is an especially significant step, but this will require much more rigorous joint analysis, testing, and experimentation during early program development.

A second key function of the requirement process is to apply a joint force commander's perspective to individual service initiatives, to assess how these capabilities might integrate with other service capabilities where applicable. This integration function requires a common joint vision of future warfighting. Integration also requires development of detailed overarching joint architectures — such as combat identification or the emerging global information grid — to provide sufficient up-front guidance to services and agencies to use when developing individual systems. Until recently, development of such detailed architectures has lagged behind development of individual systems. The services and agencies have frequently established their own unique architectures optimized for only their particular needs, with a resultant lack of Joint architecture and dysfunctional inter-service operation. As a result, integration frequently did not occur until joint exercises or actual operations. By then, seamless interoperability was vastly more difficult due to limitations of hardware, software, doctrine, and budget, to name just a few. This reactive integration could and should be avoided whenever possible and highlights why CINCJFCOM, as the "futures" CINC, should be intimately and proactively involved in the requirements process.

The Joint Staff is working to improve the timelines and detail of the overarching architectures that guide development of individual systems. One such example is the establishment of "capstone" requirements that detail interoperability guidelines for related families of systems and capabilities.[8] Additionally, increasing use of so-called

7. William A. Owens and James R. Blaker, "Overseeing Cross-Service Trade Offs," *Joint Force Quarterly*, Autumn 1996, p. 38.

8. Capstone requirements define standards — such as radio frequencies, fuel specifications, or software language — to ensure compatibility and interoperability for families of systems or "systems of systems." A Capstone

"knowledge management tools" helps capture and chronicle discussions and previous decisions, to create a transparent database to improve lateral coordination among services and agencies.

The third and final critical function of the requirements process is to help eliminate wasteful duplication and facilitate intelligent budget-driven trade-off decisions. Yet "wasteful duplication" is often in the eye of the beholder: what is to one person wasteful duplication is to another a hedge against uncertainty. The military, when preparing for an uncertain future, prudently adopts a natural bias toward the latter perspective. Except in cases of excessive technological risk or program mismanagement, program cancellation results primarily from budget-imposed restrictions that force difficult choices between very capable programs.

CHALLENGES FOR THE REQUIREMENTS PROCESS

Competition among the four services often sparks innovation, but it can also lead to a counterproductive competition for resources. That said, not all competition for resources is destructive. When it involves presenting the Secretary of Defense with several alternative capabilities from which to choose, such competition is very healthy. However, when it involves battles fought in the press or in the halls of Congress to circumvent decisions by the Secretary of Defense, it becomes very corrosive and counterproductive for the military as a whole.

While the Secretary of Defense has the undeniable authority to direct — or deny — service acquisition of equipment, or procurement of other goods and services, in practice the services exercise a great deal of autonomy. Certainly, services would have a great deal of difficulty fielding a new system without the approval of the Secretary of Defense, but they can and do find subtle ways to generate strong political support for their favored systems, and to derail top-down directed programs they do not favor. Furthermore, when facing funding shortfalls, services tend to give priority to features that sup-

Requirements Document (CRD) provides overarching guidance to the subordinate Operational Requirement Documents (ORDs) of individual programs. This was in response to criticism in DOD's Section 912C Report to Congress: "ORDs tend to be system specific and do not address interoperability within the same joint mission area." Department of Defense, Section 912C Requirements and Acquisition Study Working Group, *Section 912C Report: Requirements and Acquisition*, June 1999, p. ES-3.

port their individual operational concepts, over features that enhance support for other services or the joint force commander. Efforts to overcome incompatibilities in system or network design often come too late in the development process to be effective: even the best joint doctrine has difficulty overcoming the barriers of incompatible radios or data-link protocols. These integration efforts must begin prior to program validation, with the result that each proposal for a new program start should contain appropriate integration and interoperability details to show clearly how the system will interact within a joint family of related systems. Some systems may be service-specific and require little of this sort of information, but these will probably be the exception. Thus, as recognized by the Chairman of the JCS in April 2000 when he shifted the JROC's emphasis, a need exists to better shape inputs to the requirements process, rather than trying to cobble together the outputs.[9]

But achieving the next level of jointness requires more than simply making sure individual systems can work together; it requires a new approach to identify, develop, and advocate "inherently joint requirements." Many requirements typically provide an integrating or multi-service support function for the unified commander, and as such often do not compete well in the internal budget-priority decisions of the individual services. These types of capabilities usually benefit many customers, and may not fall neatly into the core competency of a single service, or may cross those of several services. Examples include command and control, theater air and missile defense, combat identification, and logistics.

The lack of rigorous advocacy for such inherently joint programs has allowed joint warfighting influence to lag behind service operational concepts. Greater advocacy for inherently joint capabilities requires more rigorous analytic assessments to provide insights into future requirements. The intellectual capital of Joint Staff and OSD analysis teams provides a good foundation that can provide a context for service initiatives. Yet traditional analytical tools have been unable to produce accurate forecasts of interactions and synergies of

9. As reported in Frank Wolfe, "Myers: Pentagon Needs JROC Influence Up Front," *Defense Daily*, April 5, 2000, p. 7.

"system of systems" or "effects-based targeting."[10] The Defense Science Board's recommendation that the Defense Department should acquire a greater capacity for systems architecture and systems engineering, in order to develop and field "born joint" capabilities, is thus right on the mark.[11]

The final challenge for the requirements process is the perceived lack of opportunity for CINCs to shape future warfighting requirements. The inherent difficulty in capturing CINC requirements is that each CINC's theater or functional area is different, leading to a unique set of priorities for each unified command. Thus, some theater-specific inputs are buried within the integrated priority list and do not receive the joint advocacy needed to compete well with other service-initiated programs. Compounding this is the difficulty CINCs currently have in seeing cost trade-offs between various requirements. While in theory CINCs have multiple opportunities to make inputs that drive future warfighting requirements, their short-term opportunity horizon and lack of staffs and resources for substantial requirement analysis effectively limit their influence. What is needed is a unified voice to help broker CINC initiatives, with an eye on future joint concepts and current budget constraints.

THE SEARCH FOR SOLUTIONS

The appropriate balance between a decentralized, service-dominated approach to generating requirements that favors innovation, and a centralized approach to integrating their respective efforts, will continue to be a topic of considerable debate. The penalties for shifting the balance too far in either direction are severe. The defense budget simply will not support all the initiatives advocated by each of the four services, and the nation benefits by ensuring that the forces of the four services can train and fight together effectively. While some degree of centralized direction to integrate the forces of each service is thus necessary, over-centralization of decision-making for invest-

10. See for example Booz-Allen and Hamilton, "Measuring the Effects of Network-Centric Warfare," Volume I prepared for Office of Secretary of Defense Net Assessment, April 28, 1999.

11. Department of Defense, *Defense Science Board Report on Warfighting Transformation* (Washington, D.C.: Office for the Under Secretary of Defense for Acquisition and Technology, September 1999), p. 25.

ments and operations, while producing process efficiencies on paper, risks the consequences of being wrong.

The JROC plays a central role in brokering the right balance between various service and CINC perceptions of requirements. High-quality data analysis and experimentation will be critical to maintaining this balance and garnering support from all participants in the process, including Congress. The recent charter for JFCOM as the Chairman's agent for joint experimentation provides cause for optimism.[12] With sufficient resources, JFCOM offers an unprecedented opportunity to develop synergistic concepts for cross-service battlefield operations and support. For example, while the Kosovo campaign demonstrated the utility of an air-heavy task force for some scenarios, it did not fit the traditional doctrine of having Army forces deployed in force to put pressure on hostile ground forces. Thus, attachment of an Army helicopter unit to an Air Force air expeditionary force to form a joint expeditionary force would make an excellent joint experiment. Joint experimentation can also address the thorny issues of eliminating wasteful duplication among overlapping service programs and making tough choices between complementary systems to meet the budgetary bottom line. Participation by the services is crucial to successful joint warfighting experimentation, not only to obtain their buy-in, but also — more importantly — to capitalize on their energy and resources. Joint experimentation that does not involve the services in a significant way risks becoming just one more "stovepipe."

Despite the promise of active JROC involvement, detailed overarching architectures, and joint experimentation, there are some who question whether the use of requirements *per se* is the best approach. Those who criticize the basic premise of a requirements-based approach point out the difficulties of a process that allows initial development of ideas and concepts in what they consider a budget-unconstrained environment, and later tries to fit the resulting programs within a budget. This criticism targets programs in which costs steadily increase to meet what are perceived as excessively rigid performance requirements. In actuality, implicit budget considerations

12. Sections 922 and 923 of the National Defense Authorization Act of 1999 detail a "sense of Congress" calling for joint warfighting experimentation and specify requirements in Section 485 of Title X of the U.S. Code.

do permeate the requirements process in practice, from use of "cost as an independent variable" in initial requirement proposals, to senior JROC deliberations that look for creative alternatives to accomplish a given mission rather than simply looking to replace specific systems. But there is room for improvement. While cost and profit-driven business models may not fully account for the unusual demands of combat or contingency operations, they can help articulate military requirements in a way that provides appropriate performance incentives for industry. (See the discussion of value-based acquisition in Chapter 7.) The bottom line is that a requirements-based system is compatible with flexible budget and technology trades. More importantly, the requirements process provides a key framework for checks and balances between the military's role in determining capability needs and civilian leaders' responsibility to weigh risks associated with funding shortfalls. The warfighter and taxpayer are both served by an ongoing dialogue between those who establish requirements and those who plan, program, budget, and develop specific capabilities to meet performance standards.

Others propose centralizing management of all military requirements in a joint organization, stripping out all other requirements bodies from the services and consolidating their analytic resources in a new joint requirements staff.[13] While this could reduce redundancy and streamline the process, it would also stifle innovation, both in system design and operational concepts. This would essentially be a large step toward unification of the services, and deprive joint force commanders of the flexibility and strength that flow from individual service competencies.

The desire to give CINCs a greater voice in the determination of future requirements has led to the suggestion to have the CINCs determine the requirements for the services to execute: in essence, the CINCs would become the JROC. Yet this suggestion would, even in an age of global telecommunications, seriously undermine a CINC's ability to carry out daily responsibilities within his or her area of responsibility. Moreover, CINCs' needs are too diverse to expect that, as a group, they would do any better than the Service Vice Chiefs in

13. William A. Owens, "Making the Joint Journey," *Joint Forces Quarterly*, Spring 1999.

making decisions. A related alternative to provide CINCs a greater voice would be to create additional Major Force Programs, such as for space, information, or logistics. Yet this would build additional "stovepipes" at a time when the need is to better integrate service, CINC, and defense agency efforts.

A call for balance is by no means an endorsement of the status quo: vigorous implementation of evolutionary changes to the military requirements process is essential as the U.S. military transforms itself to meet national security requirements in the twenty-first century. Recently, the Joint Staff has recognized that it must go beyond simply validating service requirement "outputs" by taking a much more active role in shaping "inputs." Yet ensuring a significant step forward will require a formalized process, beginning with guidance from the Chairman, supported by CINCJFCOM in his role as the "futures CINC." This guidance should not only address standards to ensure compatibility and interoperability of service systems within joint architectures, but also articulate the Chairman's priorities to address shortfalls in warfighting capabilities. The quality of this guidance will depend on rigorous analysis of data from operational lessons, joint experimentation, and advanced modeling and simulation techniques. Making CINCJFCOM the lead action agent for matters of jointness and future capabilities and increasing his participation in the JROC and Defense Acquisition Board (DAB) will appropriately strengthen overall CINC influence in the requirements process.

RECOMMENDATIONS — REQUIREMENTS

First, Congress should require in law that the Chairman submit to the Secretary of Defense, services, CINCs, and defense agencies a force development roadmap to guide development of the requirements that inspire and drive program development. The aim is the coevolution of doctrine, organizations, materiel, training, leader development, personnel, and facilities. This roadmap should provide upfront guidance for requirements integration and overarching joint architectures, including, but not limited to, information operations, intelligence, precision strike, and logistics. This would strengthen the current Capstone approach and lead to more coherent development of overarching joint architectures and earlier, more effective, integration of individual programs. Further, this roadmap should also provide a prioritized listing of capability shortfalls or attributes

needed by the joint force from the perspective of a joint force commander. Such guidance would change the focus: rather than beginning with a statement of service needs, it would place earlier emphasis on joint force commander needs. This would also provide critical input for earlier trade-off decisions.

As Chapter 3 details in its examples of information and communications interoperability, the current process lacks a mechanism to take the initiative in setting and enforcing interoperability standards or other aspects of overarching joint architectures. Better positioning the Chairman to drive trade-off decisions early in program development would lead to more strictly enforced interoperability standards and more appropriate budget priority for inherently joint requirements. (The increased role for the Chairman does not, however, alter the Secretary of Defense's decision authority for service, unified command, and defense agency initiatives.)

Second, the Chairman should establish CINCJFCOM as the lead action agent for matters of jointness and future capabilities, although all unified commands must continue to champion joint requirements. As the lead action agent, CINCJFCOM would support the Chairman in execution of his statutory responsibilities over joint doctrine, training, education, and requirements. CINCJFCOM would assist the Chairman by serving as advocate for the joint force, similar to a service chief's advocacy for his respective service's competencies and capabilities. To this end, he must remain fully cognizant of the views and priorities of the other CINCs. To strengthen CINCJFCOM's credibility and effectiveness as steward of future joint capabilities, Congress should establish the requirement that a prospective CINCJFCOM have previously served successfully as a unified commander or service chief or vice chief. Existing laws should be modified to include CINCJFCOM as a statutory member of the JROC so that he can properly execute his responsibilities as advocate for joint capabilities. For similar reasons, the Secretary of Defense should revise his directives to include CINCJFCOM as a member of the DAB.

The final recommendation is a call to improve the insights gained through rigorous analysis and joint experimentation. A tremendous opportunity exists to leverage emerging technologies to increase DOD's analytical capabilities. Such analytical tools must provide insights more closely linked to future joint operational challenges. If, for example, a theater objective is to deter or compel a certain enemy

course of action, analytical tools must provide insights on the deterrence or compellence value of various alternatives, in addition to more traditional metrics such as blast effects, equipment losses, or casualties. These analytical insights will help identify shortfalls in future joint capabilities, guiding decision-makers in making trade-offs and inspiring proposals for new operational concepts and systems. With sufficient resources, JFCOM's oversight of joint experimentation should provide a level playing field for various service and defense agency proposals, both to test and integrate them and to explore new "born joint" initiatives. Even more than resources, however, JFCOM needs a free hand to pursue a balanced program across the range of near, mid, and far-term experiments. Because we often learn more by analyzing the results of unsuccessful trials and tests, JFCOM needs freedom to conduct experiments that fail.

A New Perspective on Logistics

One cannot talk about maintaining the fighting edge without talking about logistics. Confederate General Nathan Bedford Forrest's often quoted axiom to "Git thar fustest with the mostest" captures the essence of the warfighter's challenge. As we anticipate future scenarios for U.S. forces, getting there first has even greater importance than in Forrest's day. However, more important than the "most" is the *right* amount. Because we are increasingly an expeditionary force, we need to get to the fight as soon as possible, before our adversary can gain its objective and consolidate its gain. The price for getting there late is often a tougher fight and higher casualties. Thus, strategic agility is absolutely essential, and logistics responsiveness is key.

Some may assume our current system is already sufficiently agile, since our ability to supply and sustain operations in remote corners of the world and in the most austere environments is unmatched, and our strategic transportation system is the envy of the world. But that does not mean that it is good enough to meet the demands of tomorrow. Future adversaries, unlike Saddam Hussein, will not give us six months to complete our deployment. Considering that over 50 percent of the weight and cubic volume of deploying forces is support, it

becomes clear that logistics can be one of the greatest impediments to rapid deployment.[14]

At the risk of oversimplifying a very complex issue, one can say that increasing logistic agility and operational effectiveness depends on dramatically reducing the logistic demands of military units and their various combat systems, and transforming the management of logistic resources. Demand reduction comes through acquisition of lighter systems, systems that expend less consumables, and systems that minimize dependence on unique support equipment or supplies. Logistics demand reduction must also include engineering greater reliability, availability, and maintainability parameters into weapons systems, thereby reducing time for overhaul and increasing mean time between failure. Most important of these is reliability. A few dollars focused early in weapons system development on greater deployed reliability pays life-cycle dividends in reduced ownership-cycle cost and a smaller required power projection and force sustainment footprint. Demand reduction begins with individual service acquisition programs. Setting tough standards for size, weight, consumption rates, and other logistics parameters will help reduce demand. Just as important, however, is the need to manage logistic resources dynamically: we need to improve our ability to synchronize logistics support in real time across regional and service boundaries. Enabling this effort are rapid advances in information technology that will undoubtedly have profound impact on current organizations and processes.

This is by no means a revelation to those who follow defense issues: the Department of Defense has already begun a well-orchestrated campaign to transform logistics, including the appointment of a logistics architect, the publication of a defense-wide strategic plan for logistics, and specification of transformation goals and timelines in a Defense Reform Initiative Directive (DRID).[15] This

14. Department of Defense, *Report of the Defense Science Board Task Force on DOD Logistics Transformation,* Vol. II (Washington, D.C.: Office of the Secretary of Defense, September 1998), p. 105.

15. The Department of Defense's Defense Reform Initiative Report (November 1997) provided a "strategic blueprint for business processes in the Department to adapt better business processes, pursue commercial alternatives, consolidate redundant functions, and streamline organizations." To carry out the reforms, DOD issued Defense Reform Initiative Directives (DRIDs) that required re-

emphasis on logistics transformation reflects the strong consensus of DOD leadership in the OSD staff, Joint Staff, services, and CINCs to operationalize and institutionalize the key "Focused Logistics" operational concept of *Joint Vision 2020*. All of the military services have made great strides through recent initiatives to streamline logistics. However, focused logistics will require additional organizational changes to be fully effective.

NEED FOR LOGISTICS TRANSFORMATION

Logistics agility is a key to maintaining our fighting edge. As noted by the Defense Science Board's (DSB) Study on Logistics Transformation, a failure to blend military logistics seamlessly with operations would be a showstopper for the Revolution in Military Affairs, since "an operational ability to plan and fight 'on-the-fly' means little if the movement and sustainment of that operational ability cannot be equally dynamic."[16] Highlighting the growing importance of agile logistics, *Joint Vision 2020* emphasizes logistics as a full partner in the joint warfighting process.

The logistics system inherited from the Cold War — especially the functions of transportation, supply, and distribution — was the most automated, worldwide batch-transaction processing and mass-movement capability in the history of the world. It literally moved "iron mountains," but it certainly was not agile. A predictable threat and a large presence overseas allowed vast amounts of equipment and large stockpiles to be pre-positioned both in the United States and overseas. In the post–Cold War environment, by contrast, when, where, and how the United States will have to fight is much less predictable. But we do know that we will have to be able to go anywhere in the world on short notice and arrive quickly, ready to fight. We can expect a broad range of expeditionary operations that require a global joint-support infrastructure versatile enough to support simultaneous operations in multiple unanticipated locations.

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ports to the Deputy Secretary of Defense on the status of implementation of various initiatives. DOD's defense reform website contains a listing and explanation of all 54 DRIDs at <www.defenselink.mil/dodreform/directives-memorandums/directives/ index.htm>.

16. Report of the Defense Science Board Task Force on DOD Logistics Transformation, Vol. I, pp. v and 3.

The effects of new technologies, concepts, and business practices will reach from the foxhole to the national support base. Key to success will be confidence throughout the ranks that the right part will be at the right place at the right time. Traditionally, forward-deployed stockpiles of supplies and equipment provided this confidence, albeit at a large cost in terms of redundancy, strategic lift, and vulnerability to attack. In contrast, focused logistics involves a shift to a "pull" system. Information technologies coupled with more effective distribution methods will reduce the need for large stockpiles. Technology will also offer vastly improved tools for prediction of needs for fuel, munitions, and parts, and for real-time, automated communication of those requirements to logistic control nodes across an end-to-end supply chain, from factory to foxhole. The reduced size of the in-theater logistics footprint will result in faster deployments, a more survivable support base, and a more agile warfighting force.

Thus, the current logistics transformation is not simply another "do more with less" downsizing drill: it offers quantum improvements in logistics support concepts and capabilities. Ever-increasing bandwidth through multiple modes, means, and channels provides an unprecedented ability to link the front lines to any location on the globe in order to gain access to — and share — a virtually unlimited amount of data in real time. Similarly, interactive web-based logistics will offer huge improvements over the traditional single-transaction-based supply and requisition process. Such live interactive linkages with "customers" and the ability to make real-time flow adjustments will provide the confidence to make a transformed logistics "system of systems" work. Supply and transportation functions will increasingly overlap as new information technologies enable total asset visibility and predictive modeling for inventory management. However, to exploit the advantages of these new technologies, command and control arrangements must evolve by bringing supply, distribution, and transportation under one roof.

PROGRESS ON THE ROAD TO TRANSFORMATION

In its broadest sense, logistics encompasses all aspects of moving and sustaining forces. While every commander takes pride in his ability to take care of his own troops, unit logistics support also depends on a fully functioning logistics "system of systems" with active participation from the services, the unified commands, Defense agencies,

the Chairman and the Joint Staff, and the Secretary of Defense and his staff. Each of these organizations is making significant progress toward focused logistics.

In accordance with their responsibilities under federal law, all services are aggressively pursuing more agile logistics through demand reduction and process improvements. The Army is in transition from a system that relied upon large stockpiles in theater to one dependent on rapid delivery, signified by the term "velocity management," and the new Army vision encompasses a significant Army Logistics Transformation component. The Navy's "High Yield Logistics Strategy" comprises efforts to reduce costs by leveraging technology and reengineering supply processes and regional maintenance. The Marine Corps' "Precision Logistics" aims to enhance distribution and improve logistics command and control. The Air Force's logistics transformation reorients the service to better support expeditionary aerospace operations represented in the Expeditionary Air Force.

Federal law and existing joint doctrine empower CINCs with authoritative direction over all aspects of logistics within their respective areas of responsibility. In crises or other critical situations, CINCs may use all facilities and supplies of all forces assigned to their commands, even directing cross-service support arrangements. But in peacetime, current practice limits the scope of logistic and administrative authority exercised by the CINC.[17] Budget processes further reinforce this distinction between wartime and peacetime. In wartime, funding is normally not an issue, as services would expect supplemental funding. However, in peacetime, reimbursement for cross-service support is problematic. Thus, the budget imposes a practical obstacle that hinders the goal to "train the way we fight." Solving some of these budget issues would facilitate better support across service lines on a daily basis, from peace through contingencies to war.

17. Although Title X of the U.S. Code makes no distinction between a CINC's peacetime and wartime responsibilities for logistics, joint doctrine recognizes the CINC's practical needs in peacetime to coordinate logistic decisions with the parent services of his components. Department of Defense, *Joint Pub. 4.0: Doctrine for Logistic Support of Joint Operations* (Washington, D.C.: Joint Chiefs of Staff, April 2000), provides guidance for dealing with disagreements between the parent services and the CINC.

Providing critical support to regional CINCs is the unified command for transportation, or TRANSCOM. TRANSCOM provides strategic common-user air, land, and sea transportation to deploy, employ, sustain, and redeploy military forces to meet national security objectives across the range of military operations. TRANSCOM's brief history illustrates its significance. TRANSCOM was created in 1987 in response to a recommendation from the Packard Commission to establish transportation "unity of effort" in wartime.[18] Recognizing the impracticality of delaying TRANSCOM-directed operations until commencement of hostilities, the Secretary of Defense in 1992 extended TRANSCOM's responsibilities so that it also oversees its components in peacetime, earning it the label "DOD's single manager for common-user transportation." This improved continuity between peacetime and crisis has allowed TRANSCOM to develop long-term contracts and leases to accomplish its mission; this is a significant advance, since the vast majority of strategic airlift flies under commercial contract.

Also providing key support to regional CINCs, as well as to the services themselves, is the Defense Logistics Agency (DLA). As a combat support agency, DLA provides common supplies and services to forces worldwide, including almost 100 percent of food and other subsistence items, clothing and individual equipment, bulk petroleum products, and medical supplies, and 90 percent of repair parts. Its Defense Distribution Center is DOD's single manager for distribution, storing, and local delivery. DLA also provides reutilization and logistics information management worldwide. Since the early 1990s, the Defense Logistics Agency has reduced inventories by 59 percent, logistics response times by 90 percent, and distribution workload by 20 to 30 percent.[19]

The Chairman of the Joint Chiefs, supported by the Joint Staff, provides a global perspective for logistical support of on-going operations. The Joint Staff prepares joint logistic and mobility plans to support strategic plans, and recommends assignment of logistic and mobility responsibilities to the armed forces in accordance with those

18. Ronald H. Cole, et al., *A History of the Unified Command Plan 1946–1993* (Washington, D.C.: Joint Chiefs of Staff, Joint History Office, February 1995), p. 101.

19. Department of Defense, *Dimensions: The DLA Vision* (Washington, D.C.: Defense Logistics Agency, 1999), p. 36.

logistic and mobility plans. The Chairman and the Joint Staff are actively developing the operational and logistic concepts necessary to maintain dominance against any potential foe in the twenty-first century. Joint doctrine calls for: "Focused logistics ... the fusion of logistics information and transportation technologies for rapid response, deployment, and sustainment, the ability to track and shift units, equipment and supplies even while en route, and delivery of tailored logistics packages and sustainment directly to the warfighter."[20]

DOD also established a Deputy Under Secretary for Logistics to serve as DOD's Logistic Architect to support focused logistics and to ensure integration of logistics transformation at the departmental level. DOD's Logistics Strategic Plan is noteworthy in its scope of effort to modernize logistics systems, cut costs, reduce infrastructure and cycle time, and improve overall support. To implement this plan, DOD issued DRID 54, providing overarching guidance to services and agencies to develop and submit logistic transformation plans. Its intermediate objectives are to accelerate progress in implementing improved customer wait time by FY 2001, adopt a simplified priority system by FY 2002 to provide time-defined delivery driven by the warfighter's required delivery date, achieve accurate total asset visibility through use of automated identification technology and automated information systems by FY 2004, and field a web-based, shared-data environment to provide seamless, interoperable, real-time logistics information for early-deploying forces by FY 2004, and for the remainder of the force by FY 2006.

Each of the preceding requirements is crucial to improved logistics support for the warfighter. Demand reduction will improve deployability, and better information flows will facilitate management and distribution of critically needed parts and supplies. Yet greater visibility of critical parts and supplies will not by itself result in better effectiveness: unit commanders in the dynamic uncertainties of combat would be extremely reluctant to offer up any parts, equipment, or supplies to another unit unless directed to do so. Similarly, supply chain integration and competitive sources offer significant advantages in many scenarios, but do not diminish the need for some measure of centralized control. Commercial vendors contracted to

20. Department of Defense, *Joint Pub 4.0*, App. D, p. D-1.

provide on-site support are subject to many of the same transportation choke points faced by the military, and thus will require prioritization at theater level. That is precisely why joint doctrine calls for a streamlined process for "global as well as theater distribution," and identifies the need for CINCs to "synchronize, prioritize, direct, integrate and coordinate common-user and cross-service logistic functions to accomplish the joint theater mission."[21]

PUTTING THE PIECES TOGETHER: GLOBAL LOGISTICS COMMAND AND CONTROL

Numerous historical examples show that without a pre-existing theater logistics command, effective management at a theater level rarely occurs. Logistic support during World War II, despite its successes, suffered from many difficulties that continue to be highlighted in after-action reports today. From congestion at port facilities, to lack of uniform procedures for supply accountability, these lessons appear to have been repeated in Korea, Vietnam, and DESERT STORM. Each of these conflicts demonstrated the difficulty of establishing a theater logistics command structure after a crisis begins. During Operation RESTORE HOPE in Somalia, arriving forces soon outstripped organic Marine logistics capabilities, but the Joint Task Force Support Command was not fully prepared to accept the theater logistics mission. Kosovo highlighted the insidious challenges faced by logistic planners: the conflict grew from limited strikes to an intensified air campaign with the potential for significant ground operations, yet had the latter been called for, the lack of an existing theater logistics command would have jeopardized timely execution of the joint campaign.

The problem is that an *ad hoc* approach to logistics command and control demands a significant change in operating procedures in the midst of the transition from peace to crisis, adding confusion to an already stressful phase of operations. By the time a newly formed logistics command is ready to take charge during a crisis, service components will already have established workarounds to meet their respective needs, making effective theater-wide management more difficult.

21. Department of Defense, *Joint Pub 4.0*, App. D, pp. D-2–D-4.

But fixing theater-wide command and control is not enough to provide strategic agility across theater boundaries. The security perimeter for U.S. forces has expanded both geographically and with respect to the nature and timing of threats. In the future, this trend will require ever greater global integration of logistics. Dynamic cross-CINC support will have to be routine. A RAND study of logistics support for expeditionary operations calls for a globally focused "logistics command and control system to facilitate decision making … and enable the system to react swiftly to changes."[22] The report emphasizes that "decisions . . . must be made centrally for the entire system, so that mutual support between theaters can be leveraged." This argues for reorganizing our rapidly evolving visibility, decision-making, acquisition, distribution, transportation, and delivery capabilities across the spectrum of the supply chain: in short, a twenty-first century global logistics system.

The full benefit of focused logistics will not be realized without organizational changes to provide an integrated global logistics perspective that serves as a foundation for supporting individual needs of regional CINCs, Joint Task Force commanders, and operating units. A unified command for logistics would provide such a perspective, to ensure agile logistic support for U.S. forces around the world. This would be consistent with the thrust of Goldwater-Nichols, and thus part of the necessary evolution to continue to fulfill the Goldwater-Nichols vision. It can be argued that such organizational changes should await the full introduction of enabling technologies, but such an argument ignores the fact that the best forcing function to shape and quickly introduce such technologies is the establishment of a unified command with global responsibility and authority to implement change. The time to act is now.

Three considerations are paramount in developing specific organizational recommendations. First, to move toward focused logistics — and hence, strategic agility — we need to integrate better the connectivity and operational functionality across the logistics chain. This includes the functions of supply, distribution, and transportation. While TRANSCOM and DLA have performed extremely

22. Paul S. Killingsworth, et al., *Flexbasing: Achieving Global Presence for Expeditionary Aerospace Forces* (Santa Monica, Calif.: RAND Corporation, 2000), p. xxii.

well, there is no doubt that warfighting effectiveness will be improved and considerable efficiencies and savings will be realized from a single command and control arrangement. However, trying to bring the services under the same single command and control arrangement would create such a huge, complex, and unwieldy organization that the drawbacks would quickly outweigh any advantages. Second, while the regional CINCs already possess authoritative direction for logistics over forces assigned, they need a single logistics commander to be their action agent for all aspects of theater logistics. Third, to ensure that "we train as we will fight," CINCs' logistic command and control arrangements in peacetime should be the same as those in wartime.

RECOMMENDATIONS — LOGISTICS

The new Secretary of Defense, with the support of the President and Congress, should redesignate TRANSCOM as a unified command for Logistics (LOGCOM) and assign to it sufficient logistics and distribution specialists to enable its headquarters to supervise the full range of its new responsibilities; assign DLA as a component of this newly created LOGCOM; and expand the role of the Defense Distribution Center to that of a National Distribution Command, making it also a component of LOGCOM with the responsibility to manage all distribution requirements, including those of the services. As such, LOGCOM would consist of the Military Traffic Management Command, the Military Sealift Command, the Air Mobility Command, the Defense Logistics Agency, and the National Distribution Command. Additionally, it would be wise to consider assignment of the Defense Contract Management Agency to LOGCOM with the responsibility to manage contract performance, both for new weapons system acquisition programs and the entire range of life-cycle support, transportation, and force sustainment contracts. This will ensure the integration of contractual performance for the warfighter across the range of performance, from acquisition to power projection and support in the operating theater. As recommended by the 1998 National Defense Panel (NDP), LOGCOM would thus provide global logistic support through integrated procurement, supply, distribution, and transportation capabilities. "This command would improve our ability to more rapidly project forces with smaller logistic footprints, to leverage industry innovations, and to improve and reengineer busi-

ness practices."[23] Such a command would not alter traditional service responsibilities for support, other than requiring the services to handle all distribution through the newly established National Distribution Command under LOGCOM to ensure central coordination of movement of goods and personnel to regional CINCs. CINCLOG would be responsible for defining a logistics roadmap that established standards for total asset visibility and forward movement, and for establishing and enforcing an associated logistics architecture.

An objection sometimes heard is that CINCLOG's span of control would be too great, and that a Joint Logistics Command would risk becoming a service-like organization over the long term. Similar arguments preceding the establishment of TRANSCOM, now regarded as an overwhelming success, proved unfounded.

The Secretary of Defense should direct CINCLOG to establish standing joint regional logistics commands in direct support of each regional CINC. An in-place organization would ensure that unity of effort and joint priorities existed for all military operations conducted within a CINC's area of responsibility, from peace through all stages and forms of hostilities. Having these joint theater logistics commanders belong to CINCLOG, but working in direct support of the regional CINCs, would ensure that they could fully leverage the global logistics system in support of the regional CINC's priorities. These commanders would be the joint logisticians responsible for integration of all general support missions. They would not have service logistics forces assigned to them, but rather would be empowered to ensure compliance with the CINC-approved logistics architecture and priorities, and to task for needed capabilities through each of the service component commanders. It is important to note that these organizations would not assume the traditional CINC J-4 functions of plans, policy, or programs, and that services would retain their statutory responsibilities for equipping and supporting their own forces. But these joint theater commands would have the responsibility for cross-level support to meet overall theater objectives. This cross-level support would not only be with service components, but also within the framework of Acquisition Cross

23. National Defense Panel, *Transforming Defense: National Security in the Twenty-first Century* (Washington, D.C.: U.S. Government Printing Office, December 1997), p. 72.

Service Agreements (ACSAs) currently being negotiated with the militaries of each eligible country in a CINC's area of responsibility. This will significantly accelerate the multinational emphasis of *JV 2020* Focused Logistics.

To better integrate and strengthen recent initiatives to reduce demand for logistics support, the Office of the Secretary of Defense, based on recommendations from the Chairman, should publish and keep current guidelines that set tough standards for size, weight, reliability, consumption rates, commonality in support equipment and parts, and other logistics parameters for all deployable pieces of equipment. Like industry standards that might be developed by federal agencies for transportation safety, clean air, or fuel efficiency, the logistic standards should set common benchmarks that, when met, will compress initial deployment timelines, reduce required throughput, and minimize the overall required theater logistic footprint.

Conclusion

The challenge before us is very different from that of the "hollow military" of the 1970s. The task of returning that military to operational excellence seemed nearly hopeless, but the need for change was obvious to all. Today, despite a number of significant shortcomings, the U.S. military is the envy of friend and foe alike, and the need for changes to keep it that way is much less obvious. Nevertheless, prudent changes are essential if we are to retain our fighting edge well into the future, particularly in the face of uncertain threats. Others will undoubtedly have studied our successes in DESERT STORM and in the sky over Serbia, not just to imitate us, but to learn how to defeat us with the more limited resources at their disposal. So to stay as we are is not an option: we must build on our strengths as we correct the shortcomings that would erode our fighting edge and keep us from reaching our full potential. This chapter has addressed three of the most urgent: readiness, requirements, and logistics.