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**LOGISTIC SUPPORT TO THE ARMY AFTER NEXT
WARFIGHTERS: A TIME FOR FUNDAMENTAL CHANGE**

BY

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USAWC ARMY AFTER NEXT (AAN) STUDY PROJECT

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ABSTRACT

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The document is an Army After Next Study Project which postulates what follows the present Force XXI effort. Logistics for the warfighters of the Army After Next must be revolutionized to assure adequate support. The present systems are inadequate and unresponsive to the plausible future battlefield. Additionally, the cost of the present support system is prohibitive in the environment of ever decreasing defense budgets. The author examines how the Army After next might fight future battles and then designs a logistics system to support that force. This logistics system has its foundation in a key operational concept of Joint Vision 2010-Focused Logistics-and is extrapolated forward to the 2025 timeframe. The future logistics structure is smaller, more agile, and increasingly seamless between the traditional means of support. It ultimately concludes that the Armed Forces are evolving to a single national logistics provider, who largely replaces the individual Service and commodity oriented structure of today.

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Prologue

Captain Mike Thomas did a quick check of his info screens. He had just ordered his battle team to disengage from contact with the foe. With dominant battlefield awareness, he knew the Joint Task Force J-3 could keep "eyes" on the enemy and redirect other teams to swarm in and engage them according to the plan. His group of seven mobile assault vehicles (each with a two man crew, ground and air defense weapon systems) were in pretty good shape. Nobody killed or injured, the bio-monitors on his people showed him that. Fuel and ammunition, according to the readouts, were low and two vehicles had significant damage. Imbedded onboard diagnostics were performing the required emergency repairs and both could still move under their own power. If either failed completely, the support scavenger team would retrieve the vehicle and crew. Those same systems had already transmitted back to the loggies which line replaceable units had failed and ordered the replacements needed to bring them to full capability. Thomas verbally instructed his display to show his next refit/rearm location. As expected, nothing was there. Large logistic points were just too tempting a target. Nonetheless, Mike saw the icons of the support elements rapidly converging to that and the several other points for his counterpart teams. Clearly, they would be up and running by the time he gave the command to sortie his folks to the location. The team would receive his critical materiel and repairs and then, just as quickly, the logistic elements would disperse. Both combat and support forces constantly worked to stay "demassed" until absolutely necessary. Momentarily, his thoughts wandered to the historical study he read of the revolutionary way warfare changed in the twenty years between the 20th century world wars. The twenty five years following Desert Storm

brought their own changes as well, especially in support. Heck, the sergeant major still talks about the old "sneaker net Army" and transporting floppy disks of supply data around the battlefield to get a repair part or around of ammunition. You've got to wonder how they could win a war.

Introduction

How do logisticians support the battles of the future? Do the techniques and procedures of today have to be fundamentally altered? Why?

It is generally accepted that we are in a period of profound change for the U.S. military. The former Vice Chairman of Joint Chiefs of Staff (JCS), Admiral Bill Owens consistently used, if in fact did not invent, the term Revolution of Military Affairs (RMA) and championed the case that this was such a period in history. The degree of this transformation is uncertain and there is wide disagreement whether the change will be either evolutionary and incremental or truly revolutionary and radical. The fact that the technology of the world, and information technology in particular, is advancing at a profound rate, virtually assures some measure of change for the military as well. The Chairman of the JCS issued Joint Vision 2010 in order to shape and focus the near future and the document acknowledges the emerging importance of information superiority.¹ The Army, through Force XXI initiatives and Army Vision 2010², has articulated a similar picture of leveraging technology to gain information dominance and superiority to the same ends. In fact, the Army is already extending the institutional long range vision beyond the year 2010 horizon to the 2025 timeframe under the aegis of the Army After Next (AAN) effort. Both the Chairman's and Army Chief's 2010 documents,

because of their great similarity, may generally be considered as a common vision. Already, the focus of the Army has changed to one capable of worldwide power projection from the continental United States instead of the previous orientation on heavy ground wars and large forward deployed units and stocks. The logistics community plays a critical role in any visionary change. It has been consistently noted by those participating in the Office of the Secretary of Defense (Net Assessment) workshops on future warfare that, without an RMA within logistics, a revolution in military logistics (RML), the forces as a whole will be incapable of gaining full benefit from an RMA. The Army Deputy Chief of Staff puts it bluntly, "Without an RML there will be no RMA or AAN."³ Furthermore, cost reductions within the logistics system provide the funds for future combat systems.

The Army Chief of Staff commissioned an AAN project with guidance to focus and shape the final products is clear- narrow the gap between heavy and light forces, improve mobility, enhance firepower, and, finally, revolutionize logistical concepts.⁴ The cost burden of the present logistic support tail must be significantly lowered. New technologies must provide agility, support force projection, reduce excess demand and waste. The support forces must be tailorable to requirements. Only with profound, indeed revolutionary, changes can we lessen the logistics burden and fund the cost of the modernization of the force. Clearly, the Army is viewing the potential resource savings of a leaner and improved logistical support structure as the billpayer for future systems modernization. Without advances in logistics, an RMA for U.S. forces, and the Army in particular, is not possible.⁵

Why is the decision and commitment to RMA in logistics critical today? Why is the close of the 1990s an important decision point? Simply;

As we move beyond 2010, most of the major weapon systems supporting Force XXI will be approaching the end of their life cycle. The Army will be faced with the decision to either continue investing in incremental improvements in existing platforms which could extend their usefulness to about 2025, or taking the required steps required to replace these aging weapon systems with totally new systems designed to take advantage of the technological advances which have occurred over the years.⁶

The Army recognizes that the Force XXI effort is not the RMA, but a potentially important but incremental step along the way. Force XXI was initially envisioned to be a force rapidly tailorable, rapidly expandable, and strategically deployable. It supports the new military strategy to fight opposing forces that lack the sophistication and technology advantages of the United States within the two medium regional conflict (MRC) construct. A key goal was to make these forces lighter without sacrificing lethality and survivability. Yet, it is extraordinarily difficult to radically change the nature of warfighting while retaining existing equipment⁷. A tank, still the M1 series through the early 21st century, will still weigh in excess of 70 tons with additional informational technology appliqué applied. It is certainly no more mobile and is still restricted in movement by weight limits of the bridges in possible areas of hostility. The organization of the Force XXI divisions remain similar to those of today. This is hardly surprising since the major existing systems presently in the force will still be in place (important exceptions are the Commanche helicopter and perhaps the Crusader Howitzer-providing full production funds are available). Commitment to new technology can also make the existing (and expensive) technology obsolete and commits the U.S. to a high-tech force

which, as low-tech enemy, may achieve a successful asymmetric response.⁸ Force XXI becomes an interim step to a true RMA.

Again, the national military strategy and the mission of the Army have profoundly changed. We can no longer focus and design our structure to fight the great European land conflict. That war was won and the present, though perhaps tenuous, national strategy of having the capability to fight two MRCs (and included as an assumption is the ability to support a variety of requirements across the broad spectrum of conflict) has superseded the old. There is little doubt that force structure will not be permitted to expand to reflect this broadening of missions. To the contrary, the trend continues to be in the opposite direction, with great pressure to continue reductions of active duty personnel. With that decision made by our superiors, we are and must be an Army of quality, not one of quantity.

Whether this strategy survives is not as important to the logisticians as the fundamental fact that, whatever the number of MRCs or lesser contingencies anticipated, we are expected to perform successfully as a force projection force coming primarily from the continental United States. Clearly, there are different considerations for major weapon and support systems designed for the previous permanent pre-positioned presence forward in the potential battle area as opposed to those of rapid projection into any geographical area.

Technology is changing at an exponential rate. The Force XXI systems may not be the world's leading warfighting systems if we do not improve them over time. Technology growth will require organization changes in both the assets and business practices used. This march of technology will result in the need for spending more time and money to keep ourselves and products current.⁹

For logisticians, this decision is especially important. If we keep the existing systems, only marginal improvements are possible since the fundamental way we fight, and therefore support, will remain the same. The Division XXI Tables of Organization and Equipment demonstrate this dramatically. There are no important changes in the Division Support Command other than the consolidation of maintenance resources from the maneuver brigades. The primary weapon systems remain the same, the logistical burden remains generally constant. As the Air Force demonstrated with the C-17, one must specifically design the new platform with less support requirements to achieve reductions logistic support operations. The successful streamlined C-17 support procedures cannot be applied backward to the existing C-5 fleet and still maintain desired readiness levels. Likewise, unless the probability of hit and kill per round from a given weapon system markedly improves, logisticians still need to provide the warfighter with essentially the same number of rounds as today to assure the required kill rate. An improved probability of kill rising from 77 to 80% has only a marginal effect on the support structure which measures resupply in truckloads. To achieve that degree of change, would likely require a new system deployed to the force designed from the outset to meet the higher levels of effectiveness. If the way the land force maneuvers, moves, and fights changes because of profound improvements in the capabilities of their platforms, the logistical tail can and must be changed as well. A logistician that can't keep up or see the friendly forces, can't adequately support. If the combat platforms dramatically increase in speed and maneuver, support vehicles must have a commensurate improvement.

The Near Future Picture

While the Army has linked their Force XXI initiatives with changes in the logistical community, it has been less successful in developing a radically changed support structure for the AAN. Joint Vision 2010, Army Vision 2010, and the Force XXI initiatives provide us an interim step to the future of the Army After Next. They provide an intermediate picture of the future, and assist in providing a benchmark, a place of assessment and focus, along the way to the end of the first quarter of the 21st century. As Army Vision 2010 states, "(It) serves as a linchpin between Force XXI, the Army's ongoing process to manage change and advance into the 21st Century with the most capable Army in the world, and the Army After Next (AAN), the Army's emerging long-term vision."¹⁰ In the broadest terms, the Joint Vision considers focused logistics as one of the key four operational concepts. The Army Vision complements this with a pattern of operation entitled Sustain the Force, one of five key patterns listed in the document. Other future oriented Service programs further develop this issue. The Force XXI effort establishes the framework and environment for the Army Strategic Logistics Plan¹¹ which, in turn, provides focus to synchronize the Army logistics community to support this near future force. It postulates profound re-engineering and redesign of the logistics community and possible profound cultural changes. This radical approach is not reflected within the existing circulating force structure documents of Force XXI but again demonstrates a level of iterative change and leveraging of some technology enablers along the way to a more radical future.

Accepting that the Joint Vision of 2010 is largely met, the battlefield of the past has been largely replaced by a non linear battlespace defined by depth, breath, and height.¹² U.S. forces, through information and technological innovations, will have achieved dominant maneuver, increased ability for precision engagement, more control of the battlespace through full dimensional protection, and some measure of focused logistics. The Army vision further refines the ground war patterns with improvements in our ability to project the force (clearly improved with increased numbers of C-17s and the commissioning of the large medium speed roll on-roll off ships), decisive operations and shaping of the battlespace, protection of the force to assure increased freedom of maneuver, and finally, sustainment of the force. Nonetheless, these enablers are largely attached to the materiel of the existing Army. The bulk of the change and improvements must come from technology enhancements attached to systems already within the force. These are evolutionary life cycle improvements rather than the revolutionary change to warfare that accompanies a new system such as experienced when the first attack helicopters were introduced. It is through these appliques on end items and the linking and access to information never readily available before that changes the fight. As an example, the engaged forces will have real time access to national reconnaissance assets with imagery available to lower and multiple levels of command.

What has happened to logistics with this near future force? Logisticians of 2010 will also be operating in a different environment. The vision documents perceive "the fusion of information, logistics, and transportation technologies to provide rapid crisis response, to track and shift assets even while enroute, and to deliver tailored logistics

packages and sustainment directly at the strategic, operational, and tactical level of operations.”¹³ Yet, technological improvements are the key to achieving logistical improvements in this timeframe since the force will still be utilizing primarily the existing support systems of today (wheeled trucks, palletized loading system, rotary and fixed wing aircraft) on the battlefield. Clearly, the reduction of in place stocks, the iron mountains of the past, will make the logistical tail of the fighting force smaller and more agile and at the same time. Logistics are more predictive, responsive, and visible to the operators and those supported. Large brute force push packages have been largely supplanted by smaller, rapidly moving pull packages. The past practice of physically stockpiling thirty days or more of supplies in theater for everything the warfighter believed needed are gone. Through such brute force logistics, essentially unchanged since World War II, support was assured and success largely guaranteed. However, the costs of such stocks are prohibitive and the sheer size of these base stocks do not support a power projection force capable of rapid movement and engagement of the new strategy. On ground stockpiles of critical items are measured in two, three, or five days of supply. The goal, in broad terms, is affordable and responsive support that is modular and tailorable to meet mission requirements.

The 2010 logisticians should enjoy a mature capability of total asset visibility (TAV) for materiel and a similar picture for personnel. Through the interconnection of new and legacy information and management systems, a worldwide asset picture is available. However, some of those same legacy systems will inevitably inhibit real time complete access and operation. The Global Combat Support System (GCSS), the

logistical component of the Global Command and Control System (GCCS) has established the common information/communication technology environment. Until all subsystems are compliant and interactive, logisticians will be constrained by some aged information as the result of batch processing and effectively only have read only capability in some areas. Despite these limitations, the supported warfighter can now see a dramatically improved snapshot picture of all resources allocated to his fight, from the CONUS base, in transit, and in plane. They no longer need to be physically in the theater. Admittedly, this is a profound cultural change for a warfighter and is the military equivalent of commercial processes "just in time" delivery. It can result in a controlled supply rate, established by the warfighter, for all classes of supply wherein resources are strictly allocated upon the mission at hand with confidence that the follow on mission will be preceded by follow on supplies. In other words, you only get what you need, not what you want.

Velocity Management should be the accepted doctrine of the time. It further trades a responsive transportation system to further reduce in place stockpile requirements. The capability of a "FEDEX style" package delivery is available for rapid delivery of low density, high value, and critical items wherever needed.

The "stovepipe" logistics have been significantly reduced with the increased reliance and compliance of the GCSS environment. The young captains trained in the late 1990s at a common logistics advanced course, are now the colonels in command of multi-functional units, modular, and capable for reconfiguration based upon mission requirements. Their most important function is to serve as the Battle Command

Logistician who commands the logistics elements and provides all of the tactical warfighting support and provides tailored support. Logistical command layers have been reduced and non value added accounting and management steps largely eliminated. The multi-functional elements have direct access to national logistical information, fix by replacement or evacuation, and coordinates all resupply.¹⁴

Although the U.S. should enjoy dominant battlefield awareness, there is a recognition that centers of gravity and critical points need to be reduced. For logisticians this will provide additional incentive to avoid large static piles of materiel within the battlespace. Tactical and operational logisticians will "reach back" as far as necessary, even to the CONUS base, to fulfill requirements while keeping the battlespace logistical footprint small.

Although not consolidated, there will be increased cooperation between the logistical components of the Services, the Defense Logistics Agency, and private industry. Common application of electronic management and information systems will create linkages from factory to foxhole, with the civil sector assuming more responsibility for warehousing, maintenance and materiel management¹⁵ at one end of the pipeline and LOGCAP at the other. The Army will still have both TO&E and TDA units within the logistics structure although they will be composed of smaller modular units that, at the appropriate level, are capable of task organization.

Finally, it should be recognized that there are at least two tiers of forces within the Army. Clearly, the Service cannot equip the full force with the digital technology presently being evaluated by the experimental force (EXFOR), of the 4th Infantry

Division. A corps, perhaps two at the maximum, will be equipped with the necessary appliques and provided the additional resources, such as improved communications, to meet the desired capabilities of Force XXI and the Army Vision 2010. Likely, logisticians will be expected to support two tiers of active combat forces and additional tiers in the reserve structure.

In summary, logistics has been changed. Instead of forward deployed resources, the bulk of stocks are CONUS based. The focus is no longer the NATO European environment but one of rapid response to a variety of locations and multiple missions. Massive in place stockpiles are largely supplanted by a responsive, high velocity transportation system. Asset visibility has been markedly improved.¹⁶ Finally, although Joint operations are the norm, their Service Title 10 responsibilities, which include sustainment of the force, remain fundamentally unchanged although increasingly challenged by other DoD instruments, such as the Defense Logistics Agency and the Department of Defense Information Systems Agency. that push inexorably towards consolidation.

The Future of Army After Next (AAN)

Accepting that Force XXI and that the Vision 2010 documents provide the template for the interim force that is largely composed of existing platforms, some predictions can be made of the AAN future where those same platforms have finally been replaced. The specific year of the future, 2020, 2024, or whatever, is not as critical as the acceptance of the assumption that new systems will continue to build upon and further develop the trends of the interim force. For example, one can reasonably assume that

information and communication technologies will continue to develop to improve our ability to see the battlefield in real time and that larger and larger amounts of data will be handled as a matter of course. Similarly, if we intend to further develop the enablers of Army Vision 2010, the M1 tank replacement will likely be lighter (to enhance strategic mobility and power projection), multi-capable (ground & air attack capability?), and possess integral and embedded technologies that could only be crudely replicated by the appliques of the past. One need only consider the embedded computer and diagnostic capability of a 1997 commercial automobile as compared to a car of 25 years ago to visualize the jump of technology possible. On board systems will monitor performance, consumption rates, predict and diagnose potential and real failures (at 99+% accuracy), and digitally linked to the supporting logisticians. Decreased consumption rates for the two largest classes of supply, III and V should further diminish the logistical footprint. Vehicle energy costs could be reduced by as much as 50 %. Ammunition through the use of new materials of construction and packaging could have 30% less weight and volume.¹⁷ Line unit replacement of failed components can be performed on many sub systems by the operator crew without the intervention of a technician.

Numerous concepts of the AAN fighting force abound. What appears to be generally consistent and common threads among them is that the battle force have radically increased mobility, possess a blending of light and heavy capabilities, and with all combat operating systems organic to it.¹⁸ There will be at least some combat organizations of strategic deployment directly from CONUS. This infers an ability to transition directly from the strategic movement to combat without pause. Forces will be

increasingly joint in character and composition, single Service operations an exception to the rule. The command and control structure will become even flatter, cellular rather than hierarchical, with fewer levels of intermediate command.¹⁹ Operational orders and schemes of maneuver will be transmitted immediately to all subordinate commanders from the primary planner.

Technology will continue to improve battlefield awareness. Although the U.S. is likely to maintain a dominance, the technologies associated with this awareness are increasingly available on the commercial market for use by potential enemies. Even rogue nations and their warriors will have access to cheap satellite imaging and pinpoint navigation systems.²⁰ This further increases the need for friendly forces to avoid centers of gravity or critical points. To stay massed, invites attack. Therefore, forces have developed a swarming scheme of maneuver. Combat forces remain demassed in numerous small elements and, when directed, mass to concentrate overwhelming power for short periods of time. Upon order, they again demass. Others replace them and continues the attack as required. The cycle of sorties continues until the enemy is defeated. Because of dominant battlefield awareness, contact does not have to be maintained to fix the enemy. It provides the ground force commanders their picture of the battlespace much the same way the present AWACS provides the Air Force a full picture of their area of operation. Friendly forces, because of this knowledge of the enemies' location, may sortie in and out of the immediate battlespace. The concepts of dominant maneuver and precision engagement are less two distinct operational concepts, but complimentary.²¹ Ground forces of tomorrow could obtain position advantage the

same way an aircraft is directed towards the target area by AWACS controllers today, strike from that location with precision, and immediately leave the area.

This constant massing and demassing of forces is only possible with the maturation of the operational concepts of Joint Vision 2010 and the necessary technology. It suggests that the bulk of critical logistical support (fix, fuel, arm) are provided during those times that the portions of the battleforce are demassed.

It also means that the logistical support will have many of the characteristics of the battle forces. Just as the combat forces mass only when required, the logistical elements will do likewise and form support locations only as required and quickly diffuse when the immediate support mission is accomplished. The joint task force J-3 and J-4 will have to work current operations in close coordination and harmonization. Logisticians within the battlespace will have to become experts of maneuver. The movements and massing/demassing of the combat and logistical forces carefully synchronized to assure success.

Within the battlespace, the logistician's main protection is the same battlefield awareness enjoyed by his combat compatriot. The combat team leaders and their supporting logisticians must see and work with a common battlefield picture, common planning tools, and common predictive models. Secondly, the mobility of the vehicles supporting the battle force must be equal in range and speed. The envisioned battlespace is not linear and the logisticians must quickly maneuver to meet the combat forces in a temporary relatively safe space, which are not homogeneously scattered around the area of operation.

Fixed and slow-moving targets will fare poorly on tomorrow's battlefield. Any object with a fixed latitude and longitude can be targeted (with low-cost, highly accurate aiming systems) and struck. These weapons will use a combination of improved gyroscopes and accelerometers, navigational devices, global position system (GPS) satellites, and local positioning signals from pre-positioned emitters.²²

Additionally, speed provides protection in itself and offsets the lack of other forms of protection, by limiting exposure in dangerous areas. To provide the logistic vehicles with heavy protection approximating the fighting force would necessarily limit their load capacity. Every pound of armor is one less pound of support materiel. This tradeoff again is not unlike the support arms of the sister Services who do not heavily armor tankers (both air and sea) or supply ships. The support ships (or aircraft) rapidly move in and then move out, their speed and short length of exposure being their primary protection.

To support the battle, logisticians will focus the nation's resources. Outside the immediate battle area, logisticians may operate mobile bases that provide more extensive support. This could include pre-positioned afloat intermediate support bases; ships designed for a support function and is a logical extension of the present Marine Corps concept of ship based logistics. Combat forces could move to these safe areas (their location dependent upon obtaining this security) and obtain fabrication from raw materials and "creature comfort" supply and services. Combat systems would have major battle damage repaired and components with a predicted failure, replaced. The battlespace logisticians reach back to these bases for their resupply.

"Procurement agility" is a strategic issue²³ and national resources, because there is total visibility of assets and capability, can be leveraged to support the battle directly.

Requirements may be placed directly on the industrial base with a "just in time" delivery directly to the battlespace. Today, Class VIII medical materiel requirements are sent directly from the commercial supplier to the user, proving that this is possible. A cultural shift from unit ownership of resources will need to be replaced with a discipline of unit management responsibility but national ownership and use. Although located in a specific location, they are part of the national "virtual warehouse" under consolidated materiel management. Thus, an item in a unit stockage, such as an ASL or basic load (or their AAN equivalent), with an integrated distribution system (a mature Velocity Management), is be available for a contingency across the world if not specifically authorized retention due to an authorized higher priority.

Who controls logistic support and these priorities of materiel to the warfighter? As envisioned, only those supporters operating directly in the battlespace are under the direct command and control of the geographical CINC or JTF commander. Unlike the present environment where support is fragmented between the Service commodity commands and DOD agencies, the rest of the logistic structure "tail" is envisioned under the control of a single commander. This change is akin to the previous consolidation of Service strategic transportation resources and their control and management under the United States Transportation Command (TRANSCOM). Like that consolidation of Service resources under a single supporting CINC, there is tremendous opposition to this concept and organization. It directly challenges the Services and their unalterable position that this would be a direct attack on their United States Code Title 10 responsibilities to "equip the force." Yet, these responsibilities have already been eroded

in other areas as well such as with the establishment of the Defense Logistics Agency (DLA) in 1962. Today DLA “manages and purchases items used by all military services and some civilian agencies, including fuel, food, clothing, medical supplies, construction material, and the hardware and electronic items used in the maintenance and repair of military equipment.”²⁴ Additionally, the Army itself serves as the DOD executive agent for most conventional class V ammunition and munitions for all the Services. The contracted LOGCAP support, initially envisioned to support the Army soldiers has now routinely expanded to support all forces within the joint task force. These three cases demonstrate that Congress or the Secretary of Defense will modify means of support, Title 10 notwithstanding. The key is that the consolidation of responsibility and functions should improve the effectiveness and/or the efficiency of the Armed Forces.

The next reasonable consolidation of functions to support the AAN is the establishment of a national level logistics provider. As in the Division XXI design where support was removed from the maneuver brigades and consolidated in the DISCOM, the same general logic applies at the higher echelons. As envisioned by the Logistics Integration Agency;

The Army National Provider contains the national level capability to manage, resource, and control the materiel management, maintenance, procurement, distribution, and deployment functions for the Army or other joint and combined customers. The Army National Provider brings the full power of the National Logistics Base (DoD Civilian resources as well as our U.S. Industrial Base), to satisfy the logistics needs of the supported CINC over a seamless pipeline of support that extends directly to the warfighting element.²⁵

The National Provider is responsible to fill the common pipeline to the warfighting CINCs and owns all resources above that which is traditionally accepted as direct support. It fundamentally changes the concept of ownership of stocks, whatever the class. A unit may maintain a stock and store it, but it remains under the ownership of the National Provider who may direct usage elsewhere. Less we think this is too revolutionary, remember that overseas Army class V stocks are treated in this way with only a fraction of the in theater stocks actually "owned" by that geographical CINC. The remainder may be swung to whomever the national priorities dictate. Likewise, propositioned afloat resources may be directed wherever needed.

The National Provider would also control DOD industrial operations and maintain the contractual relationships with the civilian industrial base. Again, comparison with TRANSCOM cannot be avoided. CINCTRANS is the single DOD point of focus to contract and leverage civilian transportation resources to support the requirements of plans and ongoing operations. TRANSCOM performs the transportation feasibility analysis and determines if national transportation resources can adequately support strategic operation plans. Likewise, the National Logistics Provider, or CINCLG, would do the same. There would be a single command to define the requirements, contract with the industrial base, keep warm key operations, maintain key stocks, and ensure a seamless plug in to the battle area of operations logisticians. This command would determine the logistical feasibility of warfighting CINCs plans. There would be one voice for strategic and operational logistic support.

Because of the existing responsibilities already incumbent on the Army to support other forces and establish the common lines of communication, maintains the LOGCAP contract, and control most wholesale class V, it is a logical candidate to serve as the National Provider. Just as the commander of the Air Force Air Mobility Command is dual hatted as CINCTRANS, the commander of the Army Materiel Command could also serve concurrently as CINCLOG.

Pitfalls and Conclusions

The envisioned logistical organization for the forces of Army After Next clearly brings with it an additional set of risks which must be carefully considered. First, it is unlikely that the Army will have the resources to fully modernize the entire force. There will be, inevitably, tiered forces. Some, perhaps only the "tip of the spear" will be a fully modernized battle force. The remainder of the Army will remain more conventional and probably similar to the forces of today. The logistical structure in place must accommodate multi-tiered forces.

Secondly, the logisticians within the battlespace must have mobility, or at the very least speed, comparable to the force being supported. The non linear nature of the battle and the fact that the logisticians are maneuvering constantly to support the battle swarms require this capability.

Finally, without a CINCLOG, it is unclear how the resources of the nation could be effectively focused to provide the necessary support in light of the inevitable reductions of stocks available to DOD. The "iron mountains" are out and their

replacement, the "virtual mountains" located throughout the world must be managed and allocated according to national priorities.

These are fundamental cultural changes in the way logisticians support and how the warfighters measure it. It trades proven, but now excessively expensive ways of doing the support business, for major technological innovation. It requires unparalleled trust, coordination, and synchronization between the G/J-3s and G/J-4s of the future. It is indeed a revolution in logistical affairs, which if successful, will provide the funds through substantial savings in stocks, to modernize the force. The choice for the Army is actually quite simple. Stay with the existing logistical organization, structure, and functions and have, at best, an evolutionary change in force capability. Or, take the visionary approach, leverage the information age and other technologies, and revolutionize logistics.

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