

HOME STATION TO THEATER
EMPLOYMENT READINESS FOR
THE UNITED STATES ARMY
RESERVE AND THE DEFENSE
DISTRIBUTION PROCESS OWNER

BY

COLONEL DAVID T. POLLARD
United States Army Reserve

DISTRIBUTION STATEMENT A:

Approved for Public Release.
Distribution is Unlimited.

USAWC CLASS OF 2008

This SSCFP is submitted in partial fulfillment of the requirements imposed on Senior Service College Fellows. The views expressed in this student academic research paper are those of the author and do not reflect the official policy or position of the Department of the Army, Department of Defense, or the U.S. Government.



U.S. Army War College, Carlisle Barracks, PA 17013-5050

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. **PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.**

1. REPORT DATE (DD-MM-YYYY) 01-04-2008		2. REPORT TYPE Civilian Research Paper		3. DATES COVERED (From - To)	
4. TITLE AND SUBTITLE Home Station to Theater Employment Readiness for the United States Army Reserve and the Defense Distribution Process Owner				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) Colonel David T. Pollard, USAR				5d. PROJECT NUMBER R0529	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) The Institute of Advanced Technology The University of Texas at Austin 3925 West Braker Lane, Suite 400 Austin, Texas 78759-5316				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) Mr. Robert Riffle The Institute of Advanced Technology The University of Texas at Austin 3925 West Braker Lane, Suite 400 Austin, Texas 78759-5316				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION / AVAILABILITY STATEMENT DISTRIBUTION A: UNLIMITED					
13. SUPPLEMENTARY NOTES The views of the academic research paper are those of the author and do not reflect the official policy of the U.S. Government, the Department of Defense, or any of its agencies.					
14. ABSTRACT. Our national security is explicitly linked to global security, and the global security environment is growing increasingly complex, contributing to a state of persistent conflict. Guaranteeing our national security in this environment requires a full-spectrum modernized force. One that is responsive, agile, easily deployed and sustainable over long distances when employed worldwide in support of the full spectrum of military operations. To improve support to deployed forces the Department of Defense (DoD) has taken great strides in the last five years to plan and implement needed improvements to the networks of the DoD distribution system. However, emphasis must continue to improve these networks and render a predictable distribution affect to deployed forces at the point of consumption (also know as the point of effect). This research addresses the defense distribution system and the impact of technology and its rapid evolution faced by the Defense DPO. Also addressed are the insights from business logistics for military logistics for application in the Joint Deployment and Distribution Enterprise – Community of Interest (JDDE-COI). The research includes a presentation of collaborative approaches to improve readiness of the large proportion, yet cost-effective USAR units to be employed end-to-end (E2E) in the JDDE. Improving the total force affect on the JDDE process outcomes are enhanced by implementing these collaborative approaches along with the Army Force Generation (ARFORGEN) model. Holistically, this effort can help to overcome the collaboration challenge that exists due to competing demands among the USAR and JDDE-COI partner organizations. The collective effort can improve the predictability of automated distribution system knowledge and skill employed by USAR units. The USAR and its partners in the JDDE-COI need to be closely integrated to improve readiness of USAR distribution units for any given ARFORGEN mission. Through this effort, all organizations will recognize that their incentives are aligned. If incentives are aligned and resources applied accordingly for JDDE-COI partner organizations of all components, a more predictable and desirable DPO affect at the point of effect will result to optimize distribution process outcomes. The research concludes with recommendations for additional research and analysis of the following: A continuum of skill-rich warrior citizens. USAR and JDDE-COI partner training association. USAR and JDDE-COI partner ARFORGEN equipping. Project management approach to theater distribution.					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT UNCLASSIFIED	b. ABSTRACT UNCLASSIFIED	c. THIS PAGE UNCLASSIFIED			Robert D. Riffle, PA
			UNLIMITED	36	19b. TELEPHONE NUMBER (include area code) 512-232-4560

USAWC CIVILIAN RESEARCH PAPER

**HOME STATION TO THEATER EMPLOYMENT READINESS FOR
THE UNITED STATES ARMY RESERVE AND THE DEFENSE
DISTRIBUTION PROCESS OWNER**

by

Colonel David T. Pollard
United States Army Reserve

Mr. Robert Riffle
Program Adviser
The University of Texas at Austin

Disclaimer

The views expressed in the academic research paper are those of the author and do not necessarily reflect the official policy or position of the US Government, the Department of Defense, or any of its agencies.

U.S. Army War College
CARLISLE BARRACKS, PENNSYLVANIA 17013

ABSTRACT

AUTHOR: COL David T. Pollard

TITLE: Home Station to Theater Employment Readiness for the United States Army Reserve (USAR) and the Defense Distribution Process Owner (DPO)

FORMAT: Civilian Research Paper

DATE: 1 April 2008 **WORD COUNT:** 12,238 **PAGES:** 36

CLASSIFICATION: Unclassified

Our national security is explicitly linked to global security, and the global security environment is growing increasingly complex, contributing to a state of persistent conflict. Guaranteeing our national security in this environment requires a full-spectrum modernized force. One that is responsive, agile, easily deployed and sustainable over long distances when employed worldwide in support of the full spectrum of military operations. To improve support to deployed forces the Department of Defense (DoD) has taken great strides in the last five years to plan and implement needed improvements to the networks of the DoD distribution system. However, emphasis must continue to improve these networks and render a predictable distribution affect to deployed forces at the point of consumption (also know as the point of effect).

This research addresses the defense distribution system and the impact of technology and its rapid evolution faced by the Defense DPO. Also addressed are the insights from business logistics for military logistics for application in the Joint Deployment and Distribution Enterprise – Community of Interest (JDDE-COI). The research includes a presentation of collaborative approaches to improve readiness of the large proportion, yet cost-effective USAR units to be employed end-to-end (E2E) in the JDDE. Improving the total force affect on the JDDE process outcomes are enhanced by implementing these collaborative approaches along with the Army Force Generation (ARFORGEN) model. Holistically, this effort can help to overcome the collaboration challenge that exists due to competing demands among the USAR and JDDE-COI partner organizations. The collective effort can improve the predictability of automated

distribution system knowledge and skill employed by USAR units. The USAR and its partners in the JDDE-COI need to be closely integrated to improve readiness of USAR distribution units for any given ARFORGEN mission. Through this effort, all organizations will recognize that their incentives are aligned. If incentives are aligned and resources applied accordingly for JDDE-COI partner organizations of all components, a more predictable and desirable DPO affect at the point of effect will result to optimize distribution process outcomes.

The research concludes with recommendations for additional research and analysis of the following:

- A continuum of skill-rich warrior citizens.
- USAR and JDDE-COI partner training association.
- USAR and JDDE-COI partner ARFORGEN equipping.
- Project management approach to theater distribution.

TABLE OF CONTENTS

Home Station to Theater Employment Readiness for the United States Army Reserve and the Defense Distribution Process Owner

ABSTRACT.....	iii
TABLE OF CONTENTS.....	v
Home Station to Theater Employment Readiness for the United States Army Reserve and the Defense Distribution Process Owner	v
ACKNOWLEDGMENTS	vii
LIST OF ILLUSTRATIONS	ix
HOME STATION TO THEATER EMPLOYMENT READINESS FOR THE UNITED STATES ARMY RESERVE AND THE DEFENSE DISTRIBUTION PROCESS OWNER.....	1
Introduction.....	1
The National Security Environment	1
Operational Army Reserve	3
Operational USAR Contribution to the JDDE-COI.....	4
A Cost-Effective Force Multiplier	4
Skill-Rich Warrior Citizens	6
Warrior Citizen Effect on the All Voluntary Force and the Public it Serves and Defends	7
Predictability	7
Predictability for the JDDE-COI	7
Predictability for the Operational USAR Soldier	9
Defense Distribution, Technology and the Operational USAR.....	10
The Distribution System	10
Technology and the Distribution System.....	12

General	12
DoD Automated Distribution System Implementation and Risk.....	13
Military and Business Logistics	16
Profitability is a Powerful Force for Change	18
Word of Caution in Using Technology to Maximize Distribution Efficiency.....	20
USAR JDDE Missions, Equipping and Training	21
The Surface Deployment and Distribution Command (SDDC) and USAR Training Strategy	21
The Pentathlete Leader and the ARFORGEN Model.....	24
Missions	25
Equipping and Training	26
Using a Project Management Discipline in the JDDE-COI.....	29
Introduction.....	29
DPO Project Management in Theater Distribution.....	31
Conclusion and Recommendations for Additional Research	33
The Continuum of Skill-Rich Warrior Citizens.....	34
Develop USAR and JDDE-COI Partner Training Association	35
Achieve ARFORGEN Based Mission and Equipping Strategies for the JDDE-COI	35
Expand the Project Management Discipline Approach to Theater Distribution	36
ENDNOTES:	37

ACKNOWLEDGMENTS

This paper is the result of the author's Army War College Fellowship at the Institute for Advanced Technology at The University of Texas at Austin.

I must acknowledge the mentorship received from MG Thomas Robinson, COL James Lee, and COL(R) Brian Waters. Each of these gentlemen dedicated time to me to be interviewed in support of my research. The experience, knowledge, advice, and encouragement each man shared with me during the interviews was essential for the completion of this paper. Thanks also to SGT George Frame at the Army War College (AWC) for providing responsive and professional support with all the research related travel.

A heartfelt thank you also goes to Mr. Robert Riffle (University of Texas at Austin Institute for Advanced Technology (UT IAT)), Mrs. Sandra Spicher (UT IAT), COL Joe Charsaqua (AWC), COL Ronda Urey (AWC), and my Sister-In-Law Amy Andrews-Bennett for their editing support and advice for improving my paper. Mrs. Lori Mathey at UT IAT provided endless administrative support that aided tremendously in the completion of all my writing requirements during this fellowship.

My defining experiences from 1990 through 2004 in distribution related assignments, particularly the theater level organizations aligned to Southwest Asia missions are the reason for pursuing this area of research. More important than the assignments are the countless officers, non commissioned officers and Soldiers with whom I shared these experiences. It is my pleasure to have the opportunity to serve with and learn from each and every one of them.

Most importantly and saving the best for last I must thank my wife Deanna, who has always supported me in my military career. During this fellowship she stayed in Atlanta to manage our household and continue to raise our two sons'. Deanna, I can't thank you enough for always being there for me.

If you have any questions or comments regarding this paper please contact me at dave.pollard@us.army.mil

LIST OF ILLUSTRATIONS

Figure 1. National security environment post 9/11.....	2
Figure 2. The continuum of operations.....	3
Figure 3. The USAR ... A cost effective force.....	4
Figure 4. The USAR ... An integral component.	5
Figure 5. US Army approaches for rapid acquisition.	19
Figure 6. The Army force generation model.	25
Figure 7. Army force generation model training.	29

HOME STATION TO THEATER EMPLOYMENT READINESS FOR THE UNITED STATES ARMY RESERVE AND THE DEFENSE DISTRIBUTION PROCESS OWNER

Introduction

The US Army is proceeding with the transformation of the Army Reserve Component (RC) from a strategic to an operational reserve. Transformation will be impacted, for better or worse, based on the effectiveness of the US Army to collaborate in a multi-component effort. The United States Transportation Command (USTC) is the Defense Distribution Process Owner (DPO) and through collaboration with their Joint Deployment and Distribution Enterprise – Community of Interest (JDDE-COI) partner organizations can improve the predictability of distribution process outcomes. A holistic strategy for improving the predictability of RC unit contributions to the process outcomes is needed. An approach that addresses manning, equipping, and training from peacetime at home station through mobilization, deployment, and mission employment.

The National Security Environment

The nature of our national security environment since September 11, 2001, has changed and continues to become increasingly complex. This environment is one where we can anticipate persistent conflict and a correlated demand on all components of our Army. The complexity of the conflict inherent in the national security environment is shown in the US Army Training and Doctrine Command (TRADOC) illustration provided in Figure 1.

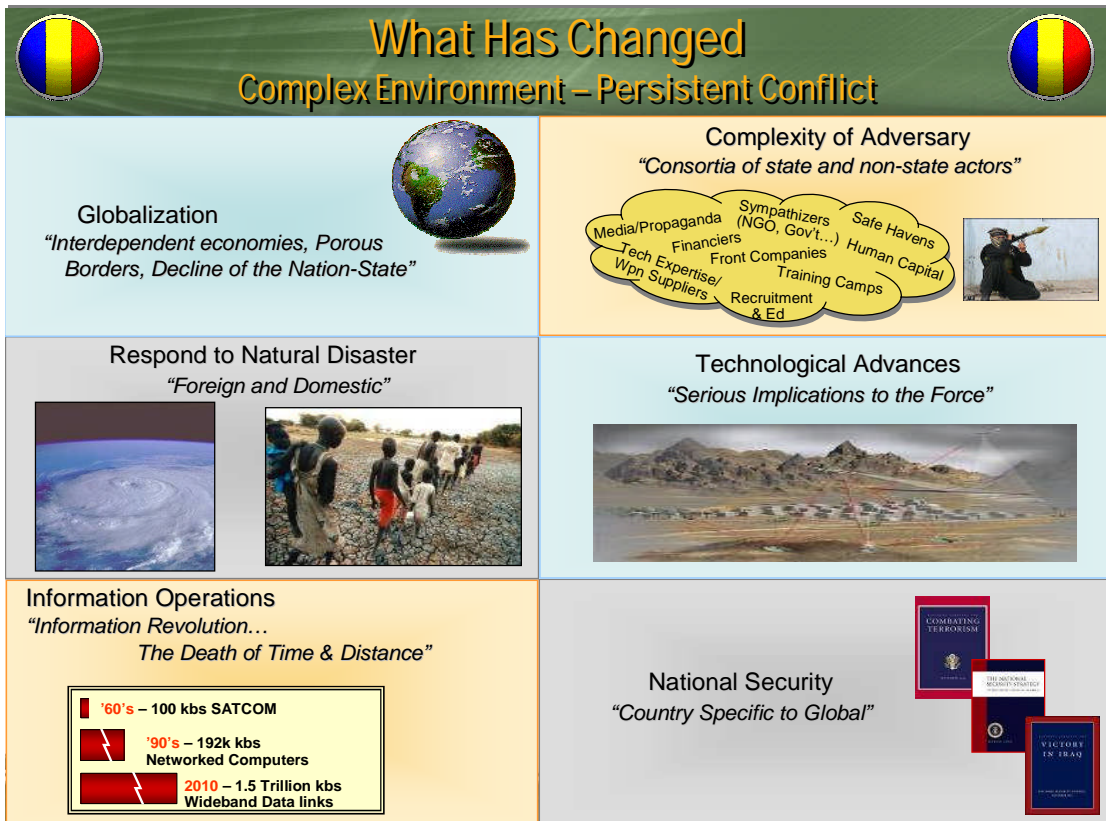


Figure 1. National security environment post 9/11.

Our Army must always be prepared to deter whenever possible and respond when necessary to any potential adversary. We must be particularly vigilant when adversaries (or supporters of such adversaries) may target civilians with weapons of mass destruction or other terror weapons. An examination of the current missions and potential future missions in this environment yields a continuum of operations with themes including peacetime military engagement, limited intervention, peace operations, irregular warfare and major combat operations. Another illustration from TRADOC, shown in Figure 2 provides a better understanding of the type of operations, operational themes, and spectrum of conflict associated with this operational continuum.

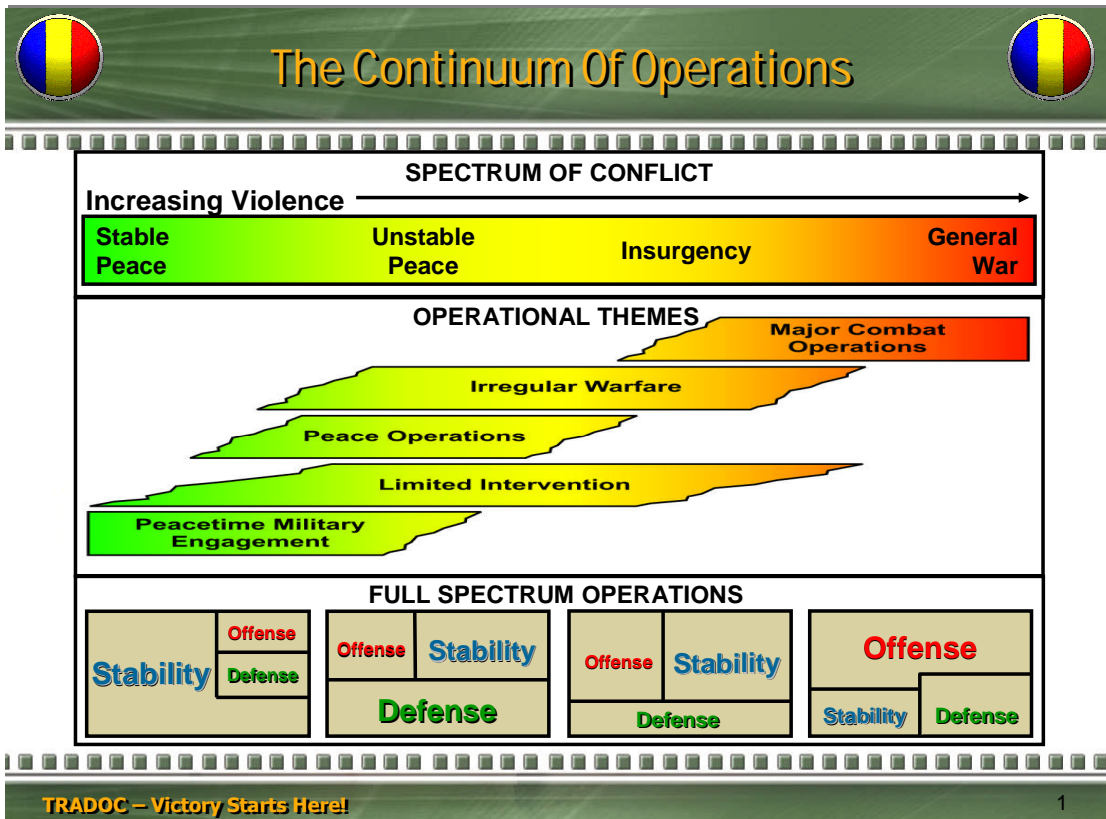


Figure 2. The continuum of operations.

Operational Army Reserve

This environment will continuously require predictable readiness and utilization of units from all components of the Army, in a manner unlike that required before September 11, 2001. In a message included in the USAR 2007 Posture Statement, Lieutenant General (LTG) Jack Stultz, the Chief of the Army Reserve (CAR) explained the following about the operational Army Reserve:

As a strategic reserve, our Warrior Citizens served one weekend a month and two weeks every summer. Due to the demands of this new century, and our transformation to an operational force, we are asking more of our Soldiers as we prepare them for the challenges they will face both overseas and domestically in this new, continuous state of mobilization. Our commitment to readiness is driving how we train, support, and retain our Warrior Citizens.¹

This research renders several recommendations with the potential to enhance readiness of Operational USAR units and Soldiers employed in the Joint Deployment and

Distribution Enterprise – Community of Interest (JDDE-COI). Given the national security environment and technology impact on automated distribution systems these recommendations are intended to help mitigate the risks associated with the readiness of operational reserve units and Soldiers. Mitigating these risks is simply a measure of transformation and process improvement to benefit the entire JDDE-COI.

Operational USAR Contribution to the JDDE-COI

A Cost-Effective Force Multiplier

At 6% of the Army's budget, the operational Army Reserve is an integral component providing a cost-effective force multiplier to meet the Army's needs. The cost of the Army Reserve is a mere \$8.1 billion of the FY08 Army Base Budget of \$128.6 Billion. Figure 3 is provided by the Office of the Chief Army Reserve (OCAR). It shows a comparison by component of the percentage of Army Fiscal Year 2008 base budget.

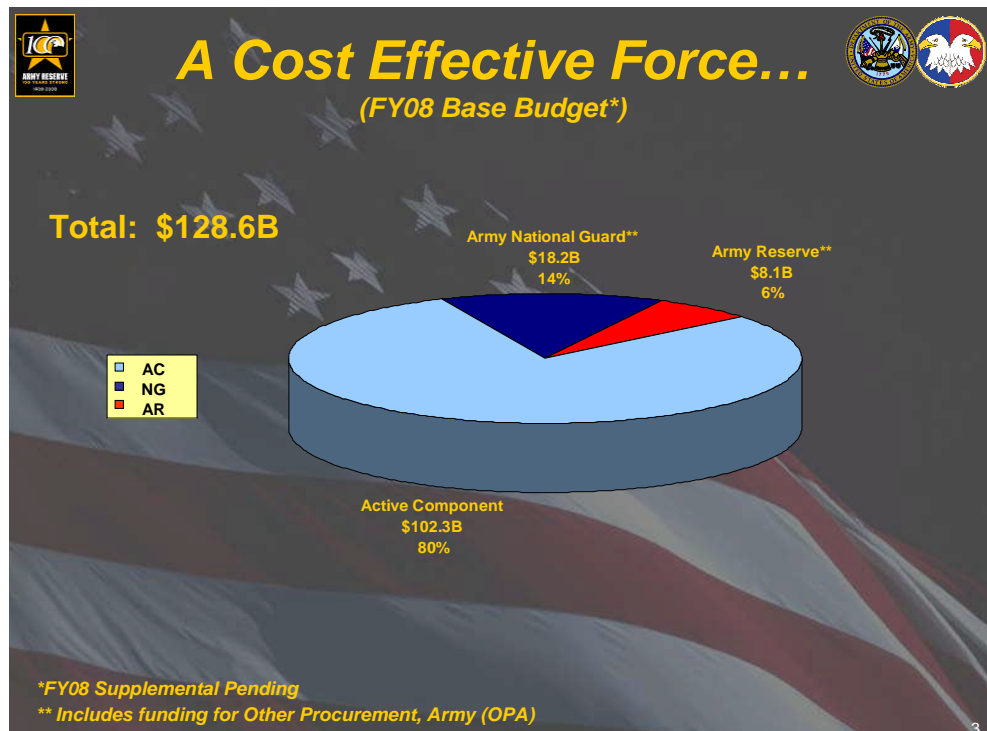


Figure 3. The USAR ... A cost effective force.

In contrast to the small percentage of the Army base budget to fund the USAR, there is the larger percentage of USAR units and Soldiers that make up the total force employed directly or indirectly for echelons above brigade distribution missions. Figure 4 is also provided by the OCAR. It shows the breakout by component for echelon above brigade combat support and combat service support Soldiers. Many of these Soldiers will be employed and contribute to the Defense DPO end-to-end (E2E) outcomes. The United States Transportation Command (USTC) is the Defense DPO and is responsible for these outcomes. The Defense DPO, along with its distribution partners and supported Soldiers, will mutually benefit from efforts to overcome the collaboration challenge that exists between the USAR, Defense DPO and competing Combatant Commander Demands. It is a good idea for the JDDE-COI to make the collaborative investment in establishing policy and process for the efficient equipping and training of economical USAR distribution units. Once established, there should be a stabilization and control of the policy and process. This will lead to predictability in distribution process outcomes.

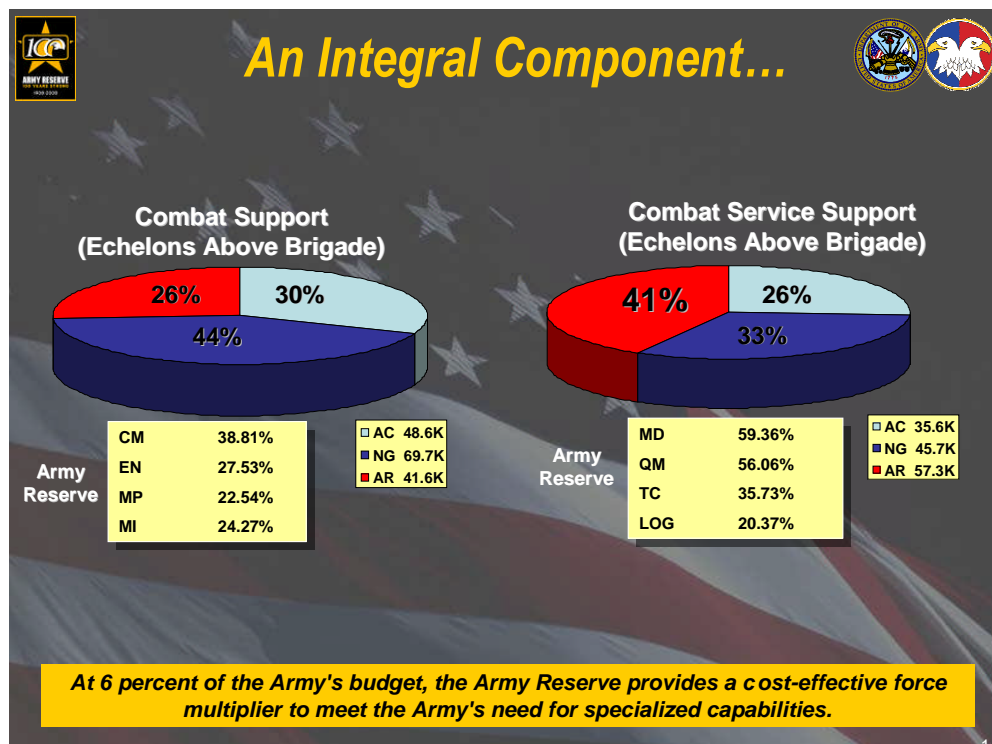


Figure 4. The USAR ... An integral component.

Skill-Rich Warrior Citizens

The USAR continues its transformation from a strategic reserve to an operational force of skill-rich Warrior Citizens. When not serving in uniform, our Warrior Citizens are back in their communities and on the job in a wide variety of civilian occupations. There are countless examples of USAR Soldiers who answer our nation's call to service and bring more to their service than their military acquired skills.

Warrior Citizens possess a broad range of civilian-acquired skills to complement their traditional military training.² The Warrior Citizens employed in the JDDE-COI are no exception. One such example is the USAR Officer who in his civilian occupation worked for an American railroad company. Early in Operation Iraqi Freedom (OIF), this Army Reserve Officer put his civilian-acquired skills to work and led the effort to reestablish operation of the Iraqi Railroad. This officer's effort contributed to the strategic objective of restarting the Iraqi economy. Getting the Iraqi railroad up and running allowed not only for the distribution of some military supplies, but more importantly distribution of humanitarian relief supplies. Another example is the 377th Theater Support Command Distribution Management Center Chief working to develop the Theater Distribution Program for OIF in 2002.

Still another is the Commander of the Army; Air Force Exchange Service, an Army Reserve Officer. In his civilian occupation, General Thurgood serves as the Director of Strategy and Integration for PepsiCo, INC (parent company of Pepsi, Frito-Lay, Tropicana, Gatorade and Quaker) in financial, logistics and systems development roles. He is responsible for the development of supply chain and logistics strategies across a 25 billion dollar enterprise. It was no coincidence that these officers came from the civilian positions they did. It is the civilian-acquired skills that are in fact a primary reason for the selection to their positions. There are many more examples of skill-rich USAR logisticians.

More important is the recognition that our military is increasingly looking to business logistics for JDDE-COI improvement and predictability. This a great example of where we are not only implementing best business practices from civilian industry, but integrating the civilian industry itself into our military operation. There is more we can do to capitalize on logistics and distribution civilian-acquired skills of Warrior Citizens.

To begin with, we need to seek these individuals out for the all voluntary force and provide the appropriate incentives to keep them and their skills in the all volunteer force.

Warrior Citizen Effect on the All Voluntary Force and the Public it Serves and Defends

There is no feasible alternative to the continued transition to an “Operational Reserve.” In fact, the Office of the Assistant Secretary of Defense for Reserve Affairs based on the January 31, 2008, report by the Commission on the National Guard and Reserves finds a significant impact on the all volunteer force. It is that the operational reserve in large part contributes to preserving the all volunteer force and avoiding a return to the draft. This holds true over the past 5 years of heavy demand on our total force and will continue to have such an affect if properly safe guarded in the policy arena. The reserve component segment of the all volunteer force is unique because of its contribution to both the military and our communities. The reserve components provide vital function for our all volunteer force, the direct and continuing contact with the citizens of the nation we serve and defend. This fact must never be discounted, but instead have a premium placed upon it. In so doing we contribute to the critical need of broadening our military and keeping it intimately linked to the citizens of our great nation.

Predictability

Predictability for the JDDE-COI

Predictability is necessary for all stakeholders (Warrior Citizens being only one of many) that make up the Joint Deployment and Distribution Enterprise - Community of Interest (JDDE-COI). The JDDE is the complex of equipment, procedures, doctrine, leaders, technical connectivity, information, shared knowledge, organizations, facilities, training, and materiel necessary to conduct joint distribution operations in accordance with the Joint Logistics (Distribution) Joint Integrating Concept, Version 1.0, February 7, 2006.³ The COI is the collaborative network of JDDE partner organizations, to include DoD Components, sharing common distribution-related goals, interests, missions, and business processes, which comprise E2E distribution, in support of Combatant

Commanders and/or Joint Force Commanders, pursuant to the Joint Logistics (Distribution) Joint Integrating Concept – Initial Capabilities Document (August 7, 2006).⁴

Only by aligning incentives and with the entire COI working together can we achieve the needed predictability for the COI of all JDDE component parts. With this aligning of incentives comes the understanding that sub optimizing component parts of the JDDE are necessary to optimize defense distribution process outcomes. The optimization of these outcomes must be collaboratively defined to align incentives. With this, each COI organization realizes that at any given time their particular function may not be as lean as it can possibly be or producing as much as it possibly can. As part of this effort, if DoD is to continually meet the threats posed by potential adversaries, there must be predictability beyond availability of operational reserve units. The COI must also provide for predictability of USAR unit knowledge base and skills to employ JDDE automated distribution systems upon mobilization and deployment. USTC is assigned the responsibility of the DoD DPO and is ultimately responsible for aligning the incentives of the COI stakeholders. The USTC DPO designation is codified in the Unified Command Plan and DoD Directive 5158.04, “United States Transportation Command,” July 27, 2007.

A *process owner* is the head of a DoD Component that is assigned a responsibility by the Secretary of Defense when process improvement involves more than one DoD Component. The process owner is responsible for coordinating, sustaining, and improving processes; coordinating the creation of new processes, where appropriate; and being accountable for their outcomes. Process owners advocate improvements for and across all DoD Components for effectiveness, efficiency, and alignment relevant to a particular process.⁵ The level of Defense DPO’s success in aligning the Joint Deployment and Distribution Enterprise - Community of Interest (JDDE-COI) incentives is directly correlated to the level of predictability for all COI stakeholders. This is predictability that is equally important to the DPO and the Soldiers (of all components) alike. Operational Reserve Soldiers need predictability of not only when they will potentially mobilize and deploy, but also the knowledge and skill required to employ JDDE automated distribution systems when they do. Predictability of this nature can lead

to positive Soldier defining experiences and will render the Armies contribution to the JDDE increasingly “Army Strong.”

Predictability for the Operational USAR Soldier

In November 2006 the Army launched its new advertising campaign – Army Strong. The Army Strong campaign highlights the transformative power of the Army and captures the defining experiences of Soldiers of all components serving the nation.⁶ At the center of the Army vision are these same Soldiers. Living the warrior ethos – on duty protecting the Nation and society they serve.⁷ These Soldiers are the centerpiece of the Army institution and the Army’s loyalty to them is what keeps the institution Army Strong. The Army will benefit from finding the best ways to give JDDE-COI Soldiers of all components the necessary knowledge and skill to operate automated distribution systems. Predictability of this knowledge and skill will improve a Soldiers confidence and ability to accomplish assigned JDDE missions. Successful accomplishment of JDDE missions is a great way to contribute to Soldiers positive defining experiences. With these experiences a Soldier’s loyalty to the institution is cemented.

James P. Owen writes about “Riding for the Brand,” as an analogy for organizational loyalty in his book *Cowboy Ethics – What Wall Street Can Learn from the Code of the West*. The same analogy is also used at times to describe loyalty to a particular component of the Army, “Remember who you ride for.” This philosophy presents a slippery slope that must be negotiated with great caution or better yet avoided all together. The philosophy harbors risk in terms of putting the needs of one component ahead of the Army as a whole becoming increasingly Army Strong. This increases the challenge of aligning the incentives of stakeholders in the multi-component JDDE-COI.

The philosophy of loyalty for one component over the Army as an institution can be an obstacle to eliminating redundancies between components, capitalizing on strengths of each component, and improving the ability of each Soldier (the centerpiece of our formation) to predictably do their job. All components must continually and collaboratively analyze ways to attain greater efficiencies among all Soldiers working in the JDDE. Improving knowledge and skills, of the Soldiers employed to distribute

materiel and for the Soldiers whose lives depend on receiving this materiel; this will make each of them increasingly “Army Strong.”

Defense Distribution, Technology and the Operational USAR

The Distribution System

In 2003, following the initiation of Operation Iraqi Freedom, then Secretary of Defense Donald Rumsfeld designated the USTC the Defense DPO. The DPO vision is the following: USTC is responsible for creating and implementing world-class global deployment and distribution solutions in support of the President, Secretary of Defense, and Combatant Commander-assigned missions.⁸ Since the date of its designation, USTC’s DPO mission, responsibility and authority continue to evolve in an effort to provide system wide improvement.

The defense distribution system is complex when analyzed from end to end (E2E). E2E is simple enough to conceptualize, but laying out the doctrinal guidance can provide a better understanding of challenges that remain for the DoD DPO and other process stakeholders. Continuing improvement of the DoD DPO’s support to combatant commanders will be facilitated by a closer integration of the system E2E and centralized management of the system E2E.

E2E encompasses the boundaries of the JDDE applicable to force deployment and movement of materiel to support the operational requirements of the Combatant Commander and/or the Joint Force Commander. Force deployment boundaries begin at unit origin or home station and terminate when units are located at their Combatant Commander and/or Joint Force Commander designated point of need. Inclusive are intra-continental, inter-theater, intra-theater movement, and reception/assembly activities, as required. Materiel movement commences at the source of supply and terminates with commodity receipt by the consuming unit, in accordance with the Joint Logistics (Distribution) Joint Integrating Concept, Version 1, February 7, 2006.⁹ Centralized management is essential to the efficient and effective joint distribution operations. It involves the integrated E2E visibility, capacity, and control of the distribution system and distribution pipeline flow.¹⁰

Distribution is the operational process of synchronizing all elements of the logistics system to deliver the “right things” to the “right place” at the “right time,” to support the combatant commander.¹¹ Doing all this right requires an understanding and management of the integration of the distribution networks with the entire E2E process.

The distribution system consists of a number of independent and mutually supporting networks. The effectiveness of the overall distribution system is diminished by the inefficiency of any of these supporting networks.¹² Joint Publication 4-01.4 identifies these as *networks in the theater distribution system*. A more complete or E2E description is probably *networks in the JDDE*. In this description, the theater distribution system is the final system of a three system JDDE. Theater distribution is preceded by the inter-theater transportation system and industrial supply base system. Distribution management is the function of synchronizing and coordinating a complex of networks (physical, communications, information and resources) and functional components (supply, transportation, maintenance, and logistics management) to achieve responsive and customized solutions to warfighter requirements.¹³

One of the greatest challenges to continuous improvement is rooted in the technology utilized within the system and the increasingly rapid pace with which it evolves. The DPO and other JDDE-COI partners must be prudent and deliberate in efforts to acquire and field new systems or upgrades to existing systems. When new technology is applied to automated distribution systems the COI must train and sustain the required knowledge and skills. The COI should closely collaborate to effectively apply diverse resources to the timely fielding and training for automated distribution systems that USAR units will employ from E2E. The knowledge of these systems and skill to employ them is highly perishable. Use or lose is an appropriate characterization of system knowledge and skills. This is especially true where the USAR is concerned. The USAR is most vulnerable because of the limited days available to train, the volume of training requirements, and system updates and changes that complicate the readiness equation. The Joint Deployment and Distribution Enterprise - Community of Interest (JDDE-COI) must collaboratively make continuous readiness assessments and apply the appropriate resources to minimize the deterioration of automated distribution system knowledge and skills.

Technology and the Distribution System

General

Martin Van Creveld states a very simple premise regarding technology and its relationship to the art of war in his 1989 book *“Technology and War.”* War and the relationship between the armed forces and the societies that they serve are completely permeated by technology and governed by it.

“The causes that lead to wars, and the goals for which they are fought; the blows with which campaigns open, and the victories with which they (sometimes) end; planning, preparation, execution, and evaluation; operations and intelligence and organization and supply; objectives and methods and capabilities and missions; command and leadership and strategy and tactics; ... not one of these is immune to the impact that technology had and does have and always will have.”¹⁴

In the introduction of this paper, the complexity of our national security environment is presented. The implications of technological advances permeate this environment.

Globalization affects more and more people every day. It is technology and its impact on the flow of digitized information that makes the realization of globalization increasingly apparent to more and more people all around the world. Unfortunately, these individuals are not always putting this capability to work for peaceful means. The author Thomas Friedman addresses technology and globalization and its impact on logistics in tremendous depth in his book *“The World is Flat.”* He explains a technology driven evolution in globalization that he calls Globalization 1.0 (countries globalizing), 2.0 (companies globalizing), and 3.0 (power for individuals to collaborate and compete globally).

As part of his research Friedman spoke with Nandan Nilekani, who is the CEO of the Indian Company; Infosys Technologies Limited. It is Nilekani who really put Friedman on to the flat world idea.

“It is now possible for more people than ever to collaborate and compete in real time with more other people on more different kinds of work from more different corners of the planet and on a more equal footing than at any previous time in the history of the world – using computers, email, fiber-optic networks, teleconferencing, and dynamic new software.”¹⁵

These capabilities and possible applications excited Friedman. His excitement however was tempered somewhat by what he calls a personal dread.

“it’s not only the software writers and computer geeks who get empowered to collaborate on work in the flat world. It’s also al-Qaeda and other terrorist networks. The playing field is not being leveled only in ways that draw in and superempower a whole new group of innovators. It’s being leveled in a way that draws in and superempowers a whole new group of angry, frustrated and humiliated men and women.”¹⁶

It’s this condition that results in a complexity of adversaries with whom we find ourselves in a state of persistent conflict. Our military must be prepared to engage countries over time and respond to adversaries when necessary on a global basis to preserve freedom and the pursuit of life, liberty and happiness. Our JDDE-COI for its part will work to ensure our military can be predictably projected and supported, wherever in the world that it is required to go.

DoD Automated Distribution System Implementation and Risk

The DoD and the Department of the Army (DA) are collaborating closely to limit the risk associated with implementing distribution technology. The risk resides primarily with the pace of technological change and its affect on funding, acquisition, fielding and training for distribution systems. DoD Instruction 5158.06, July 30, 2007 (Subject: DPO) provides service component and DPO responsibilities that, when carried out, will certainly limit the risk not only to implementing distribution technology, but also to technology update and maintenance.

The challenge remaining is the ability for the JDDE-COI (like any large corporation today) to stay agile, adaptive and nimble in keeping pace with the evolution of technology in general and its application to distribution systems. The COI collaborative assessments should include what technology we must have, what technology we can do without (temporarily or permanently), and how we keep all the JDDE technology integrated E2E. Glenn Reynolds book: *An Army of Davids*, provides some insight into just how fast things are changing. Reynolds references Kenneth Galbraith’s book *The New Industrial State*; in which Galbraith theorized that big corporations, because of their size, were essentially protected from failure and insulated

from any threat of competition from smaller companies. Regarding Galbraith's theory Reynolds writes about how this turned out not to be the case.

“Even as *The New Industrial State* was appearing in 1966, the seeds of change were taking root. The year before, in *Electronics* magazine, Gordon Moore had first proposed “Moore’s Law”- essentially saying that computing power was doubling every two years and would continue to do so for the foreseeable future. Giant corporations weren’t nimble enough to keep up such a pace.”¹⁷

The US Government and the DoD, like giant corporations, also lack nimbleness to embrace technological change and to institutionally integrate the capability provided by it. The challenge to embracing technological change is becoming even more acute than that suggested by Moore’s Law in 1965.

Glenn Reynolds also addresses the approach of singularity in his book. Singularity is an era in which our intelligence will become increasingly non-biological and trillions of times more powerful than it is today. It is a dawning of a new civilization that will enable us to transcend our biological limitations and amplify our creativity. We are moving in this direction because of the trends of increasing computing power and increasing capacity to have access and manage tremendous amounts of digital information. These trends are coming together into web based business platforms enabling global collaboration. This is an evolution that not only allows the individuals who develop these business platforms to collaborate globally; but once programmed, for the business platforms themselves to collaborate globally. Glenn Reynolds puts it this way:

“we’ll probably see much more dramatic change in the next few decades than we’ve seen in the last. So argues Ray Kurzweil in his new book *The Singularity is Near: When Humans Transcend Biology*. Kurzweil notes the exponential progress in technological improvement across a wide number of fields and predicts that we’ll see artificial intelligences of fully human capability by 2029.”¹⁸

Ray Kurzweil is one of the world’s leading inventors, thinkers, and futurists with a twenty-year track record of accurate predictions. It was 43 years ago that Gordon Moore proposed Moore’s Law regarding the doubling of computing power every two years. The reality today is that in the information technology (IT) industry companies such as Advanced Micro Devices, Intel, Dell, Hewlett Packard, Microsoft and Apple have research and development timelines that develop and take new more capable

products to market in eighteen months or less. The trend is for these time lines to grow even shorter. This suggests that Moore's Law has probably been broken and the reality is we are only 21 years away from the mark set by Kurzweil for Singularity.

Another indicator of this trend is found today with Microsoft and its unsolicited take over offer of Yahoo! In the tech industry, mergers and acquisitions can be prone to failure because of the pace of change. Microsoft however, has no choice given the threat posed by Google to foundation of the Microsoft's empire. Computing is increasingly moving to the Web, challenging the relevance of Microsoft's core products, the Windows operating system and Office productivity software. "Google is the single biggest threat Microsoft has ever had," says David B. Yoffie, a Harvard Business School professor.¹⁹

The DPO and the Joint Deployment and Distribution Enterprise – Community of Interest (JDDE-COI) are up against this challenge. How the COI works to meet the challenge must be continually assessed for how well we are keeping pace with the evolution of technology in distribution. For their part DA and OCAR are required to assist and coordinate with the DPO on distribution process concept development, process improvements, technological innovation, systems integration, assessments, and testing in accordance with the Joint Logistics (Distribution) Joint Integrating Concept Initial Capabilities Document, August 17, 2006²⁰ DA includes the Implementation of a Logistics Automation Governance Strategy as a supporting initiative identified in the 2007 Army Posture Statement.

The Army Logistics Domain mission is to provide critical logistics IT to enable Current Force combat capability, while transforming Army logistics IT to support the Future Force.²¹ Since the technology associated with logistics IT is always evolving, the transformation effort is a continuous one. The Army Logistics Domain Strategic IT Plan outlines, at a strategic level, the path forward to accomplish the Army Logistics Domain vision. The core building block of the plan is our vision for a Single Army Logistics Enterprise (SALE) which provides information superiority through real-time visibility of personnel, equipment, and supplies anywhere in the distribution pipeline and within battlespace.²²

The Army has a good plan for the centralized monitoring and control of automated logistics system development and fielding. The challenging strategy is to

transition from numerous independent stand alone systems to and integrated E2E system operating in a net-centric environment (robust networking of well-informed geographically dispersed forces). There are three overlapping phases that are intended to allow the Army to achieve The Army Logistics Domain Strategic IT Plan. They are the following:

- Continue to meet Warfighter requirements with current IT systems.
- Bridge to enhanced, near-term capabilities as necessary.
- Deliberately move to a SALE, taking advantage of modernized enterprise resource planning (ERP) capabilities.²³

In addition to the risk associated with logistics IT perpetually evolving, there is another risk that must be managed. There is always competition for scarce resources across the DA and DoD. Substantial and predictable funding levels are required to maintain current and bridging systems while the Army completes development and fielding of its future ERP based systems.²⁴ It is expected that the DA, with assistance from the DPO, can develop viable risk management plans that account for potential resource setbacks and still ensure integration of distribution improvement efforts and performance standards expected of the DPO. It is USTC that is expected to develop recommended DoD distribution technology investment priorities and advocate for the JDDE in all phases of the DoD planning, programming, budgeting, and execution process.²⁵ As the lead JDDE-COI stakeholder, the USTC recognizes the importance of managing all associated risks to the JDDE. This includes the recognition that they must capitalize on the nimbleness of the private sector logistics (distribution) industry.

Military and Business Logistics

When comparing military and business logistics over time, it is significant to note just who provides insights to whom. The term business logistics only came into use during the 1960s. The military was focusing on logistics as a source of tactical, operational, and strategic advantage well ahead of any private sector industry ever considering logistics as a source of competitive advantage.

In military literature, *logistics* emerged as a term by the time of the American Civil War. This literature discusses military logistics in Europe since the seventeenth

century and emphasizes events since the early 1800s.²⁶ Beginning in the 1960s, business logisticians looked for insights from military logistics. From that time and continuing today business logistics remains in a state of continuous evolution.

Military logistics literature offers an array of principles that provide useful guidance to those managing complex logistics processes.²⁷ These principles provided business logisticians insights into the nature of logistics processes and appear to be relevant to the business logistics environment up to the late 1980s. By the early 1990s, with the emergence of the personal computer, e-mail, the Internet, and the World Wide Web, the paradigm shifted. The business logistics community began using these tools to manage the information associated with the flow of raw materials and finished goods. Their purpose was being the best at meeting customer requirements. This trend continues today as companies compete through optimizing their supply chains and strive for perfect order fulfillment. Logistics and distribution has become so important to continuing the prosperity of companies today that in many cases they outsource the function to third party logistics (3PL) providers. 3PL providers are harnessing technology that is available to always provide the next best solution, so the 3PL can remain competitive.

Following Desert Shield/Desert Storm, we increasingly find it is the military logisticians that are looking for insights from business logistics. The Army Logistics Domain Strategic IT Plan addressed in the preceding section is an example of how this trend continues today. The 2007 Army Posture Statement lays out an initiative to implement business transformation. As we change the way we operate militarily, we are also changing how we do business. We are aggressively transforming our business methods and our workforce culture to reflect best business practices in civilian industry.²⁸

The private sector logistics providers will always be pressed to provide a better, faster, and less expensive service to their customers to remain competitive. This means that private sector logistics providers will hire the best and the brightest logicians, engineers and computer scientists to produce and maintain competitive advantage. The JDDE-COI includes many private sector logistics (distribution) providers. The mutually beneficial linkage of the defense and private sector within the JDDE is and will always be connected. It is prudent and beneficial for the military to leverage the private sector logistics (distribution) capabilities. The DPO should take an E2E approach to integrating

private sector capability along side military capability. Do it as far forward in the theater of operations as the private sector logistics (distribution) providers can be securely employed.

There is some evidence of the DoD DPO recognition of this by the August 2007 award of the Defense Transportation Coordination Initiative (DTCI) Contract. USTC announced a contract award, potentially worth \$1.6 billion, to Menlo Worldwide Government Services, LLC of San Mateo, California, to manage Department of Defense freight movements in the continental United States with the goal of maximizing efficiencies and reducing cost.²⁹

“In addition to the efficiencies and expected cost savings we’ll gain,” said Air Force Col. James Lovell, director, DTCI Program Management Office, “this long-term partnership with Menlo Worldwide Government Services allows us to implement several commercial best practices into our transportation operations.”³⁰

The National Defense Transportation Association (NDTA) 61st Annual Forum and Expo September 7th, 2007 news release contained an interview with the NDTA President, Lieutenant General, USA (Ret.) Ken Wykle. In the interview LTG Wykle was asked: What do you believe are the most significant distribution improvements of the last year? His response was,

“I believe the most significant event occurring since last year’s conference is the DTCI award – an effort by US TRANSCOM to have a third party manage all aspects of certain transportation requirements.”³¹

The DTCI and Menlo contract can enable the DPO to pursue E2E process improvement forward of CONUS. The greatest potential improvement exists in collaboration among COI partners employed in theater distribution functions. The DPO, DA, OCAR, and all Regional Combatant Commanders should collaborate to implement solutions similar to the DTCI contract to facilitate the equipping and training of all theater distribution units, but particularly USAR units.

Profitability is a Powerful Force for Change

It is obvious that a company in the private sector must remain profitable over time to perpetuate its existence. The pace of technological change is shortening the time available for a particular product to be profitable. In the previous decade, this has driven companies to improve and even compete with their supply and distribution chains.

Today companies are driven to invest resources in their manufacturing technology to optimize the timing with which their products reach market to maximize market yield before the next upgrade cycle emerges.

The US Army is looking at ways to emulate the private sector in its capabilities integration and development system and the life-cycle system acquisition management process. Figure 5 is from the Office of the Assistant Secretary of the Army (Acquisition, Logistics and Technology) and shows some evidence of the effort to improve these processes.

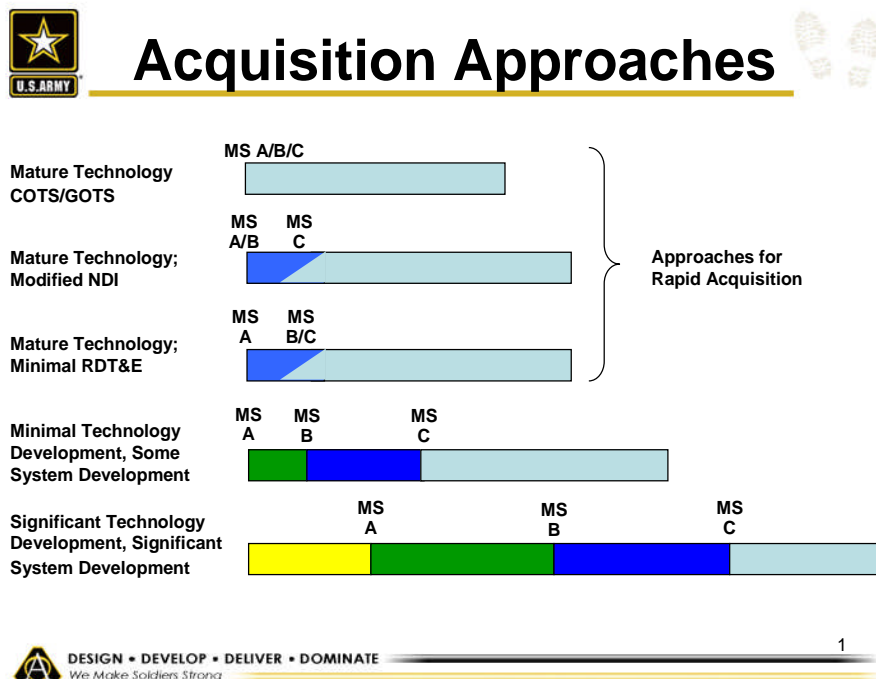


Figure 5. US Army approaches for rapid acquisition.

The intent here is to shorten each of these processes. Where mature technology exists and is proven to work, developmental milestones (MS) in these processes may be skipped, merged, or condensed for cost saving and timely delivery of products to the force. This technology may be represented by commercial off-the-shelf, government off-the-shelf or nondevelopmental items. These items are usually feasible, acceptable, and suitable solutions for current and future capability gaps. Life cycle support to these items

might also be revolutionized to fit what inevitably are shorter life cycles. In the Army, profitability may not be as powerful a force as in the private sector. But revolutionizing how we deliver products to the force is a measure of cost savings that can perpetuate modernization and dominance.

Word of Caution in Using Technology to Maximize Distribution Efficiency

The case is made in this research that the JDDE-COI must embrace technological changes. The research also presents collaborative strategies for employment of the technology in the JDDE to improve collective readiness and distribution outcomes for all JDDE-COI partners. However, it is prudent for military logisticians to remember that technology need not be pursued to a point of just in time efficiency. The closer to the point of consumption one gets, the thicker the fog of war becomes. MG Thomas Robinson is a USAR General Officer with two OIF deployments commanding two different organizations with distribution related missions. He is a Warrior Citizen who in his civilian capacity managed a very large distribution operation for a consumer products company. With this experience, MG Robinson explained a difference between military and business distribution.

“We don’t want to be as efficient in military logistics as in business logistics. Not only are logistical nodes and customer locations changing, but the enemy has a say also. Convoys will get ambushed and disrupt resupply efforts. The weather can also be the enemy as we found out with sand storms so severe that convoys were suspended. There has to be some safety stock or slack in the system.”³²

Taking another look at Martin Van Creveld’s book *Technology and War* we can find a word of caution regarding the employment of technology in the conduct of theater distribution. First, he presents the case for the pursuit of efficiency by employing technology in a logistics system operating in support of a large-scale military campaign.

“If efficiency were all that mattered, and if the goal were simply that of achieving the greatest through flow of supplies ... at the least cost in manpower, depots, vehicles, and so forth, then it is obvious that the system should be organized along technological principles.”³³

If complete efficiency is the primary objective than the system itself could be too fragile and susceptible to catastrophic breakdown. Particularly within the theater distribution segment of the JDDE, the system must be responsive to changing situations

and capable of switching from one objective to the next. Van Creveld goes on to provide a stern word of caution regarding the employment of technology in pursuit of complete efficiency in a logistics system.

“... in short, it is to be capable of coping with the uncertainty that is the result of enemy action and, as such, inherent in war – in that case a certain amount of redundancy, slack, and waste must not only be tolerated but deliberately built in.”³⁴

USAR JDDE Missions, Equipping and Training

The Surface Deployment and Distribution Command (SDDC) and USAR Training Strategy

The SDDC (formally Military Traffic Management Command [MTMC]) utilized an effective training strategy with USAR units for nearly two decades. This strategy is one conceived out of the reality that the affected USAR units were of operational significance to MTMC (the post mobilization gaining command) in the early 1990s. It is a strategy that recognizes and addresses the challenges associated with fielding automated logistics systems to the USAR; as well as, the employment of DA civilians and/or defense contractor subject matter experts (SME) in the system set up and training process. MG Robinson’s experience of two OIF deployments in organizations with distribution missions is useful in his present assignment. He is currently serving as the First Army Deputy Commander, where his daily responsibilities are focused on the predeployment training of USAR units preparing for worldwide missions. MG Robinson’s assessment is that,

“In peacetime the SDDC is a good model for the equipping and training of USAR units. The USAR is fully integrated by the SDDC in peacetime and war.”³⁵

My experience in a USAR MTMC Transportation Terminal Unit (TTU) in the early 1990s is one that is worth noting. The TTU was a unit organized to manage the deployment and redeployment of military cargo through CONUS and OCONUS seaports. The manner, with which MTMC resourced, fielded and trained the 1184th TTU (now the 1184th Transportation Terminal Battalion) with the World Wide Port System (WPS), Integrated Computerized Deployment System (ICODES), bar code label printers and bar

code scanners, is one that SDDC and other JDDE-COI partners must continue today. MTMC systems SMEs, traveled to the USAR Center where the 1184th was stationed. The commercial off-the-shelf hardware for these systems was shipped to the USAR Center prior to the arrival of the SMEs. The MTMC SMEs assisted 1184th unit personnel in the set up and operation of these systems in the USAR Center.

With these systems on hand and the knowledge and skill to operate them, the 1184th could collectively train the entire unit on port operations once a quarter at a virtual port in the USAR Center. Cargo was represented by index cards that had a picture and transportability characteristics of the equipment on one side, and a barcode shipping label on the other. The Documentation Section could use an actual vessel load data file to use WPS and barcode label printers and scanners for tracking all cargo through the virtual port. The Vessel Section could use ICODES to conduct ship cargo stow planning. The Staging and Vessel Sections could use bar code label scanners to track the movement of cargo through the virtual port. The Operations Section could use all the status reports from other sections along with MTMC Transportation Engineering Agency (TEA) Port Characteristics Data and other port operations doctrinal guidance to conduct operations meetings and command group briefings. The 1184th improved its readiness further by conducting its Annual Training (AT) at an operational MTMC seaport. The 1184th TTU unit leaders more appropriately referred to it's AT as its Annual Mission. The level of integration that MTMC and its USAR terminal units achieved in the early 1990s is clearly an ideal approach to improving Operational Reserve units today.

This approach to AC/RC integration effort, by all partners of the JDDE-COI, needs to focus on improving readiness of all theater distribution units to be employed up to the point of consumption. MG Robinson who pointed out the SDDC model as good one, continued by stating that:

“Other agencies, including but not limited to USTC, Defense Logistics Agency (DLA), and Defense Energy Support Center (DESC) could improve readiness of RC units by using a similar model.”³⁶

Similar to the USAR SDDC unit example where they employ their automated systems in a virtual seaport at the USAR center, the same must be done for other theater distribution units to train in their USAR centers. Supply Units could employ their systems in virtual theater distribution centers (TDC) or supply support activities (SSA).

Movement control units could employ their systems (once fielded) to manage transportation movement releases (TMR) and movement bids/releases between SSAs, TDCs and points of consumption. The entire JDDE-COI will benefit by pursuing this strategy of improving automated systems knowledge and skills of operational USAR units to be employed throughout any potential theater distribution system.

COL James Lee is a USAR officer who was assigned to the 377th Theater Support Command (now Theater Sustainment Command) as the Support Operations Officer during OEF I and OIF I; he also believes that the SDDC model is one worth emulating. As the Army transforms to meet the demands of the present conflict and to prepare itself for the next, the 377 TSC must continue to integrate emerging technology to maximize the efficiency of theater distribution and achieve true total asset visibility. The TSC can't achieve this task on its own. It will take continuous collaboration with the DPO and other JDDE-COI partner organizations to provide the best possible trained and ready USAR Soldiers and units. COL Lee stated,

“The most important mission that the TSC does is distribution management.”³⁷

A JDDE-COI integrated training strategy that improves upon logistics information system knowledge and skill directly improves the ability of a TSC to conduct theater distribution. COL Lee also stated,

“The only way to efficiently keep Soldiers trained in distribution is to collectively employ them with the right systems in actual distribution operations in peacetime.”³⁸

A theater distribution system will be hard pressed to operate in an integrated, responsive, and continuous manner without the effective operation of its automated distribution systems. Acknowledging this technology and the risks associated with employing it in a theater of operations is critical. It will help to deliberately integrate all aspects of the JDDE-COI in the effort to capture the technology and manage the risks. Part of the answer is to continue to look to business logistics for insights for military logistics. The COI can look to models like the SDDCs in their approaches to integrate USAR distribution units. This is essentially the aligning of incentives of the JDDE-COI partner organizations. However, these same partner organizations must be fiscally responsible in the manner in which they improve the readiness of USAR units to be

mobilized and employed in a theater distribution system. The ARFORGEN Model provides some insights to improving readiness in a fiscally responsible manner.

The Pentathlete Leader and the ARFORGEN Model

The former Army Chief of Staff, General Peter Schoomaker was the first to introduce the concept of a *Pentathlete Leader*. A pentathlete leader among other things is someone who effectively manages and leads large changing organizations. In so doing, these leaders will promulgate adaptive organizations that embrace innovation. In the Warrior Citizen magazine article titled *The Pentathlete Leader*, LTG Jack Stultz explains the importance of developing pentathlete leaders.

“The future environment will demand that Army leaders at all levels be multi-skilled, innovative, agile and versatile. Therefore we are continuing to evolve our training and education systems to grow adaptive leaders who are ready to lead in times of change and uncertainty.”³⁹

A pentathlete leader will be able to use experience, vision, and available resources to collaborate as needed; rendering multi-component integrated approaches to more efficient mission assignments, manning, equipping and training. This will require the USAR to continue its institutional embracing of the ARFORGEN model and underlying resource allocation principles. In so doing, the USAR logistics officer will endeavor to inculcate a culture that strives to better manage scarce resources. In addition to increasing JDDE-COI collaboration to improve integration and predictability. Figure 5 provides an illustrative overview of the ARFORGEN Model, the notional flow of AC and RC units through the readiness pools and the resourcing approaches to the various readiness pools. The figure uses the Brigade Combat Team (BCT) to illustrate the flow of units through the ARFORGEN readiness pools. However, ESC's, Sustainment Brigades and lower echelon distribution units will generally flow through the model in the same manner.

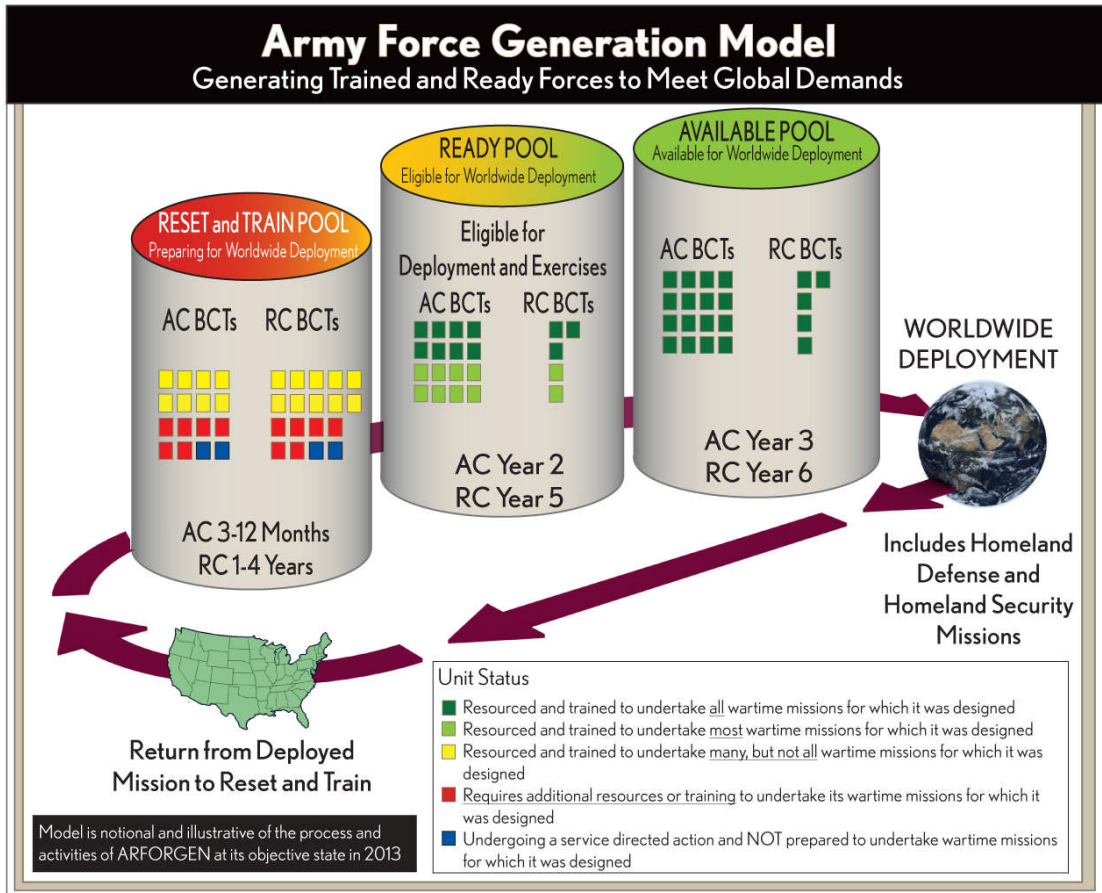


Figure 6. The Army force generation model.⁴⁰

Missions

The “Troop Surge” is providing for an improved security environment in Iraq. The improved security sets the conditions that allow for continued draw down of troops in the region. This scenario coupled with the planned growth of the Army by 74,200 military personnel by fiscal year 2013⁴¹, improves the US Army capability to respond to our nations increasing security demands around the world.

The improved capability makes possible the deliberate assignment of designated units (to include distribution units) to homeland defense or defense support of civil authority’s missions for a given cycle through the ARFORGEN model. This assignment provides for a level of mission predictability in addition to available year predictability. Mission predictability can translate to improved resource allocation during readiness preparation. Even with success in the Iraqi Theater of Operations to influence and reverse

the evil ways of Islamic extremists, it is an effort that will continue in the region for generations to come. Much of this effort will be focused on the lower end of the spectrum of conflict conducting peacetime military engagement. If for example, a unit is assigned to a support of civil authority mission, it could respond to a natural disaster at home or in a similar manner providing humanitarian assistance abroad.

One only needs to look to the recent humanitarian relief operation following the devastating 2005 earthquake in Pakistan. This natural disaster resulted in greater than 74,500 deaths and 106,000 injuries⁴² creating a crisis demand for the distribution of medical supplies. The USAR's Chief Warrant Officer Bob Louck is a Chinook helicopter pilot and was part of the US Army relief effort. Chief Louck stated the following about his experience:

“It was the experience of a lifetime. I had never been on a humanitarian mission. Some of the villagers really believed Americans were evil. I can only hope that our relief missions helped to change some minds; especially the young people who are recruited by the Taliban.”⁴³

In 2007, a senior US Army leader shared an experience from an assignment in Pakistan. He commented that while in a market he witnessed two boys playing. One of the boys was playing with a Chinook helicopter toy with US Army markings. The other boy looked on as he played and was wearing a shirt with a picture of Osama Bin Ladin on it. It is evidence that our military can positively influence future generations in the region. It is also evidence that others will also be trying to influence them. Aligning units to homeland defense or defense support of civil authorities does contribute to weakening the evil influence of Islamic extremists. More importantly it has great potential for economical application of manning, equipping, and training resources for units employed in JDDE missions.

Equipping and Training

As units do flow through the ARFORGEN model our pentathlete leaders must be responsible stewards of scarce resources applied in the process. US Army Field Manual 7-0 (Training the Force) defines training as the process that melds human and materiel resources into a required capability. By basing resource decisions on ARFORGEN assigned missions, the USAR can improve the effectiveness with which it meets this

definition of training. The most modernized piece of equipment may not always be what is required for the mission. We are wasting resources if we are training Soldiers on materiel that will not be used or will be replaced when deployed. The cost of such waste can be to our ability to modernize JDDE-COI equipment.

If in the ARFORGEN model some distribution units are deliberately assigned to potential homeland defense or defense support of civil authority's missions, and others to potentially less benign operational themes (i.e., major combat operations); the equipping strategies for each can be different. The JDDE-COI, in close collaboration, can efficiently apply scarce resources for timely fielding and mission focused training for USAR units. This effort will increase the confidence that units are provided the appropriate equipment and automated distribution systems that will likely be employed in the available year of the ARFORGEN cycle.

The knowledge of these systems and skills to employ them are perishable. This is especially true where the USAR is concerned. The USAR is most vulnerable because of the limited training days available to accomplish all the training requirements. For distribution units, the readiness equation is complicated further by automated distribution system updates or replacements. The DPO and the USAR must establish a battle rhythm to collaboratively approach the automated distribution system equipping actions and training programs for USAR units moving through the ARFORGEN model preparing for various missions.

What is prudent (because of perishable system skills) and cost effective for the entire JDDE-COI is to field only distribution systems that will be employed in the most likely available year mission if deployed. Don't field or provide training for systems that are scheduled to be replaced or significantly upgraded prior to deployment. No USAR unit can afford to waste training time, nor can the community afford to waste JDDE-COI resources on equipment and automated distribution systems that will not likely be employed.

Another objective is to improve the predictability, that when deployed, USAR units will be using the same systems and have the same skills as other units employed in the theater of operations. In terms of the ARFORGEN model, this means that a USAR unit may not receive equipment and training until year five of six in the model. In

contrast, an AC unit may receive the same equipment and training in year two of three in the model. The result however, is that each of these units (USAR and AC) are receiving the same equipment and training, at the same time and for employment in the same theater distribution program.

According to COL James Lee of the 377th TSC they have already participated in a multi-component meeting to synchronize ESC rotation schedules in the ARFORGEN model. The TSC is now planning to host a multi-component meeting to synchronize Sustainment Brigade rotation schedules in the ARFORGEN model. This is an initiative they intend to schedule annually. In addition to the ARFORGEN scheduling they are also going to invite the DPO and JDDE-COI partners (DA G-4, COCOM G-4's, SDDC, and AMC among others) to review and synchronize annual fielding and training plans for automated distribution systems.

What this means in terms of the ARFORGEN model is that each unit, regardless of component, receives the right equipment and training while in the ready pool of the model. Figure 6 shows how training is integrated into the ARFORGEN model. For any given distribution mission the JDDE-COI needs to be more predictably assured that all units (regardless of component) will be employed with the same equipment, knowledge and skills. There is incentive for all partners in the JDDE-COI to achieve this predictability. Similar to aligning the incentives of the stakeholders on a project team, so can we align incentives of the stakeholders in the JDDE-COI.

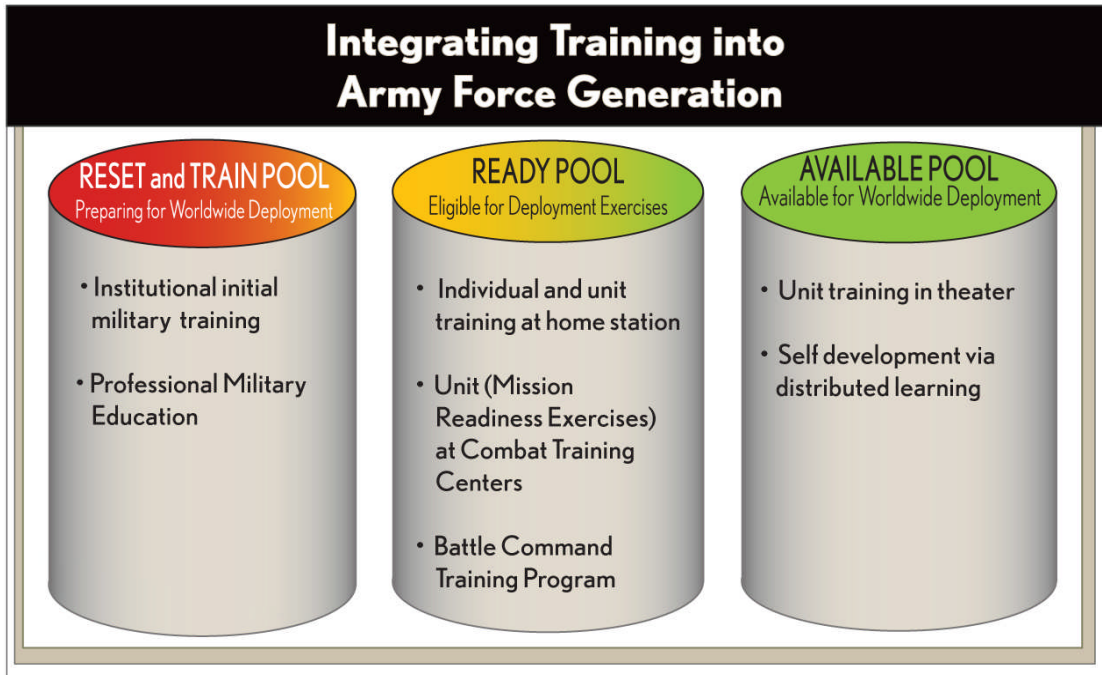


Figure 7. Army force generation model training.⁴⁴

Using a Project Management Discipline in the JDDE-COI

Introduction

Why and how is the use of the project management discipline proliferating across all sectors of the global economy? Rudolf Melik is a successful entrepreneur, professional speaker, and author with more than twelve years of field proven experience in project management, regulatory compliance, and business process automation. In his book *The Rise of the Project Workforce, Managing People and Projects in the Flat World* Rudolf Melik provides an explanation as to why this proliferation is occurring.

“We are in an era of massive transformation of the modern organization. We are buffeted by rapid market change, regular, constant product and service innovation, increased globalization, heightened competition, and the ever-increasing specialization of skills as a result of accelerated knowledge growth.”⁴⁵

Today, we find more and more examples of the use of project management discipline as a pillar of competitive advantage. It is probably time to consider the project management discipline as another best business practice. With greater frequency one can find this discipline directly linked to efficiency, effectiveness and competitive advantage

in all sectors of the global economy. Organizations need to find ways to adapt to rapidly changing environment in which they operate. Rudolf Melik continues with an explanation of how project management is key approach to how organizations survive and prosper.

Organizations have learned that the way forward is not by relying on solid, unyielding, slow-to-respond corporate structures of the last century. They have realized that to deal with the high velocity future, they must be able to swiftly assemble and disassemble teams that will focus on specific projects.”⁴⁶

Many companies find themselves managing a workforce that is temporary, transient, and part-time in nature and multi-skilled in background. The skill required to manage such a workforce is increasingly becoming an organizational key competency. This is insight that the JDDE-COI should examine for application end-to-end (E2E), but especially within the theater distribution segment of the JDDE.

Project management is certainly not new to the government or the DoD. Much of modern project management was defined in the 1950s, on the major cold war defense programs. What happened is the discipline grew up in the aerospace and defense industries. However, in the 1990s project management broke out of its traditional boundaries. It is now a recognized and valued skill set in organizations across the spectrum, from health care to manufacturing, software to natural resources.⁴⁷ The private sector has taken the project management discipline to a whole new level where many companies place a significant premium on individuals who are good project managers.

Evolving technology has put every one of us on ever-faster upgrade cycles.⁴⁸ It is the private sector’s response to market forces resulting from the rapid pace of change that continues to evolve project management as a discipline well beyond that practiced decades earlier in the aerospace and defense industries. As the need for good project managers increases and the discipline continues to mature classes in project management are now required for many MBA programs around the country. At some universities undergraduate and graduate degrees in project management are emerging. Project management today is a best business practice that the JDDE-COI needs to add to the transformation kit bag.

DPO Project Management in Theater Distribution

In all sectors of the global economy where people are leading change, they are managing projects. “Projects” in all these cases are something done one time that produces a unique result. All around us, project management discipline is being embraced as leaders recognize that they are increasingly managing project driven organizations. In 1993 my MBA program logistics management instructor, Professor Davis asked:

“How many different logistics products are there?” His answer was; “it’s infinite because each product includes a different origin and destination, moves a different commodity, and requires different modes of transportation.”

This answer only begins to touch upon the complexity of projects to be undertaken in the establishment, evolution, and operation of a theater distribution program. Project characteristics (change, unique and variable requirements, and unique and variable results) are similar to what we can expect from the distribution program associated with any given theater of operations. Each theater distribution program is unique and evolves over time. The project management discipline is a suitable approach to assist JDDE-COI partners in their efforts to plan, develop and manage a theater distribution program, particularly where functional and organizational interfaces exist. COL James Lee from the 377 TSC explained it this way,

“A theater distribution system is a process flow. Like an engineering process flow, every point of interface is a point of potential failure. It may be the documentation interface from one system to another, or it may be the interface between strategic and operational transportation.”⁴⁹

These interfaces can never be completely eliminated. However, they can be identified and managed. Collaboratively organizations that perform functions on each side of the interface can manage the interface with the logical incentive of optimizing the distribution process outcomes. COL Lee continued that,

“Metering the information that represents the flow supplies and transportation assets through these interfaces is critical. To be successful the operator responsible for theater distribution must collaborate closely with all strategic partners and tactical customers, or the system falls apart.”⁵⁰

With USTC’s development and implementation of the Joint Deployment and Distribution Operations Center (JDDOC) concept the process is already underway. This

is the first step in employing a project management discipline to functional and organizational interfaces that exist in a theater distribution program. USTC first stood up the CENTCOM DDOC on January 17th, 2004 during OIF I in Kuwait under the operational control of CENTCOM. This organization was essentially a joint project team of distribution professionals and was refined over time to achieve certain design imperatives with the goal of improving theater distribution. At the combatant command (COCOM) level it is irrefutable that the integration of distribution subject matter experts to synchronize joint efforts did improve theater distribution. This was particularly evident with the improvement of strategic to operational distribution visibility and interface (theater seaports and airports of debarkation and embarkation). Today, the makeup of any regional JDDOC is scaleable to the region and mission. The design characteristics of a JDDOC are much like those of a project team in the private sector. An effort can be made to use these characteristics and capitalize on the early success of the JDDOC by employing a similar capability at echelons below the COCOM. There is potential in such an effort to render improved operational to tactical distribution interface, integration, visibility, responsiveness, continuity and improvisation abilities.

Within the USTC 2006 Strategic Plan the first goal is to mature the JDDE. One of the objectives that support the achievement of this goal is E2E Common Operational Information and Technology (IT) capabilities across the JDDE. This objective contains some of the USTC's highest priority initiatives. Initiatives to improve theater distribution management and distribution support to the warfighter.⁵¹ Taking the JDDOC concept to lower echelons is a measure that can contribute to meeting this objective and subsequently achieving the goal of maturing the JDDE.

Taking the Deployment and Distribution Operations Center and Project Management Discipline closer to the point of consumption is logical. The reason it is logical is the increasingly dynamic nature of theater distribution the closer you get to the point of consumption. To aid in responsiveness to these dynamics the integration of JDDOC type teams can occur in lower echelon logistics organizations like the Theater Sustainment Commands (TSC), Expeditionary Sustainment Commands (ESC) and Sustainment Brigades. Each JDDOC type team should be economically manned, where by requiring less capability and personnel at each lower echelon (scaleable to the

mission). The greatest value of these teams is to help overcome the challenge of integrating and maintaining automated logistics / distribution systems employed in the JDDE.

The US Army Materiel Command (AMC) provides a good precedent of pressing closer to the point of consumption. They integrate at all levels in theater with a project team approach to facilitate logistics functions for supported commanders. Today AMC has eight Army Field Support Brigades (AFSBs) that provide a global presence. There is an AFSB in Anaconda, Iraq and another in Afghanistan showing how close they are pressing to the point of consumption. These AFSBs perform various support functions including but not limited to synchronizing new equipment fielding, contingency contracting and the logistics assistance program (LAP). Within the LAP direct technical logistics assistance is provided down to brigade combat team (BCT) level. Depending on the type of BCT there may be up to eleven, Logistics Assistance Representatives (LAR). The LARs are there to provide technical expertise, technical reach back capability and assist with contingency contracting.

DPO JDDOC type teams must never be the decision maker regarding the operation of a theater distribution program. The decisions must remain with the TSC's, ESC's and Sustainment Brigades, but a JDDOC type team can help with assured access to decision support data and presentation of the data. MG Thomas Robinson's command of two theater-level distribution units shared similar challenges. Each of these units performed a key distribution function for the Iraq theater of operations. A constant challenge was logistics automation system integration. This challenge included uninterrupted access to, and assured reliability of, the logistics data these systems are designed to provide. In an interview with MG Robinson he stated:

“There is viability to a JDDOC type team at lower echelon logistics headquarters, but only as a system integrator; never an operational decision maker.”⁵²

Conclusion and Recommendations for Additional Research

Presented here are the nature of our national security environment and the inherent impact of technology and its rapid evolution faced by the Defense DPO and JDDE-COI. It will be prudent for the JDDE-COI to continue to find insights from

business logistics for application in the JDDE. The JDDE-COI led by the DPO will benefit from collaborative approaches to improve readiness of the larger percentage, yet cost effective USAR units employed in the JDDE. Improving the total force effect on the JDDE process outcomes are enhanced by implementing these approaches along with the Army Force Generation (ARFORGEN) model. An objective of this strategy can be to overcome the collaboration challenge that exists due to competing demands among the USAR and JDDE-COI partner organizations. A collective effort can render improved predictability of automated distribution system knowledge and skill employed by USAR units, resulting in JDDE-COI incentives being aligned. By aligning incentives and applying resources accordingly, a more predictable and desirable DPO effect at the point of consumption results (optimize distribution process outcomes).

In the future, a beneficial effort will be for the JDDE-COI conduct additional research and strive for the following objectives:

- A continuum of skill-rich Warrior Citizens.
- Develop USAR and JDDE-COI partner training associations.
- Achieve ARFORGEN based mission and equipping strategies for the JDDE-COI.
- Expand the project management discipline approach to theater distribution.

The Continuum of Skill-Rich Warrior Citizens

Determine policies and programs that will help the Army capitalize on the skill-rich characteristic of Warrior Citizens. More important is developing the means to more than capitalize on current skills, but actually cultivate skill-rich qualities of Warrior Citizens. Certainly the Army does and should vigorously continue to support life-long institutional learning opportunities and training with industry. The pace of technological evolution and insights for business logistics for military logistics highlight the need for these programs.

Consideration can also be given to improving the ability of Soldiers to move freely from one component to another and back again with no detrimental effect on service credit. This is an Army Strong concept (positive soldier defining experience) that

isn't quite a stretch. However, the idea to not incur a break in USAR service because a Soldier is employed by a defense distribution contractor in a theater of operations is a paradigm shift, but is worth analyzing. This defense contractor job may be providing a material benefit to the JDDE-COI, but it may also prevent the Soldier from serving in a USAR unit. In this case or in similar cases to this, Soldiers should not incur a break in service. Even if it means the Soldier receives the minimum points required for a good year. Soldiers who are treated this way are more likely to go back to a USAR unit when they are able. The Army is able to capitalize on the continued service of the skill-rich Warrior Citizen.

Develop USAR and JDDE-COI Partner Training Association

This recommendation is related to the SDDC training strategies explained earlier in this paper. The DPO will likely experience improved distribution process outcomes by applying similar strategies within the JDDE-COI. This approach is logical for units that will be employed in the theater distribution segment, operating automated logistics systems; up to the point of consumption.

JDDE-COI partner organizations such as USTC, USTC Component Commands (SDDC, AMC, MSC), and the Army G-4 should work closely with COCOM's, TSC's, ESC's and Sustainment Brigades of all components. Their collaborative efforts focused on the timely and effective fielding of automated logistics systems. Then continue with the employment of mobile SME training teams to improve automated logistics system knowledge and skills of distribution units moving through the ARFORGEN model.

Achieve ARFORGEN Based Mission and Equipping Strategies for the JDDE-COI

This recommendation is related to training association precedent set by SDDC. Automated logistics systems are expensive and USAR unit training time is limited. The appropriate JDDE-COI partner organizations need to work closely and regularly with USAR TSCs and ESCs to coordinate the fielding of automated logistics systems that are most likely to be operated in a given ARFORGEN mission. The objective is to not waste resources on fielding systems that may never be used, as well as not wasting valuable USAR unit training time.

Expand the Project Management Discipline Approach to Theater Distribution

The final recommendation is a strategy to extend and maintain the benefits of the equipping and training association recommendations into the theater distribution program. The project management discipline is an ideal best business practice for addressing the many dynamic variables associated with any given JDDE-COI distribution scenario. By establishing this collaborative approach utilizing the right make-up of JDDE-COI partner personnel the benefits are easy to conceptualize. Most likely there can be improved automated logistics system integration and maintenance. There can also be improved assurance and reliability of distribution flow data. TSCs, ESCs and Sustainment Brigades are all enabled with an improved ability to remain integrated with the supported commander, to anticipate requirements, to respond to changing requirements, and to improvise with confidence. The DPO is the logical organization to sponsor and analyze the merits of this project management approach and provide the project manager to any given project team.

It is a truism that the quality of a projects planning often dictates its success or failure. At the beginning of a project the project managers should establish the rights and obligations of project team members consistent with assigned roles and responsibilities upon employment in a theater distribution program. The DPO, Project Team, Regional COCOM, TSC's, ESC's and Sustainment Brigade expectations and incentives need to be aligned during deliberate or crisis action planning prior to employment. The possibility for improving the ability to collect distribution process outcome metrics is a valuable prospect. These metrics will support immediate theater distribution decisions and provide justification for keeping JDDE-COI incentives aligned. Most important, these metrics can provide justification to DA, DoD, and Congressional leaders to keep the necessary funding behind the Strategic Plan for Army Logistics Domain Information Technology Transformation and other DPO JDDE programs.

ENDNOTES:

¹ United States Army Reserve Command, "United States Army Reserve 2007 Posture Statement," February 22, 2007, pp. 2-3, available at <http://www.usarmyreserve2007posturestatement.org/>

² Ibid, p. 6.

³ Department of Defense, "Department of Defense Instruction Number 5158.06; Subject: Distribution Process Owner (DPO)," July 30, 2007, p. 2.

⁴ Ibid.

⁵ Ibid.

⁶ The Army News Service, "Army Announces New Slogan," the Static Line, October 2006, p. 8

⁷ United States Army, "2007 Posture Statement," February 14, 2007, p. 7.

⁸ United States Transportation Command, "United States Transportation Command Strategic Plan," December 30, 2006, p. 3, available at <http://www.transcom.mil/>

⁹ Department of Defense, "Department of Defense Instruction Number 5158.06; Subject: Distribution Process Owner (DPO)," July 30, 2007, p. 2.

¹⁰ Joint Chiefs of Staff, Joint Publication 4-01.4, "Joint Tactics Techniques and Procedures for Joint Theater Distribution," August 22, 2000, p. I-7

¹¹ Joint Chiefs of Staff, Joint Publication 4-01.4, "Joint Tactics Techniques and Procedures for Joint Theater Distribution," August 22, 2000, p. I-1

¹² Joint Chiefs of Staff, Joint Publication 4-01.4, "Joint Tactics Techniques and Procedures for Joint Theater Distribution," August 22, 2000, p. I-8

¹³ Joint Chiefs of Staff, Joint Publication 4-0, "Doctrine for Logistics Support of Joint Operations," April 6, 2000, p. I-15

¹⁴ Van Creveld, Martin, *Technology and War, From 2000 B.C. to the Present*, New York: The Free Press, 1989, p. 1

¹⁵ Friedman, Thomas L., *The World is Flat*, New York: Farrar, Straus and Giroux, 2005, 2006, p. 8

¹⁶ Ibid

¹⁷ Reynolds, Glenn H., *An Army of Davids: How Markets and Technology Empower Ordinary People to Beat Big Media, Big Government, and other Goliaths*, Nashville: Thomas Nelson Inc., 2006, p. 7

¹⁸ Reynolds, Glenn H., *An Army of Davids: How Markets and Technology Empower Ordinary People to Beat Big Media, Big Government, and other Goliaths*, Nashville: Thomas Nelson Inc., 2006, p. 243

¹⁹ Jay Green, "Will Yahoo! Feel The Love?," Business Week, February 18, 2008, p. 26.

²⁰ Department of Defense, "Department of Defense Instruction Number 5158.06; Subject: Distribution Process Owner (DPO)," July 30, 2007, p. 4.

²¹ United States Army, "2007 Posture Statement," February 14, 2007, Addendum G, available at <http://www.army.mil/aps/07/addendum/g.html>

²² Ibid.

²³ United States Army, Deputy Chief of Staff, G-4, "A Strategic Plan for Army Logistics Domain Information Technology Transformation," September 2007, p. 3.

²⁴ Ibid, p. 5.

²⁵ Department of Defense, "Department of Defense Instruction Number 5158.06; Subject: Distribution Process Owner (DPO)," July 30, 2007, pp. 5-6.

²⁶ Michael A. McGinnis, "Military Logistics: Insights for Business Logistics," *International Journal of Physical Distribution & Logistics Management*, vol. 22, no.2, April 1992, p. 22.

²⁷ Ibid, p. 31.

²⁸ United States Army, "2007 Posture Statement," February 14, 2007, p. D-2.

²⁹ USTRANSCOM News Service, "USTRANSCOM Announces Award of Defense Transportation Coordination Initiative Contract," Release Number: 070817-1, August 17, 2007, p. 1.

³⁰ Ibid.

³¹ NDTA 61st Annual Forum and Expo News, "Charleston ... Here We Come: A Discussion with Ken Wykle, NDTA President," September 7, 2007, p. 2.

³² Ibid.

³³ Van Creveld, Martin, *Technology and War, From 2000 B.C. to the Present*, New York: The Free Press, 1989, p. 316

³⁴ Ibid, p. 317.

³⁵ Major General Thomas D. Robinson, Interview by Interviewer COL David Pollard. December 20th, 2007. Fort Gillem, Georgia.

³⁶ Ibid.

³⁷ Colonel James Lee, Interview by Interviewer COL David Pollard. January 23rd, 2008. New Orleans, Louisiana.

³⁸ Ibid.

³⁹ Stultz, Jack, LTG, "The Pentathlete Leader," *Warrior Citizen*, Fall 2007, p. 10.

⁴⁰ United States Army, "2007 Posture Statement," February 14, 2007, p. A-3.

⁴¹ United States Government Accounting Office, “Force Structure – Need for Greater Transparency for the Army’s Grow the Force Initiative Funding Plan,” January 18, 2008, p. 1.

⁴² Wikipedia, The Free Encyclopedia, http://en.wikipedia.org/wiki/2005_Kashmir_earthquake

⁴³ United States Army Reserve Command, “United States Army Reserve 2007 Posture Statement,” February 22, 2007, p. 6, available at <http://www.usarmyreserve2007posturestatement.org/>

⁴⁴ United States Army, “2007 Posture Statement,” February 14, 2007, p. B-2.

⁴⁵ Melik, Rudolf, *Rise of the Project Workforce, Managing People and Projects in a Flat World*, Hoboken: John Wiley & Sons, Inc., 2007, p. vii.

⁴⁶ Ibid.

⁴⁷ Verzuh, Eric, *The Fast Forward MBA in Project Management*, Hoboken: John Wiley & Sons, Inc., 2005, p. 3

⁴⁸ Ibid, p. 4.

⁴⁹ Colonel James Lee, Interview by Interviewer COL David Pollard. January 23rd, 2008. New Orleans, Louisiana.

⁵⁰ Ibid.

⁵¹ United States Transportation Command, “United States Transportation Command Strategic Plan,” December 30, 2006, p. 5

⁵² Major General Thomas D. Robinson, Interview by Interviewer COL David Pollard. December 20th, 2007. Fort Gillem, Georgia.

