Business Process and Procedures for Tomorrow's War —

The Results of Defense Reform Initiative: Seminar Game 00

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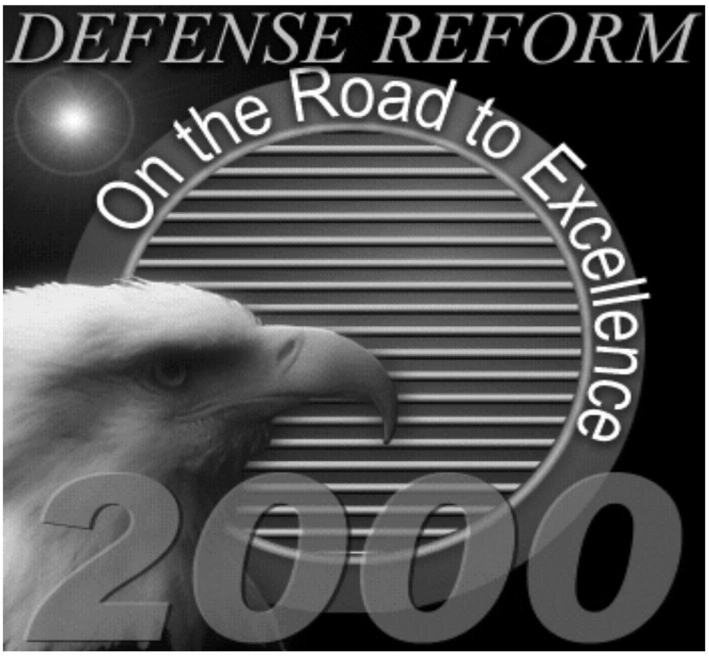

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DIRECTOR,
DEFENSE REFORM

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MEMORANDUM FOR: DISTRIBUTION

Enclosed is the final report representing the collective efforts of all the participants of the Defense Reform Initiative: Seminar Game 00. Your time and contribution to Defense Reform were invaluable to this effort, and we greatly appreciate your support.

The Seminar report provides the background, processes, the principal findings, and recommendations in the business areas of Acquisition, Logistics, and Information/Information Technology. We encourage everyone to continue working the principal findings and recommendations with us to improve support to the warfighters.

To bring you up to date, we have continued to work with all DoD entities to pursue opportunities to implement the findings and recommendations. Implementation opportunities are being pursued through briefings, Change Management Center (CMC) seminars, one-on-one meetings, and the introduction of several recommendations into the ongoing Focused Logistics Wargame pillars.

Thank you again for helping to make the DRI Seminar Game 00 a success.

Mary Margaret Evans

Executive Summary

BACKGROUND

Throughout the 1990s, the Department of Defense performed several comprehensive reviews of our military. Starting with the 1991 Base Force Review and followed by the 1993 Bottom-Up Review, 1995 Commission on Roles and Missions of the Armed Forces (CORM), and 1997 Quadrennial Defense Review (QDR), these reviews resulted in significant adjustments to our forces, procedures, and organizations. In addition, Joint Vision 2010 established a blueprint for future military operations in response to the 1997 National Military Strategy, which called on the Department to meet its objectives by shaping, preparing, and responding to both near-term and future challenges. The DoD Logistics Strategic Plan evolved to operationalize and institutionalize these concepts. JV2020, published in May 2000, reinforced these requirements and included Defense Reform Initiative Directive (DRID) 54 Logistics Transformation as the near-term enabler to the achievement of JV2020 Focused Logistics.

While preparing for an uncertain future definitely includes the continual exploitation of the "Revolution in Military Affairs" (RMA), the National Defense Panel (NDP) in its "Assessment of the May 1997 Quadrennial Defense Review" recommended its complement—a "Revolution in Business Affairs" (RBA). The need for an RBA is succinctly stated: *"Future challenges affect more than just weapons and force structure. The same dynamic characteristics that must be reflected in our operating forces—speed, flexibility and responsiveness—should be used to redesign the structures and processes that are used to manage them. These same dynamics that describe our forces must also be imbedded in the Planning, Programming and Budgeting System (PPBS) as well as the acquisition process. These management tools were created to respond to past needs, and must be rethought to be compatible with current and future challenges. Recent steps to reform acquisition are commendable, and must be continued and in fact expanded. In short, the demands of the 21st Century's competitive environment must be reflected in all aspects of managing and supporting our nation's military power."*

The Defense Reform Initiative (DRI) Office, created in November 1997 after the 1997 QDR, raised the concerns of the NDP that the RMA could outrun the ability of the Department's core business practices to support it. Would the 2001 QDR consider the business processes in its proposals? Were the changes in business affairs the right ones, proceeding at the proper pace, and did they reflect the warfighters' needs?

The DRI Office believed there was a gap between the business process owners and the warfighters, and, in fact, neither side was fully taking into account the effects of their changes to the other. Consequently, the DRI Office set out to provide a means to open a dialogue between these parties to consider the change gap and the expanding roles being played by defense agencies and contractors in providing support. The DRI Office proposed to Deputy Secretary of Defense, and received approval, to stage a "Seminar Game." This seminar game, using a realistic and strategically challenging war scenario as a backdrop, was a forum for raising issues and open communications between the elements supporting the defense efforts.

APPROACH

Junior- and senior-level seminars were conducted to identify key issues that DoD may encounter when supporting the warfighter in current or future conflict scenarios. The objectives were to foster discussion among experienced DoD and commercial-sector personnel and generate issues and concepts for further exploration as part of defense reform implementation. The junior-level seminars focused on generating ideas and the senior-level seminars focused on developing key issues with improvement potential.

In the Junior seminar, more than 50 representatives at the O-5/O-6, GM-15, and director levels from DoD and industry discussed potential issues that the DoD support structure might face in a future hypothetical conflict. A fictional, but feasible, wartime scenario was presented to the group as a backdrop. The wartime scenario was intentionally designed to focus the discussion on the DoD business areas of interest (acquisition, logistics, and information technology) and their applicable DoD policies and processes. Over a four days, participants heard briefings on the conduct of Blue (U.S. and allied forces) and Red (fictional foe) operations. The briefings presented six different wartime scenarios set in the year 2012. The scenarios, presented in order, were:

- Peace Enforcement,
- Counter-Insurgency operations,
- Homeland Defense,
- Force Deployment and Anti-Access operations,

- Major Theater War, and
- Reconstitution.

For each scenario presented, the conflict situation was followed by the Blue and Red team leaders describing their scenario actions. The audience then openly discussed the feasibility of supporting Blue actions with the discussion yielding issues in responding to Red actions. The issues were consolidated in the specific business areas for ease of presentation at the Senior seminars. The key junior issues can be found in Table ES-1 at the end of this executive summary.

In the Senior seminar, more than 30 flag and general officers and senior executives from DoD and industry met to discuss the key issues generated during the Junior seminar. During the first day of a 2-day period, participants received a briefing about the Junior seminar format and play and then were divided into three separate panels (working groups) to discuss separate key issues arising from the Junior seminar. In addition, the groups were encouraged to develop issues not addressed in the Junior seminar. On the second day, the breakout groups briefed their results to a general assembly of all seminar members. The Senior seminar's eleven key issues are in Table ES-2 at the end of this executive summary.

Subsequently, the issues developed at the Senior seminar were extensively briefed to the senior leadership in OSD and the Services. Comments received from the senior leadership briefings are reflected in the principal findings and recommendations listed below. The principal findings and recommendations do not necessarily track one-for-one with the issues from the junior and Senior seminars, but do fairly present the views expressed.

PRINCIPAL FINDINGS

Requirements Connectivity

- Sub-optimal linkage of requirements between Services, acquisition and logistics communities, CINCs, industry, and coalition partners
- Failure to capture commercial capabilities and standards during the requirements development process affects support capabilities and interoperability.
- Disconnects exist between CINC requirements and priorities and subsequent allocations.
- Requirements process is constrained by relatively inflexible POM and budget systems and processes.

IT Investments

- IT is key to battlefield dominance and support, yet is generally viewed as an expense rather than an investment and is not a high priority.
- In-theater logistics information has low priority during high-tempo operations.
- Disparate and obsolete standards and technology pervade Services' systems.
- DoD-wide CIO policies are vague on end-state vision, standards, execution strategy, and enforcement mechanism.

Industrial-Base Leveraging

- Commercial capabilities not fully considered in developing weapons systems.
- Defense uniqueness used as a shield to preclude using commercial standards.
- Inconsistency in applying contract rules and a proliferation of contracting activities
- Ineffective or sporadic critical infrastructure assessments with questionable follow through
- Limited and untested contract surge capabilities
- Conflicting opinions concerning Defense agencies value vs. industry capability

Military Operations Support

- Sub-optimal interoperability of weapons is a major problem (both jointly and during combined operations, e.g., NATO).
- Competing contracting entities in the operational theater during conflict periods drive up costs.
- Incomplete intermediate staging strategies

- Limited integration of Service and industrial capabilities in-theater
  - IT,
  - logistics, and
  - acquisition.

RECOMMENDATIONS

- Continue to support CINCs' evolving role and the attendant requirements and priority in JROC considerations.
- Task JFCOM to determine a concept and doctrine for integrated theater-based logistics management.
- Task CIO community to develop end-state vision, system performance requirements, standards, and enforcement mechanisms for DoD IT infrastructure.
- Streamline the programming, planning, and budgeting system (PPBS) process to become more user friendly and less cumbersome.
- Conduct vulnerability analysis and evaluate industrial base:
  - Surge capabilities
  - Readiness degradation
  - Global mergers and acquisitions
  - Parts obsolescence
  - Critical infrastructure protection.
- Maximize commercial applications in design, development, production, and sustainment of future weapons and systems.
- Standardize business rules for support services to the CINCs.
- Develop industry-oriented interoperability standards and enforcement mechanisms for
  - Information management,
  - Logistics processes, and
  - Inter-modal transportation policy.

- Independently assess the capabilities and performance of combat support activities against the warfighter's defined contingency support and surge operations support requirements (i.e., are warfighter expectations clearly defined enough to establish enforceable performance contracts metrics).
- Study the weapons stockpile for interoperability opportunities.
- Develop an intermediate staging strategy to accommodate logistical and operational needs during conflict (involve industry in the planning).
- Develop Service and Agency integrated in-theater contractor support plans.

NEXT STEPS

"Follow-up" will be the key to making the results of this seminar useful for improving the DoD support structure. To that end, the following action items are recommended:

- A designated office, i.e., the DRI Office, should follow up on actions agreed to during the Senior seminar.
- The applicable OSD offices, Services, and Agencies should assess recommendations for inclusion, as appropriate, in ongoing Department efforts (e.g., Joint Focused Logistics Wargame, JROC/JWCA process, critical infrastructure protection).

In general, the DoD warfighters, process owners, and industry representatives agreed that more forums that bring them together are needed to collectively resolve the DoD support structure problems.

Many of the Junior seminar issues were driven by pivotal changes in the world situation and DoD warfighting strategy, primarily:

- the continued development and proliferation of information technologies;
- outsourcing and increased dependency on contractor support;
- the increased post-Cold War operating tempo driven by a greater number of smaller engagements, which place greater demand on mobility, responsiveness, and flexibility; and
- Increased potential that future attacks by organized opponents may be conducted in the continental United States.

Table ES-1. Junior Seminar Issues

Acquisition issues	Logistics issues	Information technology issues	Other issues
Critical infrastructure protection In-theater contract and contractor management Shortages of transportation assets Diminishing manufacturing sources Interoperability of munitions and software on weapon systems Weapon systems ability to share and receive intelligence data Alternative acquisition models Keeping pace with technological change Tracking changes in the industrial base	Ad-hoc logistics planning and execution in theater Multinational logistics coordination Nuclear biological chemical (NBC) decontamination of asset along the logistics chain Collaborative planning, forecasting, & replenishment with industry Vendor production visibility Financial processes that delay production startup Contractor military experience and capability Force protection and alternative deployment planning Use of National Guard & Reserve to support in-theater logistics National (CONUS)-level logistics coordination Acquisition and logistics organizational integration Linkage between operating requirements, logistics support, and contracting support Peacetime efficiency vs. wartime readiness tradeoff	Bandwidth management Adequacy of acquisition and logistics information systems Information protection and assurance Last-mile movement in theater Decision-support tools Intelligence gathering and processing Effect of information compartmentalization on support	Programming, planning, and budgeting system (PPBS) alignment to operations other than war (OOTW) PPBS incentives to reward good management practices Exploiting the value contractors can bring to intelligence gathering and nation rebuilding Reconstitution after war Policy enforcement

Together, these transformations are placing increased demands on DoD support structure that requires a deliberate examination of DoD and industry processes and policies to see if they are sufficient to meet the heightened demand.

Table ES-2. Senior Seminar Issues

Panel A issues	Panel B issues	Panel C issues
Implementation of joint operational logistics information systems	Forging the DoD-industry partnership	IT infrastructure investment strategy and execution plan
Sustainment and reconstitution of critical supplies	CINC strategy to buy area of responsibility (AOR) support services	Information systems management support for operational CINCs
Improved munitions	Interoperability of DoD with commercial multi-modal logistics systems	Bandwidth management
	Commercialization of DoD services to enable change	Private-sector defense vulnerabilities

Implementation of joint operational logistics information systems: Develop and implement joint logistics information capabilities expeditiously.

Sustainment and reconstitution of critical supplies: New vulnerabilities exist because of increased dependence on contractor support, expanded economic globalization, reduced readiness, and the inability to rapidly replenish many munitions and systems.

Improved munitions: The interoperability of munitions should be optimized as much as practicable.

Forging the DoD-industry partnership: The use of intermediate staging strategies should be developed for theater-specific logistics support requirements with involvement of commercial service providers early in the planning process for their particular support.

CINC strategy to buy AOR support services: The creation of an overarching in-theater contracting strategy may result in better coordination of efforts between CINCs, Services, and coalition partners.

Interoperability of DoD with commercial multi-modal logistics systems: DoD needs to better integrate with commercial multi-modal carriers (e.g., railcar, sea carriers, trucking).

Commercialization of DoD services to enable change: Outsourcing is not overcoming DoD internal barriers needed for progress and change, particularly in the non-Service support establishment.

IT infrastructure investment strategy and execution plan: DoD needs to adopt technical and interoperability standards that reduce the current fragmentation of the DoD information environment.

Information Systems Management Support for the Operational CINCs: CINCs lack representation in the finalization of the requirements process (in particular, in

the requirements for information systems, and an approach for developing an infrastructure that supports information superiority).

Bandwidth: Bandwidth management must be reviewed to ensure CINC has adequate acquisition and logistics communication during time of conflict.

Private sector defense vulnerabilities: The shift of many formerly organic support functions to the private sector is resulting in problems with managing this new kind of arrangement, particularly in the changing global environment.

Contents

Chapter 1
Seminar Approach

BACKGROUND AND OBJECTIVE

Many studies and initiatives have been conducted in recent years to improve DoD support. Most of these studies focused on internal process improvement and the use of the commercial sector. Using the commercial sector was recommended for adopting their practices or performance to the functions currently conducted in DoD. (See Appendix A for a summary of these studies). Few of these studies, however, have attempted to link the recommended changes in the support structure to DoD's ability to support a wartime conflict. Nearly every study, though, identified a need for DoD processes to better cooperate and integrate with the industrial sector and the Services' operational forces.

Better integration between operations, DoD processes, and industry is only feasible when these three main constituencies—the warfighters, the DoD process owners (i.e., the logistics community, the acquisition community, and the information technology community), and the industrial sector are actively engaged and working together to create solutions. The current period of rapid change (caused by advances in technology and the Revolution in Military Affairs) makes the climate more supportive of change.

This seminar was intended to identify the policy changes, procedural changes, and investments that are required to create the integrated support structure needed to support future conflicts. The focus of this seminar was on policy-level issues, not operating doctrine, in acquisition, logistics, and information technology. Other topics identified during the seminar also were addressed.

APPROACH

The seminar was structured as an open discussion about the problems faced by the DoD support structures. Participants were individuals currently or formerly involved in DoD operations (i.e., the warfighters), DoD process owners, and representatives from a cross section of the commercial sector. The seminar was conducted in two stages: the Junior seminar and the Senior seminar.

In the Junior seminar, participants at least at the O-5 and director level were brought together for four days to identify the numerous issues that the support structure must face. To guide the discussion, sets of wartime scenarios were presented to participants. These scenarios involved peace enforcement, counter insurgency, terrorism and anti-access, major theater war, and reconstitution

operations. Each scenario was a backdrop designed to raise a particular set of issues specific to that type of warfare. Participants received briefings where a Blue Force (U.S.-led coalition) and a Red Force (Iraqi-led operations) conducted *moves* against each other to achieve their policy objectives. Following the briefings, participants were asked whether the Blue moves could indeed occur with the existing support structure and what problems might be expected if those moves were actually made. Participants also were asked what effect Red's move would have on the support structure and whether DoD had plans in place to address them. The discussions were open, allowing for maximum brainstorming, while being guided toward the policy level in the primary areas of interest (acquisition, logistics, and information).

In the Senior seminar, flag-grade and general officers and senior executives were brought together for two days to focus on specific issues with the intent of developing them, and if possible, identifying actions to begin addressing them. On the first day, the participants received a thorough briefing on the conduct of the Junior seminar. Afterward, the participants were separated into three breakout groups with separate issues and permitted to add others as needed. The next day, the breakout groups were called together for a central "brief out" in which they shared their results with the entire forum. In these discussions, concepts were refined, recommendations made, and in some cases, actions were specifically assigned.

JUNIOR SEMINAR SCENARIOS

Overview

The scenarios used as the basis of the Junior seminar discussions were set in the years 2002–2012. The scenario begins with Blue forces engaged in peace enforcement operations in northern Iraq. Key events leading up to this point include:

- UN sanctions against Red end in 2002.
- The UN establishes a protectorate north of the 36th parallel to protect Kurdish rebels from attack by Iraq; the U.S., Britain, and France support the UN mission with troops.
- Red begins to re-arm and undertake a long-range effort to recover its "lost" territory north of the 36th parallel. Their strategy is based on co-opting terrorists in the protectorate and rebuilding their conventional forces.
- Over the decade from 2002 to 2012, Blue faces continually escalating terrorism and, ultimately, guerrilla warfare over control of the protectorate.

The moves then begin with actions taken by both Red and Blue forces. The moves were:

- A long-term UN peace enforcement mission in the face of escalating terrorism
- Counterinsurgency against an enemy supported by a "neutral" state (Red), culminating in a ferocious attack on the city of Mosul that triggers Blue's decision to directly engage Red and destroy his capability to make war
- Blue's deployment into theater and Red's counter-access campaign
- Terrorist attacks on the Blue's homeland by both Red-sponsored terrorist teams and independent rogue terrorists
- Full-theater warfare in which Blue campaigns to destroy Red's capability to make war
- Blue's consolidation and reorganization after victory has been attained.

Move Description

Each move was intended to focus discussions on those issues that would affect that particular type of conflict. Although Appendix B fully describes each move in detail, the purpose of the moves and the resulting discussion are highlighted below.

MOVE 1—PEACE ENFORCEMENT

Move 1 involved a prolonged peacekeeping mission in the face of escalating violence. The move was designed to address

- contractor support on the future battlefield, and the effect of escalating conflict on that support;
- interoperability among U.S. and Allies; and
- the adequacy of the information infrastructure and systems.

Discussions resulting from Move 1 included shared information between contractors and allies, multinational logistics interoperability, bandwidth availability, DoD-State Department-UN relationships, contract-support policy to the CINC, critical infrastructure protection, and acquisition/logistic information systems and decision support tools.

MOVE 2—COUNTER-INSURGENCY CAMPAIGN

Move 2 involved Red's full-fledged insurgent operation and Blue's counter-insurgency campaign. Move 2 was intended to

- add stress and increase requirements for contracting, interoperability, and information;
- introduce the need for precision munitions to engage insurgent targets; and
- require additional forces and related equipment concurrently with replacing combat loss and damage.

Move 2 discussions included the integration of contractor and government planning and execution information, Operations Other Than War (OOTW) PPBS policy, operations and logistic relations, logistics information priority, bandwidth management in surge periods, information accessibility, satellite availability and use, and support capabilities visibility.

MOVE 3—FORCE DEPLOYMENT AND ANTI-ACCESS

Move 3 involved Blue's force deployment and forced entry in the face of a vigorous Red anti-access campaign and significant Red missile capability. It was designed to highlight

- increased logistical and operational situational awareness requirements;
- the intermediate basing implications of forced entry and stand-off warfare; and
- the increasing need for precision weapons, and the adequacy of the industrial base to provide them.

Move 3 discussions included critical infrastructure protection, the need to identify single-point-of-failure nodes, peacetime business efficiency versus wartime risk, force protection plans, information tools to work with non-governmental organizations (NGOs), the fact that openness (E-commerce) is an imperative but results in greater vulnerabilities, policies to spur technology development, the need for end-to-end information assurance solutions, and policies on cyber warfare.

MOVE 4—HOMELAND ATTACK

Move 4 involved a series of asymmetrical Red sabotage attacks against the United States and allied homelands. Red's objective was to disrupt deployment, create confusion, degrade Blue C4ISR, weaken public support, and demonstrate resolve.

This move was intended to highlight

- homeland vulnerabilities and the adequacy of efforts to identify and protect critical nodes,
- industry capability to respond to disruptions of critical facilities, and
- the adequacy of industrial base policies against asymmetrical threats.

Discussions resulting from this move included information assurance, streamlining critical infrastructure, quick acquisition versus redundancy versus increased security, adequacy of DoD policy enforcement, total asset visibility requirements, process reengineering, and the adequacy of the current critical infrastructure protection (CIP) definition.

MOVE 5—MAJOR CONFLICT

Move 5 involved CINC Blue's major offensive against Red's scheme of "web" defenses. The web concept is not intended to prevent ground penetration outright, but is attrition-oriented; designed to resist the attacks of Blue and cause Blue to pay heavily in casualties and collateral civilian damage. Move 5 was designed to

- explore the adequacy of acquisition and sustaining policies in a high-intensity but prolonged conflict with an entrenched sophisticated enemy,
- address the need for advanced information and decision support capabilities to engage in effects-based warfare, and
- highlight the need for an integrated flexible government-industry team to support future conflicts.

Discussions following this move included: the implications of using National Guard to protect the homeland against asymmetric attack versus; in theater support requirements; alternative acquisition models; adequacy of the logistics systems flexibility to support warfare, which requires rapid adaptive tactics and weapons engineering changes; adequacy of DoD's involvement in the transportation revolution; adequacy of OCONUS transportation and support infrastructure; and the adequacy of information infrastructure and systems to support future situational awareness and command and control requirements.

MOVE 6—BLUE CONSOLIDATION

Move 6 involved consolidation after Blue attainment of victory. The mechanics of achieving this victory were not developed in detail because it did not serve the purpose of the seminar—victory was assumed. The move began when Blue was faced with a series of consolidation tasks that included continuing the protectorate mission, destroying the remaining Red weapons stockpile, cleaning up chemical and biological weapons and unexploded ordnance in the region, resolving refugee

and humanitarian problems, and reconstituting Blue forces. This move was designed to address the

- adequacy of policies and procedures to reconstitute Blue forces in a situation where they may be required to re-deploy from their current location to another operation, and
- ability to transition from combat to an occupation or peace-keeping mission.

Discussions resulting from this move included the adequacy of the PPBS process to support reconstitution for OOTW, bringing the intelligence community into the acquisition process early, the need for more logistics decision tools, acquisition of new technology with unclear requirements, multinational decontamination procedures and capabilities, visibility of material available for reconstitution, CINC as the resource provider once material enters the area of responsibility (AOR), intra-theater logistics movement (in AOR), contracting conflicts between in-theater CINCs and the Services, and the conflict between logisticians and program managers (PMs) over life-cycle sustainability and support.

WRAP-UP SESSION

A wrap-up session was held on the fourth day to recap the entire seminar and allow for additional discussion of issues that participants thought were not adequately addressed during the seminar moves.

In addition to the issues raised, a group of industry representatives noted that there is a need for a continuing dialog on these topics. Additional industry and government meetings about select DoD problems would be very productive and could develop effective solutions to many of DoD's support structure problems.

SENIOR SEMINAR ISSUES

Eleven issues were consolidated from the Junior seminar discussions and became the basis of the Senior seminar. Each senior breakout group, or panel, was given three or four issues to further refine. The developed issues are later.

Chapter 2
Results of the Junior Seminar

OVERVIEW

During the Junior seminar, a group of more than 50 people generated numerous ideas and insights into the issues the DoD acquisition, logistics, and information business owners face and offered recommendations about how we might deal with the issues in supporting future operations.

In general, the comments reflected recognition of the need for the DoD support structure to fully shift its thinking towards the future demands of a post-Cold War environment to suitably support operations in the 21st century. These demands are driven principally by changes in the environment and warfighting doctrine in the following areas:

- Information dependency
- Increased dependency on contractor support
- Increased operating tempo requirements, i.e., greater mobility, responsiveness, and flexibility, demanded by multiple, smaller engagements
- Increased likelihood of attacks within the continental United States.

These factors require improved levels of performance from the support structure. This, in turn, requires greater integration of three support structure constituencies—operations, DoD process owners, and industrial service providers.

The list below consolidates the Junior seminar ideas into 34 issues. Most of these issues affect every type of conflict in which DoD might become engaged, but a few are specific to a particular type of conflict (e.g., anti-access). The issues are grouped into the four focus areas: acquisition, logistics, information technology, and "other," although many cut across multiple areas. Although the issues are not listed in order of priority (priorities were not assigned), they illustrate the breadth of concerns facing the support structure.

These issues do not represent the official positions of any particular DoD agency or commercial firm; they only represent the perceptions expressed by the Junior seminar participants.

The acquisition issues presented were the following:

- Critical infrastructure protection
- In-theater contract and contractor management
- Shortages of transportation assets
- Diminishing manufacturing sources
- Interoperability of munitions and software of weapon systems
- Weapon system ability to share intelligence data
- Alternative acquisition models
- Keeping pace with technological change
- Tracking changes in the industrial base.

Logistics issues were the following:

- Ad-hoc logistics planning and execution in-theater
- Multinational logistics coordination
- NBC decontamination of assets along the logistics chain
- Collaborative planning, forecasting and replenishment with industry
- Vendor production visibility
- Financial processes that delay production startup
- Contractor military experience and capability
- Force protection and alternative deployment planning
- Use of National Guard and Reserve to support in-theater logistics
- National (CONUS)-level logistics coordination
- Acquisition and logistics organizational integration
- Improved linkage between operating requirements, logistics support, and contracting support
- Tradeoff between peacetime efficiency and wartime readiness.

Information technology issues included the following:

- Bandwidth management
- The adequacy of acquisition and logistics information systems
- Information protection and assurance
- Last-mile connectivity in theater
- Decision-support tools
- The effect of information compartmentalization on support.

Issues that did not fall into the other categories included the following:

- Policy enforcement
- PPBS alignment to OOTW
- PPBS incentives to reward good management practices
- Exploiting the value that contractors can bring to intelligence gathering and nation rebuilding
- Reconstitution after war.

JUNIOR SEMINAR ISSUES

Acquisition Issues

- Critical infrastructure protection—A comprehensive plan for addressing the protection of critical vulnerabilities in the support infrastructure is needed. Examples of vulnerabilities include critical component facilities, information switching stations, utilities, and port facilities. Right now, no comprehensive plan exists for dealing with attacks on facilities that make critical weapon systems components. Potential responses include reconstitution of the destroyed or damaged facility, substitution of the lost component with a similar one, redundant facilities to ensure adequate production capacity, increased security and protection of critical facilities, and operational flexibility to use alternative weapon systems. However, the merits and tradeoffs between each of these alternatives are not well understood. To date, attempts to devise such plans have begun, particularly Navy and DLA efforts, but many such efforts are underfunded and lack the higher level support needed to make them effective.

- In-theater contract and contractor management—Like the ad hoc planning for logistics, the ad hoc contracting for support services in theater leads to tremendous problems when trying to line up, coordinate, and rationalize contractor support. Contracting complexity has increased in recent years:
  - ➤ The increased use of contractors to perform in-theater services formerly performed by Service personnel places more contract management burden on the in-theater commanders.
  - ➤ The increase in multinational and joint operations has increased the need for coordination and rationalization of contracting support across a broader array of organizations.
- The need for improved integration between industry and operations also has increased the in-theater logistics burden:
  - ➤ Contractors must be brought into operation planning early so that they can coordinate their support with the overall logistics support plan and operations in general. Leaving contractors out of the planning processes leads to gaps in coverage, poor support, and needless chaos and confusion in theater.
  - ➤ Contractors must be evaluated to ensure that they can perform the mission they've been contracted to perform and to ensure that subcontractors are aware of potential "hazardous duty" (and are not apt to flee at the onset of the hostilities).
  - ➤ Mechanisms for managing the security risks brought on by increased use of contractors; especially subcontractors, must be developed.
  - ➤ Contractor protection must be coordinated with operating forces. This could reduce the operating flexibility of the CINCs. Different schema for providing these protections are available and alternatives need to be assessed.
  - ➤ The need for CINC "capability visibility," must be provided to make contracting a truly effective arm of the operation; i.e., the CINC needs to understand the full range of contractor services that can provided and are at his disposal.
  - ➤ Contracting in theater requires such specialized knowledge that the supported CINCs rarely have the manpower and expertise they need to address contracting issues. A single, standing organization that specializes in contracting, and that is familiar with all the ins and outs of contracting in that area of operations, may be needed to provide the support required to the warfighting CINC.

- Shortage of transportation assets—There is a shortage of key lift capacity available for sustainment; e.g., railroad flat cars. DoD does not have an effective plan for addressing shortages of transportation assets.

- Diminishing manufacturing sources—DoD's presence in the U.S. marketplace continues to fall, limiting DoD's ability to procure parts that are no longer being produced by commercial firms. Where once DoD commanded the buying power to make firms produce parts, this is no longer the case. New approaches will be needed as technological changes make replacement parts for weapon systems more quickly obsolete, and DoD buying power continues to diminish.

- Interoperability of munitions and software on weapon systems—Many of the weapon systems that were thought to be interoperable were, in fact, non-interoperable. The lack of interoperability is most keenly seen in the area of aviation software and munitions. These were supposed to be transferable across aircraft, but were not, limiting the amount of flexibility that CINCs have for shifting assets between Joint and coalition forces. This issue needs to be revisited and interoperability must be improved.

- Weapons system ability to share intelligence data—Many of the weapon systems lack the capacity to capture and transfer intelligence data, though they are in a prime position for doing so. (This is most keenly observed in aircraft.) The problem arises when weapon systems are developed; intelligence gathering is typically an afterthought, left for the end of the design phase rather than made an integral part of the acquisition process.

- Alternative acquisition models—The current acquisition process was set up to develop major weapon systems and thus requires several years of designing, testing, and production. However, the rapid pace of technological change and the requirement to support a more flexible style of warfare call into question whether an alternative, parallel approach is required—one that produces new, smaller weapon systems fast. This type of acquisition would better support an operating environment that needs new tools rapidly developed to destroy enemy strongholds during a war (e.g., the bunker-busters of Desert Storm). This type of acquisition process would also enable rapidly reconstituting items lost to homeland attacks. This type of approach also could help insert new technologies into long-term development systems. The feasibility of such an approach warrants investigation.

- Keeping pace with technological change—DoD has difficulty keeping pace with changes in technology. Current DoD systems use lengthy technology adoption processes and are slow to respond to changes in the tools used by industry (e.g., the changes in the transportation technology—fast ships, heavy-lift aircraft, heavy sealift). Policies that permit adopting technology rapidly through performance-based commercial systems need to be enforced to keep pace with available technology capability.

- Tracking changes in the industrial base—Other environmental changes will affect DoD's ability to support conflicts in the future. The effects of the globalization of critical industries (making DoD vulnerable to multinational firms that may not support the war effort) or the availability of worldwide production capacity (which DoD may be able to exploit) are not well understood in the Department. Even changes in the U.S. industrial base are not well understood. How best to respond and position DoD to leverage those changes must be determined.

Logistics Issues

- Ad-hoc logistics planning and execution in theater—Currently, logistics planning for operations is ad hoc by in-theater J-4s who respond to the multitude of logistics requirements thrust upon them during the crisis. This approach leads to problems when coordinating and rationalizing multinational or even joint logistics support. The need for a structured approach to logistics management in theater is evident. Several alternatives for such an creating an organization that would address these issues, including using a centralized organization attached to the CINC during a crisis, or expanding the J-4 support structure to include new roles.

- Multinational logistics coordination—Multinational logistics support policies must be agreed upon before conflicts so that in-theater CINCs can execute their logistics responsibilities quickly. Agreements should be arranged in advance to minimize confusion and to allow the time needed to execute them.

- Nuclear biological chemical decontamination of assets along the logistics chain—Many Civil Reserve Air Fleet (CRAF) aircraft and other commercial lift cannot handle NBC contamination. Requirements for the rapidly evacuating medical casualties from the theater, combined with the increased probability of an NBC attack, make it imperative that plans be in place for handling contaminated personnel and cargo along the entire logistics chain, including commercial carriers and facilities.

- Collaborative planning, forecasting, and replenishment (CPFR) with industry—Commercial firms have greatly improved the always nebulous forecasting and replenishment process using CPFR. DoD can adopt such practices to reduce support costs, improve performance, and improve its working relationship with its industrial providers. Adopting this practice, however, will require more sharing of information with commercial providers, and, therefore, will require a review of the policies that affect information sharing.

- Vendor production visibility—Visibility into the production capacity of each vendor, their surge capability, and the amount of material that vendor is providing DoD are critical parts of planning and management of

material flow. Such information, however, is not yet available, and getting it continues to be problematic. Policies need to be set in place to determine how to acquire this information and how it can be used to support a leaner logistics posture.

- Financial processes that delay production startup—Once a conflict has started, there is a need for a great surge in production from DoD suppliers. However, this surge is often delayed because of financial processes that don't allow production to start without formal contracts and allocated funds. The time for these administrative tasks cuts down on the responsiveness of the logistics structure. Mechanisms must be established to enable firms to quickly begin production once a conflict has erupted.

- Contractor military experience and capability—As the military continues to shrink and the pool of ex-military personnel continues to dwindle, contractors who rely on the military for much of their personnel requirements will be harder pressed to maintain the quality of service they are supposed to provide. Certain contractors depend on the military experience and patriotism of their personnel to avoid contractor flight during conflict. Other, more formal, mechanisms may be needed as the availability of contractor employees with military experience declines during the next decade.

- Force protection and alternative deployment planning—The threat of counter-access attacks on port facilities and airfields in CONUS requires that deploying units find alternative pathways for deploying from CONUS into theater. Alternate plans must be developed in conjunction with commercial providers; i.e., port facilities, bus lines, and railroads. Each provider needs to know their responsibility if plans suddenly change.

- Use of National Guard and Reserve to support in-theater logistics—Currently, the Army has transferred much of their in-theater support mission to the National Guard and Reserves. This mission shift requires a thorough examination of the policy to ensure that critical in-theater logistics support can be accommodated without disruption even during responses to simultaneous homeland crises when governors may insist on keeping their forces for states' purposes. This policy also should be examined to ensure in-theater responsiveness from a logistics structure that is controlled by mobilization statutes.

- National (CONUS)-level logistics coordination—In addition to in-theater logistics coordination, a single organization is needed to coordinate the movement of material into theater from CONUS. Without such an organization, the in-theater CINC is left with coordinating assets delivered by multiple streams of vendors and the organic distribution system. Even Service coordination in theater is problematic. CONUS-based coordination would remove this burden from the CINC and place it in the hands of those whose job it is to provide logistics support and who have the

expertise and the tools to do it. It also helps to ensure that the so-called "iron mountains" of material don't build up in theater. Policy changes may be needed to address this issue.

- Acquisitions and logistics organizational integration—The separation of the acquisition and logistics communities perpetuates problems in sustaining weapon systems. These two communities often have conflicting agendas (e.g., a program manager may avoid dealing with the subject of high rates of gasoline consumption for a vehicle for fear it will kill the program, preferring rather to minimize the issue). Only full integration of logistics and acquisition, with "de-conflicted" incentives, can enable the kind of logistics support expected in future. The latest DoD Directive 5000.1, paragraph 4.4.1, states "Decision-makers shall take all appropriate enabling actions to integrate acquisition and logistics to ensure a superior product support process."

- Linkage between operating requirements and logistics support—In general, the linkage between DoD operations and DoD logistics is not well understood. Too often, the operators assume that logistics "will just happen." This situation creates some problems:

  - The logistics community is less able to justify their support requirements in terms that operators understand and appreciate, reducing the amount of support obtained, although it may be critical to the operation.

  - Assessing the effect that a change in strategy has on logistics becomes difficult as operations depend more on mobility and the need for real-time planning increases.

  The term "opergistics" describes the kind of inter-relationship needed between operations and logistics needed to support mobile operations in the future. Until opergistics is realized, the logistics community will never fully be able to assess its capability to provide support. A couple of key tools could help forge this link:

  - A common architectural framework for understanding how logistics affect operations, in the form of a process model or other format, can be developed to convert operating characteristics, such as "mobility" and "precision" into terms that help to create the parameters needed to develop logistics structure specifications.

  - Computer modeling tools can help to make decisions about how to change logistics to support operations better. Such models could be used to test new logistics concepts before implementation—many of the new logistics concepts cannot be assessed for performance benefit

because models that can simulate the system and analyze trade-offs are lacking. Past efforts to develop such models have been underfunded.

- Tradeoff between peacetime efficiency and wartime readiness—It is unclear what effect the current drive to reduce cost and attain greater efficiencies is having on readiness in DoD. DoD eliminated its stores of material and critical end-items before it established the continuous replenishment mechanisms needed to support operations without such stores. In general, decisions made on the basis of cost savings or efficiency that do not consider readiness impacts are detrimental to DoD's mission. There needs to be a better understanding of the issue before DoD loses a capability that it cannot replace.

Information Technology Issues

- Bandwidth management—Bandwidth management is a continual challenge during normal peacetime operations and becomes a greater challenge to meet increased communication demands in support of in-theater logistics traffic during crises. Communications trends suggest that this problem will only get worse in the future. One suggested solution is to make sufficient funds available and procure the bandwidth capacity the DoD demands from commercial firms. However, the result of adding capacity would be akin to the "weekend hotel" problem, where capacity is constrained during operations and is largely unused the rest of the time. The question then becomes, "Is DoD willing to pay to hold bandwidth capacity open?" Also, communication traffic will eventually expand to fill whatever capacity is available so this problem is perpetual. The solution, therefore, is not one of simply adding capacity, but rather of optimal management of existing and new capacity. For example, logistics communication is usually classified as "administrative" when operations are conducted in theater and must compete with routine message traffic, even though, continuous replenishment depends on a constant and uninterrupted flow of information. Ultimately, bandwidth management is one issue that requires focused attention to understand the tradeoffs of different management schema and to put the most effective practices in place.

- The adequacy of acquisition and logistics information systems—Current information systems throughout the DoD are fragmented and not interoperable. Improved sustainment will require that the data in such systems be shared and presented in ways that will facilitate understanding and decision-making. A comprehensive plan for achieving higher levels of data sharing is needed across the Services. The need for a common information architecture, one that works with legacy systems, is apparent.

- Information protection and assurance—The ability to protect information transmission from destruction and the ability to ensure that only the correct information is being passed are two areas that become more critical in

the new environment. Programs must be set in place to develop an aggressive and comprehensive strategy for dealing with these issues.

- Last-mile connectivity in-theater—Much of the problem in trying to deliver end-to-end, vendor-to-customer communication comes at the very end of the channel, trying to reach units in the field. This stretch of communication tends to be the most problematic because it involves reaching units on the move, where there is little communications infrastructure. Focused attention needs to be devoted to this stretch of the communication pipeline because its problems differ considerably from those of establishing communications in CONUS.

- Decision-support tools—The information dominance strategy espoused by the joint warfighting vision requires that vast sums of information, now becoming available, be used to create understanding that facilitates near-real-time decision making. However, the availability of information alone is insufficient—the ability to make good decisions from that information is required. This process requires creating decision-making support tools that can take overwhelming amounts of data and "boil it down" to only the critical elements necessary to support decision making. Currently such tools are lacking, and only a sustained commitment toward developing such tools will ensure they're available and will work when needed.

- The effect of information compartmentalization on support—The increased reliance on information causes problems sharing information both inside and outside of the DoD. Security classifications and organizational lines place boundaries on timely information sharing. When trying to conduct operations in a "real-time information-based" environment, the fluid flow of information becomes critical. When combining this with an environment more dependent on contractor support, the need to reassess information-sharing policies becomes crucial. Questions such as, "Should contractors gain access to the SIPRNET under certain circumstances?" must be deliberated to ensure proper policies are set in place before they're needed during a conflict.

Other Issues

- Policy enforcement—During the Junior seminar, some noted that many of the issues raised already have policies to address them—the problem is that the policies are not known, not followed, or not enforced. Processes must be put into place to ensure that policies are obeyed, otherwise their creation becomes a "paper-drill," benefiting no one.

- PPBS alignment to OOTW—The current operating tempo is not supported by the PPBS cycle. Current funding strategy replaces equipment and resources according to meet peacetime operating requirements. In recent years, however, numerous small-scale contingencies (SSCs) and other

operations have drained the supply of stocks quicker than the PPBS can replenish them. The result is that the ability to maintain a 2MTW level of critical stocks has been placed in doubt. The PPBS process needs mechanisms established to link funding and operating tempo.

- PPBS incentives to reward good management practices—Many of the program offices and other parts of the DoD support structure would be improved if a mechanism existed for returning some of the savings and cost reductions to the programs. The current policy of taking cost reductions out of next year's budget causes program offices to remain guarded in their estimate of savings and inhibits generating ideas. Incentives such as these may be valuable for creating the "business type" behaviors that have benefited private industry.

- Exploiting the value that contractors can bring to intelligence gathering and nation rebuilding—Most of the contractor workforce in theater are local citizens. Only 5 percent of the total contractor workforce would be U.S. citizens, by one estimate, and their role would be primarily to manage a contractor workforce composed of local citizens. As such, there are opportunities available to Allied Operations that haven't been fully exploited in the past—the opportunity to gather data from the local population about potential enemy actions during an operation, and the opportunity to employ a large part of the population after the conflict has ended. In the latter case, the contractor workforce can serve the dual purpose of employing a population that might otherwise be out of work, and it could rebuild the infrastructure of the nation. An established contractor presence could help smooth the transition and "jump start" the economic recovery of the region. This opportunity should be investigated.

- Reconstitution after war—The subject of reconstitution is a large one that continues to be avoided except after a crisis. Quickly restoring resources to a pre-war readiness posture is more essential now that multiple small scale contingencies (SSCs) may be conducted in rapid succession, or even concurrently. Current reconstitution programs and policies must be analyzed to ensure that DoD can adequately do it.

Chapter 3
Results of the Senior Seminar

OVERVIEW

In the Senior seminar, more than 30 flag and general officers and senior executives from DoD and industry met to discuss the key issues generated during the Junior seminar. During the first day of a 2-day period, participants received a briefing about the Junior seminar format and play. Then they were divided into three separate panels (working groups) to discuss separate key issues arising from the Junior seminar. In addition, the groups were encouraged to develop issues not addressed in the Junior seminar. On the second day, the breakout groups briefed their results to a general assembly of all seminar members.

The Senior seminar concluded by reviewing the results of three panels in an open forum discussion. Each of the three panels identified their most relevant topics and developed them into recommendations for action.

The Panel A issues were the following:

- Implementation of joint operational logistics information systems
- Sustainment and reconstitution of critical supplies
- Improved munitions.

The Panel B issues were the following:

- Forging the DoD-industry partnership
- CINC strategy to buy AOR support services
- Interoperability of DoD with commercial multi-modal logistics systems
- Commercialization of DoD services to enable change.

The Panel C issues were the following:

- IT infrastructure investment strategy and execution plan
- Information systems management support for the operational CINCs

- Bandwidth management
- Private-sector defense vulnerabilities.

SENIOR SEMINAR ISSUES

The following white papers summarize the Senior seminar issues and develop the topics further from Junior seminar-related discussions and from research conducted on the topics. Recommendations are included with each topic.

Implementation of Joint Operational Logistics Information Systems

BACKGROUND

The seminar's participants agreed that conducting effective future operations would require significantly greater attention to implementing joint logistics information capabilities. These capabilities must ensure connectivity, data interoperability, and systems integration—not only between forces and Services and supporting agencies, but also between industry and coalition partners. Of equal concern to the participants was that the road to fielding improved system designs be smoother and faster than today.

DISCUSSION

The capstone to the "revolution in military logistics" is a hierarchy of logistics planning and execution information capabilities. These capabilities must clarify to commanders their support requirements, and both the capacity and evolving status of their support arrangements to meet those requirements.

Central to having an effective logistics information capability will be defining a workable concept and doctrine of integrated theater-based logistics management. To date, progress toward such a concept and doctrine has been insufficient to support designs for fully effective and interconnected logistics information systems. Apparently, a single vision of integrated theater logistics management may require a single source for developing the concept and doctrine.

Of equal importance is that once improved logistics information system capabilities are identified–for example, in advanced concept technology development (ACTD) projects–they gain active sponsorship to ensure rapid implementation. To date, such sponsorship has too often remained undefined, leaving promising capabilities and systems in limbo.

RECOMMENDATION

One Defense component should be tasked to define an overall concept and doctrine for integrated theater-based logistics management. A strong candidate is JFCOM.

The military departments' proposed investment strategies and execution plans for their IT infrastructure should square with this concept and doctrine. The Joint Requirements Oversight Council (JROC) also should consider how new systems square with the concept and doctrine, with the departments' infrastructure strategies and plans and with CINCs' evolving role and IT requirements.

Sustainment and Reconstitution of Critical Supplies

BACKGROUND

Our forces have evolved during the post-Cold War era toward lower numbers of better-equipped units. A persistent question during that evolution has been whether our acquisition arrangements are adequate for providing both the on-hand and re-supply quantities of preferred munitions and systems needed for specific operations, and also for replacing quantities to reconstitute force preparedness rapidly between contingencies. Seminar participants were concerned that the Department may need better information about whether the inevitable changes in the defense industrial base during this era may have created certain vulnerabilities that inhibit readiness or reconstitution. Participants were concerned as well that the changes to the industrial base might be better harnessed to enhance ongoing preparedness.

DISCUSSION

The challenge to providing adequate on-hand and re-supply quantities, and to reconstituting rapidly, is not new. Arrangements for procuring systems during peacetime must be designed as well to meet surge production requirements during and following contingencies. The DoD's Industrial Preparedness Program (IPP) was fashioned during the Cold War to help meet these needs. However, changes to the post-Cold War industrial base indicate a need to revisit how these needs should be met now and in the future.

Participants discussed updating the IPP's applicability to the evolving industrial base. This attention needs to include both the industrial base's evolving capacity for surge production and resistance to potentially crippling disruptions to providing critical systems or materials. One focus of the greater attention is on the increasingly global character of the industrial base. Another is on the need to re-examine and re-validate sources continually. Yet another is how the base reflects the essential DoD strategy of reliance on outsourcing and privatization.

RECOMMENDATION

The Department should assess the critical infrastructure vulnerability of the industrial base. The assessment should evaluate capacity for surge production of preferred munitions and critical systems during particular operations, and the capacity to reconstitute stock levels following surges. Acquisition should be considered an aspect of critical infrastructure protection.

Improved Munitions

BACKGROUND

A critical feature to improved weapons design is enhancing force effectiveness in other ways than just direct weapon effects. Weapons design is potentially an important contributor or burden to a force's supportability and warfighting flexibility. Design advances should be approached for enhancing both direct weapon performance and overall force supportability and flexibility.

DISCUSSION

Seminar discussion of munitions improvement addressed how designs could help reduce force vulnerability, reduce force in-theater footprint, and increase a commander's combat flexibility.

Increased use of insensitive munitions can improve both handling and storage characteristics. Such munitions would, for example, substantially reduce vulnerability of industrial plants, transportation nodes, and storage sites to potential terrorist or other covert actions.

Advanced warhead designs can offer lethality increases that, in turn, promise to reduce in-theater footprint in two respects: as to the numbers of munitions needed, and the force structure needed to supply and maintain the munitions.

Finally, whatever the level of munitions and systems available to a force, the commander's flexibility would be significantly enhanced to the extent those munitions and systems are interoperable. Perhaps especially in the era of precision operations—with its reduced numbers of available preferred munitions and systems—the need is greatest to ensure interoperability and so ensure maximum usability across the force.

RECOMMENDATION

The Department should review both the current weapons stockpile, and the projected stock of munitions going forward, to identify opportunities for maximizing interoperability. This interoperability should be with regard to intra-Service and Joint use, and also among allies and potential coalition partners.

Forging the DoD-Industry Partnership

BACKGROUND

The Department of Defense will increasingly depend on contractors to perform a more services. When coupled with the need for shorter deployment lead-times, the requirement grows for better planning and integration of logistics support in advance of the introduction of material into theater. The Intermediate Staging Strategy (ISS), currently being developed by the Services, is an opportunity for resolving many of the contractor support issues, at a strategic level, from the outset.

DISCUSSION

The best opportunity to prepare for conflict is before it starts; making industry a part of that preparation is the best assurance of proper integration of industry and military actions during conflict. The ISSs that are the Services are developing are an opportunity for this integration. ISSs are "staging areas" located between the theater of action and CONUS, out of reach of enemy missile attack. Movement into theater and coordination of logistics takes place from this location. From here, Services and material move into the theater in a planned, coordinated fashion, eliminating the chaos that would occur if CONUS-based material were simply "dumped" into theater at the point of debarkation.

The ISS concept is intended to develop approaches to

- identify support requirements and consolidate them;
- rationalize contractors and service provision across Services, coalition partners, and industry providers;
- scale the logistics support requirement to meet any size conflict, big or small;
- develop and test decision support tools and models that can test different support concepts, depending on the terrain of a particular CINCs geography; and
- assess the capabilities of contractor service providers and the entire industrial base.

Each of these issues requires the full involvement of commercial service providers. Engaging them from the beginning would help to ensure their optimal use in theater.

Accomplishing this strategy requires overcoming several hurdles, such as historical inertia, Service buy-in, existing business rules, the lack of business rules, lack

of standardization across Services or logistics processes, and the lack of incentives for CINCs to tailor the ISS for their area of responsibility (AOR).

RECOMMENDATION

The following steps can be taken to begin developing ISSs and engaging industrial support:

- Create an overarching ISS.
- Each CINC must apply the ISS to their AOR and develop the specifics needed to make it effective for that region.
- Identify the requirements for material throughput and other logistics support.
- Identify and engage contractors who can meet the support requirements identified.
- Conduct discussions with contractors and develop business plans to codify the responsibilities and financial arrangements needed to support that service provision, in advance.

CINC Strategy To Buy AOR Support Services

BACKGROUND

Future operating vision calls for increasingly using contractor support in theater. However, confusion often results when purchasing or leasing materials or services from contractors. Contractor redundancy has led to confusion over which contractor is providing support to which Service. Contractor scarcity has led to "bidding wars" between the Services, driving up the cost of material and services. Also, redundant contracting agencies have made it unclear whether a specific contracting responsibility belonged to the Service, or to the CINC, or to a coalition partner. In addition, different interpretations of the FAR have caused confusion.

In short, the current, ad-hoc approach to contracting for material and services in theater causes confusion and disruption of service. This will only get worse as contingency operations increasingly use commercial service providers, especially in joint and coalition environments. A systematic approach to contracting in theater is needed.

DISCUSSION

An overarching contracting strategy is needed for each CINC AOR. This strategy would need to be aligned with higher level logistics support strategies, such as an ISS, but also would need to focus on the particulars of executing contracts in a

particular region. The contracting strategy should ensure that large contractor organizations are brought into the early operational planning phases to help develop the specifics of the operations plan (OPLAN). With early involvement, sustainment planning can help to ensure that the CINC gets the planning data required from contractors in time.[1] This early involvement must be properly funded and delineated in the contract.

Such a strategy also would need to consider the organizational concerns of managing contracts in a joint theater environment; for example, whether current CINC J4s have the resources and expertise to manage the wide range of contracting issues that they are likely to face. (If not, a consortium entity will be needed to support the contracting strategy; e.g., a joint theater contracting entity).

Common contracting templates can be used to facilitate implementation of the strategy. A series of contracting templates would not only facilitate the rapid use of contractors in theater, but also would simplify the planning process and standardize the use of contractors across Services. Common contracts would be most easily developed once operating business rules have been standardized across Services, although each CINC would still have the flexibility to tailor the template to the specific needs of that particular AOR.

RECOMMENDATION

During the seminar, it was decided that the Logistics Director, Joint Chiefs of Staff (JCS/J4), would initiate an effort to minimize, standardize, and reform business rules for in-theater support services. J4 also will pursue developing a common contracting strategy, across the CINCs, and follow up on efforts to develop common contracting templates.

Interoperability of DoD with Commercial Multi-Modal Logistics Systems

BACKGROUND

Better logistics performance will require better interoperability with commercial providers. One example of this is in the area of commercial inter-modal carriers. DoD is asking these carriers to do more than they have in the past; tasks such as delivering materiel farther "forward," closer to the forward edge of battle area (FEBA). Also, DoD tends to be slow to respond to changes in the transportation industry—especially in the way it uses inter-modal carriers. In addition, DoD doesn't fully leverage commercial carriers that have already developed the processes and technologies to move and track material—a key issue for the future vision of logistics support. These issues highlight the need for an interoperability strategy that enables DoD to work better with commercial inter-modal carriers and the broader transportation industry.

[1] A key issue identified in the Focused Logistics Wargame of 1999.

DISCUSSION

An interoperability strategy would need to examine inter-modal standards and develop a mechanism for tracking industry change and its effect on DoD logistics. Common standards and processes would help to simplify the processes, facilitating interoperability.[2]

Policy should favor using commercial standards wherever possible and require justifying deviations from the standard. When departing from a standard, the holistic cost of that departure must be considered—not only the benefit gained from the customization, but the cost of maintaining the separate standard. Analytical templates could be developed, on the basis of best practices, to help determine how to make the trade-off decisions for departing from industry standards.[3] Policy would be required to ensure standards were adopted.

RECOMMENDATION

The Change Management Center (CMC) will take the lead on developing industry-oriented interoperability standards for information management, and inter-modal processes and policy. The CMC also will identify methods for enforcing interoperability standards for commercial inter-modal transportation in DoD.

Commercialization of DoD Services To Enable Change

BACKGROUND

There is a perception that some DoD organizations are not responsive to the needs of the operating forces or the logistics community. In contrast, the competitive marketplace has spurred private-sector firms to achieve new levels of customer satisfaction by using new technologies and improved processes. Numerous studies, including the Bottom-Up Review, Commission on Roles and Missions, National Defense Performance Review, Defense Science Board, and the 912 Initiative, have concluded that leveraging the private sector is an effective way to improve responsiveness and keep pace with technological change. Using private-sector firms, where it makes sense to do so, could provide the infrastructure, the hardware, and the software needed to provide better service to the DoD—allowing the Department to focus on managing its core competencies.

[2] Examples include the automatic identification technology (AIT) standards identified by the Electronics Commerce Conference Working Group.

[3] For example, commercial industry is converting from 20-foot containers to 40-foot containers; but 40-foot containers are unmanageable in theater. Analysis would need to assess the trade-offs in key alternatives. In this case, DoD could convert to using 40-foot containers (though they may prove less useful in theater). Or, it can continue to use 20-foot containers and support the processes to move them internally. Or, it could engineer a compromise solution, if technically feasible, such as connecting two 20-foot containers to form a 40-foot container that works with commercial systems. The entire supply-chain cost and operating benefit of all three options would need to be assessed.

DISCUSSION

Implementing a policy of outsourcing functions first requires that all functions be inventoried. The FAIR Act of 1998[4] requires that all inventoried functions be classified according to inherently governmental and commercial activities, and that those classifications be made public so that prospective providers may choose to compete to provide the commercial functions. Additional facilitation may speed up this process.

In addition to making classifications publicly available, broad agency announcements may be an effective way to solicit firms to perform services. Existing firms and new entrepreneurs can be asked to provide end-to-end solutions to a problem instead of simply swapping a government employee for a nongovernment one.

Choosing the best-value provider will require rigorous analysis to ensure like comparisons are made—third parties, experienced in these analyses, can be used for these analyses. Once providers have been found, long-term contracts can be drawn up with shared-savings clauses included to incentivize performance.

RECOMMENDATION

Complete classification of activities as needed, and assess further if needed to identify opportunities. Then, actively engage commercial providers by using broad agency announcements or other tools.

IT Infrastructure Investment Strategy and Execution Plan

BACKGROUND

During the past eight years, the responsibilities for developing and implementing the elements of a modernized information technology (IT) infrastructure have been largely decentralized and fragmented among the Services and the Defense agencies. Part of this situation has been driven by the assignment of responsibilities under USC Title 10, which has been interpreted as giving primary authority for personnel and materiel support functions and corresponding funding authority to the Services. Further, in practice, efforts to introduce technical standards and interoperability in IT through programs, such as the Defense Information Systems Agency (DISA) efforts to promote an enterprise technical architecture and a common operating environment, have evolved very slowly. In some instances, these efforts are largely ignored or are the subject of interminable debate. In other cases, the rapid evolution of IT in the private sector has rendered DoD initiatives to modernize the information infrastructure obsolete even before it agrees on the characteristics of the structure. Finally, because the functional managers and users of the IT infrastructure have not been able to effectively articulate their

[4] Public Law 105-270, Federal Activities Inventory Reform Act of 1998, October 19, 1998.

operational requirements, the DoD technical community has not had an agreed-to baseline from which to construct the overall supporting IT infrastructure.

DISCUSSION

Information technology is almost universally recognized as a critical enabler on the battlefield of the future. Yet, the modernization of the future IT infrastructure has not been accorded a sufficiently high management or resource priority, nor have the operational requirements of the warfighting CINCs been documented sufficiently to provide the functional basis for a coordinated and priority-focused investment in IT infrastructure. In 1996, Congress recognized the deficiencies of ongoing IT modernization initiatives throughout the federal government and passed the Information Technology Management Reform Act, now known as the Clinger-Cohen Act, for improving IT modernization programs. Under the Clinger-Cohen Act, an agency chief information officer (CIO) was established in every major DoD component. The CIO responsibility was to be focused on linking IT investment to operational performance and to accelerate and streamline IT acquisitions. Thus far, DoD-wide CIO policies on modernizing IT infrastructure have been vague on strategy, vision, and execution by the Services or agencies. Further, coordinated and integrated documentation of CINC IT requirements has not occurred. Clearly, although numerous organizations must participate in developing, funding, and implementing a coordinated IT infrastructure, the component CIOs, under the oversight of the DoD CIO, must take the lead in preparing and executing a coordinated IT infrastructure investment strategy and investment execution plan for DoD.

RECOMMENDATION

The DoD CIO, in coordination with the CIO community, should develop a coordinated end-state vision (investment strategy, performance requirements, and standards) with enforcing policies and standards for DoD's IT infrastructure.

Information Systems Management Support for the Operational CINCs

BACKGROUND

In 1986, through the Goldwater-Nichols Act, Congress established the concept of joint warfare under the control of geographically oriented CINCs. The Joint Chiefs of Staff developed Joint Vision 2010 and Joint Vision 2020 to support this concept. in An essential element of the joint strategy is the recognition of the CINCs as principal customers of acquisition, logistics, and IT support processes. In the post-Cold War period, support strategies have changed because of new warfighting scenarios, improved process methods based on private-sector practices, and rapidly improving technology.

In DoD support areas, processes and technology must be modernized substantially. Although numerous improvement initiatives are ongoing or planned, horizontal and vertical integration and interoperability across organizational boundaries are lacking. These current "stove-piped" relationships inhibit change.

DISCUSSION

In the current environment, support policies often have not been updated to meet current issues. In addition, enforcement of the policies is sporadic. Where policy is in place, organizational responsibilities may be fragmented and there is not always a clear assignment of authority. Further, basic operational support requirements have not been articulated consistently. Nor are these requirements effectively integrated across component boundaries. To identify their operational needs, CINCs need a greater and more structured voice in the overall requirements process.

Changing wartime scenarios and DoD downsizing have resulted in the necessity for new, more cost-effective support strategies. In some cases, changes, such as improved inventory management in the form of reduced material stockpiles, may inhibit wartime capabilities if not properly implemented. Effective implementation of modern technology requires recognition of IT as an investment rather than an expense. Often, modernizing the IT infrastructure is not a priority in all areas. This may delay timely and responsive fielding of new IT systems. New IT requirements are essential for providing required improved decision-making tools and universal information access for authorized users, including private-sector suppliers. The Services need to resource, build, and maintain an infrastructure to support cogent information superiority (information—not massive data streams). Support infrastructure at all organizational echelons, including private-sector providers, must enhance the CINC's capabilities to work in an integrated, coalition, and joint warfighting environment. The CINCs' evolving role places exponentially greater emphasis on timely validation and implementation of emerging IT requirements. IT modernization processes requires improved coordination and greater investment.

RECOMMENDATION

To achieve the support process capabilities required by the CINCs, the following actions are needed:

- IT investments should be managed the same way as weapon system investments.
- Support policies should be updated, with emphasis on process improvement investments.
- Greater emphasis should be placed on IT infrastructure as an enabler of information superiority.

- A more effective process should be developed to determine and document CINC support requirements.
- Management should continue to support CINC IT requirements and ensure their priority in JROC considerations.
- The DoD CIO should implement a process for effectively overseeing IT investments to ensure greater integration, minimize duplication, and promote cost effectiveness.
- Automated tools must be developed for analyzing the communications infrastructure burden and planning its capacity.

Bandwidth Management

BACKGROUND

With the advent of the computer and communications revolution of the past 20 years, DoD acquisition and logistics processes have become even more dependent on timely and accurate exchange of increasingly larger volumes of data. Increased IT systems linkages to private-sector providers, and directly to warfighting customers, substantially expand this requirement. The current perception is that available "bandwidth" capacity is inadequate to support the volume of deployment and surge sustainment information. Further, information security requirements may inhibit timely exchange of information, particularly with private-sector partners. Traditionally, acquisition and logistics support information requirements during deployment have less priority than "operational" requirements.

DISCUSSION

Despite popular impressions, bandwidth capacity may not be the critical issue of future information exchange. More likely, the future issue may be overall infrastructure adequacy and scarce resource allocation. DoD must keep abreast of developments in bandwidth management technology. Future logistics and acquisition systems may physically operate primarily outside of the operating theater in support of "light footprint" and mobility requirements. This technical approach could require greater communications volume for the CINC warfighters to "reachback" or continuous connect into the CONUS-based support infrastructure. The hope is that private-sector technical advancements may eliminate bandwidth shortfall in the long term.

Information assurance and security continue to be important considerations. To the extent that support communications are vulnerable to disruption or unauthorized access, security protocols must be included in the design of future IT infrastructure. However, acquisition and logistics processes probably cannot be made secure using the same technologies that are used by operations-oriented systems. The need for interoperability across Services, with allied coalition partners, and

increasingly with the private sector, make an "open" system imperative for support processes. However, DoD bandwidth shortfalls usually occur at the "last mile" to the user because the in-house technical capability of operational units is often older technology as compared to the capabilities available in the private sector. Often, these out-of-date systems lack required interoperability of hardware and software. Corrective plans exist, but are costly and are not yet integrated along the lines of joint CINC requirements.

RECOMMENDATION

Providing sufficient, secure, and readily available communications capability is likely to remain a key infrastructure issue for the foreseeable future. To help satisfy acquisition and logistics communications needs, the following actions are recommended:

- Accelerate implementation of a mature Global Combat Support System (GCSS) as an integrating enabler.
- Address acquisition and logistics information assurance and security through a comprehensive policy issuance (DoD CIO, in coordination with functional offices and users).
- Focus management emphasis on selecting commercial off-the-shelf and government off-the-shelf (COTS/GOTS) solutions that are based on validated functional requirements.
- Provide and allocate bandwidth as demanded during crisis to satisfy both reach-back and operational requirements.

Private-Sector Defense Vulnerabilities

BACKGROUND

During the past 10 years, the DoD migrated from the mass warfare strategy of the Cold War to a significantly smaller, but often more complex, mission. During this transition, the numbers of DoD personnel and facilities were significantly reduced. Therefore, much of DoD's organic support capability has been moved to the private sector. This not only applies to major weapons systems, but other classes of supplies like fuel, food, and medicine. Through different initiatives, DoD support activities are continuing to look for ways to use private-sector support capabilities to provide essential materials and services. At the same time, the Services are attempting to find the right balance between reengineering the retained organic capability and further competitive sourcing opportunities. This increased reliance on the private sector raises serious concerns for future warfighting effectiveness in terms of surge capability, process and organizational interoperability, and security. The issue is further exacerbated by the trend in the

commercial world toward much greater economic globalization (i.e., organizational mergers, especially across national boundaries).

DISCUSSION

The optimum mix between organic and contractor support for military operations has been a long-standing issue. In theory, an ideal balance between effectiveness and efficiency undoubtedly exists. Military commanders most often desire to have total control, not only of operating forces, but also of support capability to ensure rapid response and flexibility. Today, the private sector has moved substantially ahead of DoD in its ability to provide material support quickly and efficiently, worldwide. Many argue that private-sector efficiencies may not be adequate during a period of rapid surge requirements and that the restrictions of a contractual arrangement may not be sufficiently flexible for warfighting support. The private sector also would tend to be more vulnerable to homeland attack or electronic disruption than would military activities. Further, military commanders may need to stockpile critical components, such as long-lead-time items, that simply may not be available in the private sector immediately. A greater proliferation of contract support providers raises the possible requirement for some type of joint Service consortium to ensure uniform contract policy and execution. Another issue is the requirement to obtain greater asset visibility and information exchange with the growing number of private-sector providers.

RECOMMENDATION

The degree of vulnerability of private-sector providers of acquisition, logistics, and IT support to military forces is largely unknown. A recommended initial step for resolving this issue is a series of assessments to help the Department establish a vulnerability baseline in relation to the level of current and future support to be obtained from private-sector sources. Such assessments should include evaluations of:

- threats on surge capabilities;
- the lack of interoperability among components, users, and allies;
- security and vulnerability to attack;
- current and potential degradation of readiness;
- the effects of global sourcing, mergers, and acquisitions; and
- parts obsolescence.

Appendix A
Summary of Past Studies

BACKGROUND

Many studies were conducted from 1989 to 2000 to determine how the Department should change. Most of these studies focused on internal process improvement or other process reengineering efforts, and encouraged the better exploitation of the commercial sector; either by adopting their practices or by having them perform functions currently conducted in DoD. Few of these studies, however, have attempted to link the recommended changes to DoD's ability to support a wartime conflict. In fact, only one (the 1998 Defense Science Board Logistics Transformation Study) of the 15 studies surveyed made recommendations directly relating to the CINCs. Although nearly every study identified a need for DoD to better cooperate and integrate with the industrial sector, few of the studies included industrial sector participation. Table A-1 shows the representative Defense studies surveyed.

Table A-1. Representative Defense Studies Conducted Between 1989 and 2000

Study title	Year
Defense Management Report	1989–92
Inventory Management Program (Inventory Reduction)	1990
Corporate Information Management (CIM)	1990
Bottom-up Review	1993
Critical Issues in the Defense Acquisition Culture	1994
Commission on Defense Roles and Missions	1995
Defense Reform Initiative	1997
Quadrennial Defense Review	1997
National Defense Panel Report	1997
DSB Acquisition Workforce	1997
New Workforce Vision (912 Report)	1998
DSB Logistics Transformation	1998
Product Support for the 21st Century	1999
Electronic Commerce	2000
Defense Working Capital Fund	2000

HIGHLIGHTS

As might be expected, many of the studies identified the same deficiencies discussed in the DRI seminars. For replenishing long-lead items (e.g., precision guided munitions) in sustained precision warfare the *DSB Summer 1998 Report* found the following:

- Current process for supplying materiel to theater is essentially one of Service-determined support on a push basis.
- Combat forces have little confidence in the supply system and tend to compensate by creating stockpiles of materiel.
- Both the CINC and the Services lack the information needed to plan for and manage the required materiel.

The DSB concluded precision logistics requires that the CINC shape logistics to support operations by "pulling" needed supplies.

Concerning enhanced communication between industry and the Department the *Defense Management Report* (Progress Report, May 1992) introduced an overall management framework that addresses top-level leadership actions to improve defense management practices both internally and with regard to industry relationships. Areas covered are:

- The roles of the Defense Acquisition Board (DAB)
- The Joint Requirements Oversight Council (JROC)
- Service acquisition executives, program executive officers, and program managers
- Regulatory revisions
- DoD-industry equitable sharing of risks
- Use of commercial practices.

In this same area, the *CIM Functional Logistics Plan* (Status Report, April 1992) states the Department's electronic data interchange (EDI) program provides for a common approach for implementing EDI. The focus is the movement of information using the standard X12 formats to enable exchanging data among government activities and between government and private-sector organizations.

However, in contentious areas, such as joint logistics management, study conclusions and recommendations varied depending on the sponsor. *The CORM Report* (May 1995) does not support what it terms a monolithic new acquisition organization independent of the Services, because it could undermine core combat

capabilities. It concludes efforts should be concentrated on improving the infrastructure that supports buying and maintaining military equipment.

Conversely, the *National Defense Panel Report* (1997) proposes establishing a Joint Chiefs of Staff (JCS) logistics command as part of several recommended changes to the Unified Command Plan, which incorporates new mission capabilities and geographic responsibilities. The Logistics Command would integrate the transportation missions of United States Transportation Command (TRANSCOM) and the logistics missions of Defense Logistics Agency (DLA).

Finally, there appear to be no completed studies addressing three area of considerable discussion during the seminars. The areas are:

- Contractors' access to the battlespace
- Reconstitution
- Achieving interoperability in munitions and software between joint and allied weapon systems.

SUMMARY OF STUDY RECOMMENDATIONS

A summary of recommendations from each study surveyed follows. All recommendations are numbered consecutively in the "Line" column so they can be cross-referenced in the "Similar to lines" column. This provides insight into how many times the same, or similar, recommendation was made in other reports. The "Number" column contains an identification number that relates the recommendation to a specific report. The remaining "Synopsis" column is self-explanatory.

Table A-2. Major DoD-Wide Objectives

Line	Number	Synopsis	Similar to lines
Defense Management Report [1989-92]			
1	DMR-L-1	Consolidate depot maintenance	41, 50
2	DMR-L-2	Reduce inventory	18-27
3	DMR-L-3	Consolidate distribution depots	41, 50
4	DMR-L-4	Stock fund reparables	
5	DMR-L-5	Consolidate regional freight shipments	41, 50
6	DMR-L-6	Ship high priority items by cheaper mode	84
7	DMR-L-7	Direct delivery by vendors	54, 76, 91
8	DMR-L-8	Consolidate inventory control points	41, 50
9	DMR-I-1	Consolidate ADP operations and design centers	41, 132
10	DMR-I-2	Develop standard ADP systems	37, 83, 127
11	DMR-I-3	Implement electronic data interchange	33, 59, 62, 65, 92, 95
12	DMR-A-1	Streamline acquisition management	51, 52, 121
13	DMR-A-2	Improve quality of acquisition workforce	72, 77-79, 123, 126,128

Table A-2. Major DoD-Wide Objectives (Continued)

Line	Number	Synopsis	Similar to lines
14	DMR-A-3	Improve acquisition process	43, 44, 57, 60, 70, 71
15	DMR-A-4	Overhaul acquisition regulations	44, 45, 47
16	DMR-A-5	Improve DoD and industry risk sharing	74, 89
17	DMR-A-6	Adopt commercial practices	26, 33, 36, 42, 88, 99
Inventory Mgmt. Program (Inventory Reduction) [1990]			
18	IMP-L-1	Respond quickly to changing requirements	2
19	IMP-L-2	Cancel unneeded procurements	2
20	IMP-L-3	Set inventory-reduction goals	2, 30, 34, 98
21	IMP-L-4	Improve weapon system management and provisioning policy	2, 29
22	IMP-L-5	Improve or modernize supply process and systems	2, 130
23	IMP-L-6	Eliminate duplicate and inactive items	2, 34
24	IMP-L-7	Improve criteria for economic, contingency, and numeric retention stocks	2
25	IMP-L-8	Improve management of intermediate- and consumer-level stocks	2
26	IMP-L-9	Adopt commercial practices	2, 17, 99
27	IMP-L-10	Institutionalize inventory actions	2
Corporate Information Management Functional Logistics Plan [1992]			
28	CIM-L-1	Integrate logistics processes	82
29	CIM-L-2	Implement weapon system management	21
30	CIM-L-3	Reduce inventory and manage with reduced purchase, repair, and transportation resources	2, 20
31	CIM-L-4	Achieve asset visibility	
32	CIM-L-5	Achieve optimum workforce productivity	
33	CIM-L-6	Use modern business practices and technology	11, 17, 92, 99, 130
34	CIM-L-7	Facilitate reuse or disposal of inactive inventory	20, 23
35	CIM-L-8	Incorporate environmental requirements	
36	CIM-L-9	Use commercial practices and competition	17, 99
37	CIM-L-10	Provide a standard, fully integrated information system	10, 127
38	CIM-L-11	Reduce response time	38
39	CIM-L-12	Establish good relationships with Congress, GAO, OMB, IG, and industry	
Bottom-Up Review [1993]			
40	BUR-L-1	Increase privatization	39, 46, 48, 49, 56, 61, 64, 67, 74, 85, 89
41	BUR-L-2	Increase consolidation of functions	1, 3, 5, 8, 9
42	BUR-L-3	Use business practices	17, 99, 130
43	BUR-A-1	Simplify acquisition process	14
44	BUR-A-2	Remove impediments to purchasing commercial items	14, 15
45	BUR-A-3	Repeal unnecessary statutes	15, 47

Table A-2. Major DoD-Wide Objectives (Continued)

Line	Number	Synopsis	Similar to lines
Commission on Defense Roles and Missions [1995]			
46	CRM-L-1	Outsource all commercial-type support activities	40
47	CRM-L-2	Withdraw A-76; repeal restrictive legislation	15, 45
48	CRM-L-3	Rely on private sector for depot maintenance	40
49	CRM-L-4	Outsource selected materiel management activities	40
50	CRM-L-5	Streamline central logistics support	1, 3, 5, 8
51	CRM-A-1	Streamline acquisition organizations	12, 121
52	CRM-A-2	Streamline acquisition oversight	12, 122
Defense Reform Initiative [1997]			
53	DRI-L-1	Create paper free logistics	53
54	DRI-L-2	Use prime-vendor contracts for maintenance and operating materials at all installations	7
55	DRI-L-3	Institute just-in-time inventory management	
56	DRI-L-4	Pursue public-private competition for depot maintenance	40, 114
57	DRI-A-1	Create paperfree weapon systems contracting	14
58	DRI-A-2	Increase use of IMPAC card	
59	DRI-A-3	Increase use of electronic catalogs and shopping malls	11, 92
60	DRI-A-4	Develop end-to-end procurement process	14
Quadrennial Defense Review [1997]			
61	QDR-L-1	Outsource non-core activities	40
62	QDR-I-1	Exploit information technology	11, 65, 87, 92
National Defense Panel Report [1997]			
63	NDP-L-1	Create a logistics command	
64	NDP-L-2	Compete commercial type activities	40
65	NDP-I-1	Exploit information technology	11, 62, 87, 92
66	NDP-I-2	Pursue COTS	101
DSB Acquisition Workforce [1998]			
67	DAW-L-1	Adopt contractor logistics support	40
68	DAW-L-2	Place inventory management and engineering under PMs	
69	DAW-L-3	Phase out depot maintenance and distribution	40
70	DAW-L-4	Expand prime-vendor arrangements	14
71	DAW-A-1	Expand price-based contracting	14
72	DAW-A-2	Train workforce in best commercial practices	13, 123, 128
New Workforce Vision (912 Report) [1998]			
73	NWV-L-1	Reengineer product support to use best commercial practices	17, 99, 130
74	NWV-L-2	Competitively source product support	16, 40
75	NWV-L-3	Modernize through spares	90
76	NWV-L-4	Expand prime vendor and virtual prime vendor (VPV) arrangements	7
77	NWV-A-1	Train in contracting for services	13, 123, 126, 128
78	NWV-A-2	Institutionalize continuous learning for professionals	13, 123, 126, 128

Table A-2. Major DoD-Wide Objectives (Continued)

Line	Number	Synopsis	Similar to lines
79	NWV-A-3	Enhance commercial business environment training	13, 123, 126, 128
80	NWV-I-1	Create paperless integrated data environment	80
DSB Logistics Transformation [1998]			
81	DLT-L-1	Elevate role of CINC in theater logistics	
82	DLT-L-2	Increase flexibility of logistics system in CONUS and theater	28
83	DLT-L-3	Designate a logistics system architect	10
84	DLT-L-4	Exploit commercial lift capabilities	6
85	DLT-L-5	Competitively source product support	40
86	DLT-L-6	Assess logistics system vulnerability to chemical, biological, and cyber attack	
87	DLT-I-1	Enhance CINC logistics information tools	62, 65
Product Support for the 21st Century [1999]			
88	PSC-L-1	Reengineer product support to use best commercial practices	17, 99, 130
89	PSC-L-2	Competitively source product support	16, 40
90	PSC-L-3	Modernize through spares	75
91	PSC-L-4	Expand prime vendor and VPV arrangements	7
Electronic Commerce [2000]			
92	EC-A-1	Update DoD 5000 series and Mil-Hbk-881 to adopt electronic business (EB) strategy and methods	11, 33, 59, 62, 65
93	EC-A-2	Share savings with implementing organizations	
94	EC-A-3	Accelerate EB training	
95	EC-I-1	Develop technical infrastructure to be compatible with industry	11
96	EC-I-2	Develop quality-of-service guidelines	
97	EC-I-3	Improve ways for small businesses to integrate with DoD EB	
98	EC-I-4	Develop and use EB goals and metrics	20
99	EC-I-5	Match business processes to COTS products	17, 26, 33, 36, 42, 73, 88
100	EC-I-6	Develop return-on-investment measure	
101	EC-I-7	Work more closely with COTS developers	66
102	EC-I-8	Support electronic commerce (EC) in Defense Planning Guidance (DPG)	
103	EC-I-9	Ensure secure EC transactions using best commercial practices	
104	EC-I-10	Develop an EC architecture	
105	EC-I-11	Publish guidance on information assurance (IA)	
106	EC-I-12	Provide funds and improve training for IA	
107	EC-I-13	Relax public key infrastructure (PKI) where appropriate	
108	EC-I-14	Develop PKI performance metrics	
109	EC-I-15	Consider adopting commercial legal standards for EC	
Defense Working Capital Fund [2000]			
110	DWCF-L-1	Collect total costs through means other than price	
111	DWCF-L-2	Maintain stable prices	
112	DWCF-L-3	Seek legislative approval for flexible workforce practices	
113	DWCF-L-4	Tighten rule on what kind of activity qualifies for Defense Working Capital Fund (DWCF)	

Table A-2. Major DoD-Wide Objectives (Continued)

Line	Number	Synopsis	Similar to lines
114	DWCF-L-5	Provide guidance on public and private partnerships	56
115	DWCF-L-6	Develop policy to fund organic-won competed work directly	
116	DWCF-L-7	Improve cost data information	
117	DWCF-L-8	Directly fund base realignment and closure activities	
118	DWCF-L-9	Improve depot-level reparable accounting	
119	DWCF-L-10	Improve functional and financial performance measures	
120	DWCF-L-11	Improve DWCF training	
Critical Issues in the Defense Acquisition Culture [1994]			
121	ACQ-A-1	Consolidate acquisition organizations under acquisition and technology	12, 51
122	ACQ-A-2	Reduce or control oversight of proven performers	52
123	ACQ-A-3	Develop and train a professional acquisition corps	13, 72, 77-79, 126, 128
The Defense Acquisition System: DoD Directive 5000.1 Revision (Draft) [2000]			
124	DAS-A-1	Achieve interoperability within and among U.S. and coalition forces	
125	DAS-A-2	Adopt a family-of-systems management approach	
126	DAS-A-3	Maintain a fully-proficient acquisition, technology, and logistics workforce	13, 72, 77-79, 123, 128
Executive Level Group for Defense CIM [1990]			
127	ELG-I-1	Use common state-of-the-art IM systems	10, 37
128	ELG-I-2	Improve staff professional ability to analyze and use information	13, 72, 77-79, 123
129	ELG-I-3	Automate intelligently	
130	ELG-I-4	Simplify business methods	22, 33, 42, 73, 88
131	ELG-I-5	Integrate continuous process improvement	
132	ELG-I-7	Consolidate and centralize CIM organizations	9
133	ELG-I-8	Integrate the CIM strategic planning process	

Appendix B
Scenarios and Game Moves

THE SCENARIOS

The major warfight in the scenarios takes place around 2012, following a peace-enforcement phase that takes nearly a decade, and a counterinsurgency phase lasting nearly a year. U.S. force structure and capabilities are derived from the Extended Planning Program (EPP). Allied political consensus to undertake a major contingency is assumed.

Timelines in these scenarios are somewhat longer than current thinking. Although the U.S. would prefer to conduct rapid decisive operations, circumstances or the enemy may dictate otherwise. These scenarios highlighted the other end of the spectrum where a well-entrenched enemy wears on U.S. national patience and military capabilities. In this conflict, the active combat phase lasts approximately six months.

Three scenarios are presented as background:

- A master scenario that outlines Red thinking and actions.
- A Blue peace enforcement scenario, including the Blue CINC Joint Task Force mission statement.
- A Blue major conflict scenario, including the Blue CINC mission statement.

Red Scenario

In the eyes of Red's ruling class, the end of UN sanctions in 2002 was a victory for Red, and the withdrawal of Red forces in the north and establishment of the UN protectorate was only a tactical concession. Determined to regain control of its northern territory, Red begins planning for reincorporating along three tracks. The first track is to open a dialog with other Arab states in the region, playing on religious and Arab themes, and decrying the dismemberment of an Arab state at the hands of the West. This message plays well in the region, particularly among the populations of Syria and Iran, whose governments, though, remain neutral.

Second, Red's assessment of the Coalition's weaknesses led it, soon after sanctions ended, to begin covert sponsorship of a failing Kurdish terrorist group (PPP) as a vehicle to attack them in the UN protectorate. Although the original intent of the PPP was to establish a separate ethnic state in northern Red, the current

leadership is de facto part of Red's military leadership. The PPP has, over the decade, grown in competence and numbers, and can now operate in open countryside in platoon and company strength, and in the cities in cells of as many as 20 or 30 members. The PPP's aim is to cause sufficient unrest to (1) prevent the development of a separate civil society in the protectorate and to (2) kill enough UN and allied military personnel to undercut domestic support in the U.S., the UK, and France for the allied military support of the UN. PPP field headquarters is in the city of Quiyara.

Third, even before the end of sanctions, Red's military establishment began reassessing its operational doctrines and had begun rebuilding itself according to its own interpretation of the Gulf War of 1991-92. Accordingly, as oil money has flowed in since 2002, it has only modestly rebuilt its conventional forces while investing heavily in air defenses, medium-range ballistic missiles, some information capabilities, and a stockpile of chemical and biological warfare warheads for missiles. Red has studied the causes of its last defeat and possible counters to U.S. and allied military operations. Therefore, Red has developed a comprehensive military strategy that includes attacks against hostile forces deploying into the region once war has begun. In addition, Red has developed civil and military operational techniques designed to frustrate allied and U.S. attacks, particularly their use of high-tech precision weapons. Also, Red believes that "extended operations" to strike the homelands of enemy nations are legitimate and feasible, once allied attacks begin against Red's own soil. Red intends to use all methods against any enemy that attacks its homeland.

From 2002 to about 2004, Red concentrated on rebuilding conventional forces and building PPP infrastructure in Red and the protectorate. In the protectorate, the UN concentrated on constructing a civil infrastructure and reconciliation of the competing political parties. During this time, allied forces in the protectorate consisted of U.S., UK, and French regular formations, generally in division strength, augmented as necessary to carry out peace enforcement missions. As a rule, allied forces were successful in maintaining civil order with the assistance of UN-sponsored police forces.

Beginning in 2004, the PPP, on orders from the Red leadership, broke away from other protectorate political parties and developed opposition platforms based on reconciling with Red and violent confrontation with the UN and allied forces. Infiltration of trained PPP cadres began from Red, either directly across the UN boundary or through the mountainous and ill-defined border between Red and Syria, or Red and Iran. Soon after, a terror campaign began against protectorate police forces and other local organizations cooperating with the UN. Municipal officials, schoolteachers, civil servants, and journalists were special targets. To increase security for UN and protectorate personnel, the allies added forces.

Starting around 2007, PPP infiltration had become sufficiently serious to warrant UN protests to Syria and Iran, and both governments began ineffectual efforts to close their borders to PPP infiltration. In the protectorate, PPP cadres began

operating in the major cities, as well as in the countryside and violence against protectorate police and civic officials escalated. Before and during this period, however, allied forces were not targeted by the PPP, largely because Red's own arms buildup had not reached sufficient levels to risk confronting allied powers. Even so, UK and French forces, as well as UN officials began taking sporadic casualties incidental to operations in terrorist-frequented areas. Typical activities during this period included satchel bomb attacks against allied offices, assassinations of civic workers, and occasional raids against police outposts and urban stations. PPP forces occasionally took prisoners, most of whom were murdered as public warnings to the population to preclude cooperating with the UN. Some, however, wound up in Red "show trials" that inevitably led to public executions or brutal imprisonment. Allied military forces during this period concentrated on securing critical infrastructure and routes and providing security for UN workers in the field, as well as reinforcing protectorate police in urban and rural stations and garrisons. Allied special forces concentrated on training and supplying protectorate police and, of late, paramilitary security forces. As the Red military buildup increased, allied reinforcements took their final form, including deployment of U.S. Patriot batteries in Turkey to protect Turkish airfields critical to the U.S. airlift sustainment efforts.

From 2008 through 2010, infiltration from Red increased and allied intelligence officers began detecting the presence of Red Regular Army personnel among PPP casualties. Red news communiqués and policy statements became more belligerent toward Western forces and the presence of UN authority on "Red" soil. Allied forces near the UN boundary occasionally received indirect fire, including rockets, from the Red side. As guerrilla operations mounted against protectorate forces, captures and intercepts increasingly pointed to Red connivance in supplying the PPP. In September 2011, a PPP force operating in company strength ambushed a UK-protected UN convoy, killing a number of UK military personnel. A month later, an urban attack in the city of Mosul trapped and destroyed a French light-armored column in company strength. In the pitched battle that followed, a number of Red military personnel were captured. The following week a rocket attack on a U.S. field hospital on the outskirts of Zakhu killed a number of U.S. military personnel. Finally, a U.S./UN convoy on the outskirts of Mosul was ambushed in September and its members were either killed outright, murdered after capture, or taken as prisoners into Red, where they remain under Red "protective custody" in the town of Kirkuk. Some Red Cross representatives have been allowed to visit some of the better-behaved U.S. prisoners, but twenty-two U.S. military personnel remain in isolated cells. Allied forces are now operating openly against PPP forces in the countryside and in urban areas, and allied casualties have begun to mount as ground and air forces move against PPP concentrations. As operations in rural areas increase, however, the PPP has pulled back into urban areas and into "safe areas" on the other side of the UN boundary.

Red's military leadership is clearly orchestrating the PPP's campaign, with the objective of wearing out UN and allied willingness to stay the course in the protectorate. PPP objectives and Red policies are clearly aimed at both the

willingness of the protectorate's population to endure an escalating terror campaign (one that the Allies cannot seem to stop) and the willingness of the Allies to take military casualties with no effective end in sight. While allied and protectorate officials have been targets since 2004, since 2010 Red has apparently condoned targeting allied military forces as well, indicating a willingness to move the war to new levels of violence. This willingness to attack allied military forces directly coincided with the fielding, by Red, of theater missiles with the capability to strike targets in Turkey, Greece, Cyprus, Israel, Egypt, and all of Saudi Arabia and the Gulf States, providing the Red leadership with weapons that they felt would neutralize any European willingness to attack Baghdad or other Red targets.

Blue Peace Enforcement Scenario

"Blue" in this scenario connotes the combined commander of the U.S./UK/FR military forces or his or her command.

The UN protectorate north of the thirty-sixth parallel was established in 2002 to: (1) shelter ethnic groups that had opposed Red's leadership and had supported Blue policy initiatives since the end of the Gulf War in 1992; (2) provide Turkey a southern buffer against Red; and, (3) salvage some hope of modifying Red's policies after the failure of sanctions (though how that would be done is not specified).

Blue military forces operate under a combined command in Turkey that operates in support of UN efforts to restore a civil society and private commerce in the protectorate. The mission of Blue military forces is to (1) protect UN facilities and personnel, including contractors and other Non Government Organizations associated with the UN (2) assist, where feasible, the establishment of a civil society and (3) force protection, including U.S. and coalition contractor personnel.

In the decade that this mission has been in effect, rules of engagement have been successfully addressed, to the point that Blue can operate freely in the field and in cities after coordination with local protectorate officials. U.S. and allied military forces now have extensive tactical experience in the theater, though an effective rotation basis remains elusive. The NATO/UN missions in Kosovo and Bosnia are winding down. Blue forces are per the force list. Some cooperation can be expected locally, but the protectorate police force is effective only for low-level police work.

PPP activities over the decade have passed from scattered terrorist acts to those of increasing violence and focus. Given the rugged nature of the countryside, the PPP seems to be directed more toward urban terrorism and combat than the classic countryside guerrilla movement, though they have shown themselves capable of effective platoon and company-sized raids and ambushes in the field. Of late they have been taking hostages and prisoners, some of who have been found executed, and some of who are reported held in Red jails.

Blue is aware that Red actively sponsors the PPP, and in fact has frequently displayed evidence of Red logistic and personnel support. Blue military requests to hit PPP bases and depots in Red have been consistently denied by the UN and by their own national governments. Turkey, in particular, is concerned that a Red reaction might put its population centers at risk, but other European countries have similar concerns.

In the Fall of 2011 the Blue commander has the following mission:

> Conduct operations within the protectorate to safeguard and support the UN mission; locate, destroy or capture PPP units and agents, and reduce the level of violence sufficiently to permit the establishment of a civil and self-sustaining society.

Blue Major Conflict Scenario

Beginning in about 2005, Red support of the PPP has been sufficiently obvious that contingency planning against Red has been underway for some time. Red's reconstruction of a sophisticated missile arsenal capable of reaching southeastern Europe has also been the focus of defense planning and debate.

In the winter of 2011-12, Red and PPP provocations become unacceptable. PPP operations are bolder and the connection to Red more obvious. Finally, the PPP begins taking UN and contractor hostages and removing them, along with prisoners native to the protectorate, to camps and prisons in vicinity of Quiyara. A number of U.S. soldiers have been killed, and several U.S. citizens, employees of the UN and other agencies, are missing and presumed held. Blue NCA, with its allies France, Turkey and the UK, decides on military action to end Red support of the PPP, destroy Red's warmaking potential, and to retrieve prisoners held by the PPP/Red.

The Blue commander receives the following mission and amplifying guidance:

> Conduct allied military operations to destroy Red's ability to wage war, eliminate the PPP as a combat force in the protectorate, and retrieve friendly hostages and prisoners currently held by Red or the PPP.
>
> The desired outcome is a region without Red military influence and the PPP's ability to disrupt the protectorate driven down to isolated acts of lawlessness.
>
> You may target Red's leadership, communications, military forces and such other targets as required to accomplish your mission in the shortest possible time. Within this intent, avoid civilian casualties and collateral damage to the extent that doing so does not handicap achievement of your mission. Forces currently committed in the

> protectorate, as well as all uncommitted U.S. and allied forces are under your command and/or available for your planning.

In the United States, France, the United Kingdom and Turkey, tensions have obviously been on the rise with Red for some time. Turkey, in particular, has been vulnerable to terrorist actions and in the winter of 2011 declared martial law in those regions of Turkey that abut the protectorate. Consequently, by the winter of 2011–2012 domestic security is at a high state of alert in the West against Red agents or terrorists.

In the U.S., interagency counter terrorist operations are operating smoothly, with heightened security at U.S. ports of entry, critical defense and communications nodes and in high-value popular areas like Disney World and national monuments. Similar precautions have been taken in Europe, not only by the participating coalition partners, but also by other allies who are taking a more passive role. Germany, for example, has increased security throughout the Federal Republic and in particular at ports of entry.

To counter Red computer attacks, the U.S. has increased surveillance of hacker attacks and attempts to penetrate encrypted governmental communications. Various U.S. banks and other commercial concerns have voluntarily submitted most of their communications systems to federal scrutiny. Defense industry communications have likewise permitted federal intrusion to the extent necessary for detection and protection against organized cyber warfare.

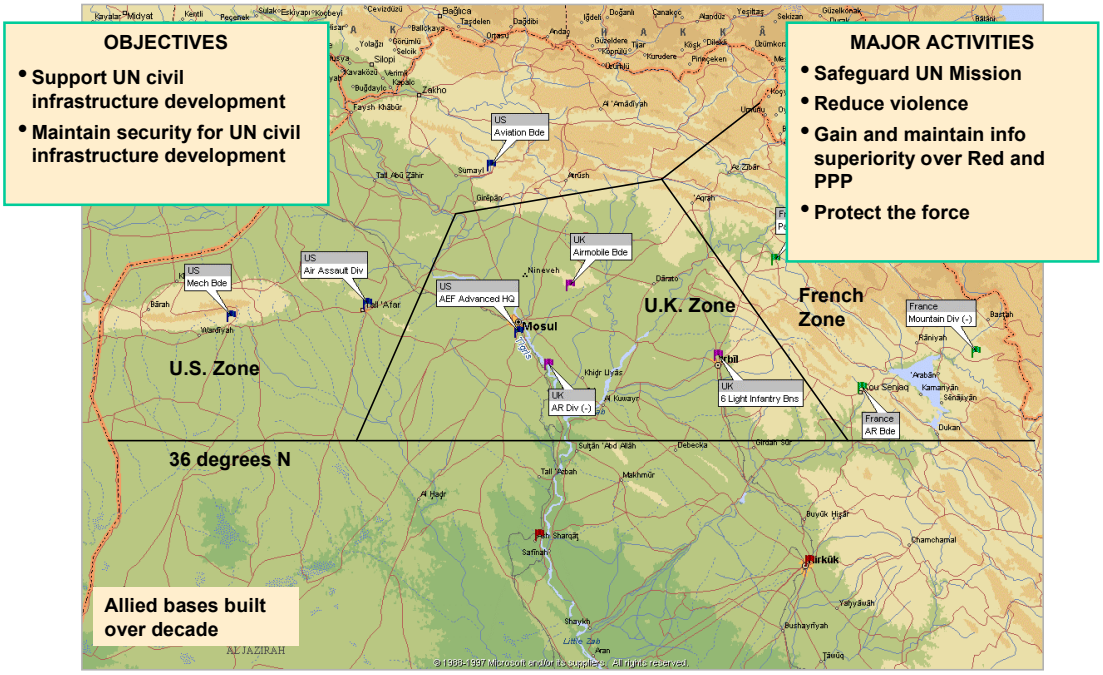
The NCA mission statement for the U.S. official responsible for protection and security against terrorists or Red saboteurs is:

> Take immediate steps to deter, detect and prevent attacks within the United States by agents acting in support of Red. If attacks do occur, take immediate action to confine damage, identify the perpetrators and apprehend or otherwise neutralize them.

GAME MOVES

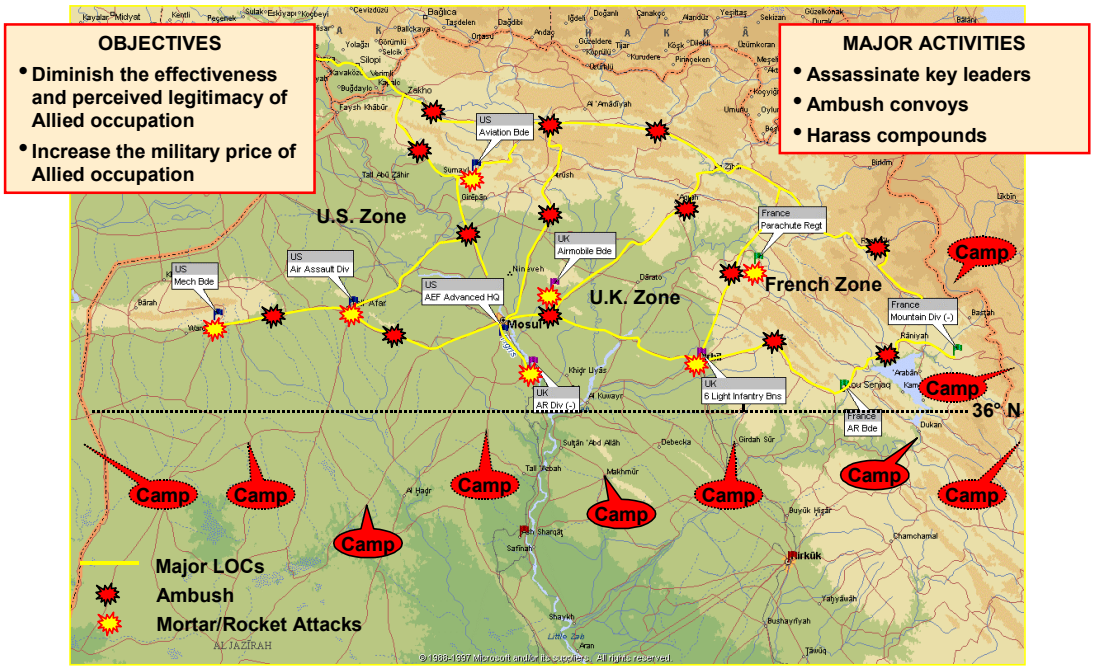
Move 1—Peace Enforcement

Figure B-1. Blue Peace Enforcement



The Commander Joint Task Force (CJTF) has the mission to conduct Peace Enforcement in the UN protectorate Zone North in order to permit establishment of a civil and self-sustaining society. The CJTF's intent is to maintain peace in this zone, support the UN in all ways, and neutralize the support and infrastructure of the PPP. This requires sealing the border and patrolling the countryside and cities. His desired end-state is to conduct a low casualty operation that helps the UN build a self-sustaining government. The essential tasks include safeguarding and supporting the UN mission, locating, destroying, or capturing PPP units and agents, reducing violence in the zone, and protecting his force. Figure B-1 is an overview of the Blue force situation during the peace enforcement phase of the scenario.

Figure B-2. Red Terrorist Phase



Red views the Blue/UN presence in its northern province as an illegal occupation intended to further Turkish territorial expansion at Red's expense. Red support of the PPP is designed concurrently to de-legitimize the occupation politically and make it unacceptably expensive militarily.

At the same time, for Red, recovery of occupied territory is subordinate to preservation of the regime. PPP operations therefore are paced by parallel Red preparations to prevail in an unwanted, but potentially unavoidable war with Blue and its allies. These begin as soon as sanctions are lifted and are extensive.

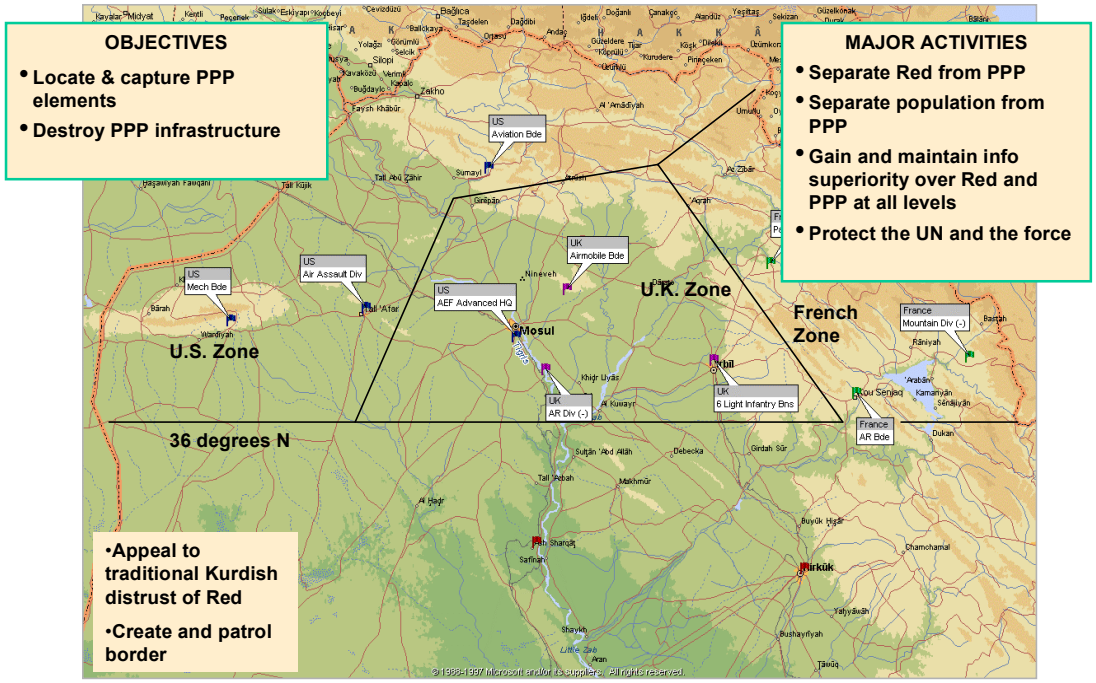
During the first several years of Blue's occupation, PPP activities are limited to establishing an overt anti–Blue political network as the overlay on and cover for an extensive covert insurgent buildup, including cell organization, smuggling and caching of equipment and munitions, and extensive intelligence operations designed to pattern Blue military operations and identify vulnerabilities.

Between 2007 and 2011, PPP activities expand to open political opposition to Blue's presence, together with subornation and/or intimidation of pro–Blue Kurdish elements. Insurgent military preparations continue and accelerate.

In 2011, Red anti–access and self–defense preparations having matured, the PPP begins low–intensity guerilla operations against Blue and allied forces, including assassinations, convoy ambushes, and hit–and–run mortar and rocket attacks on Blue and allied compounds. UN facilities deliberately are not targeted. Figure B-2 depicts Red sanctioned PPP locations and activities.

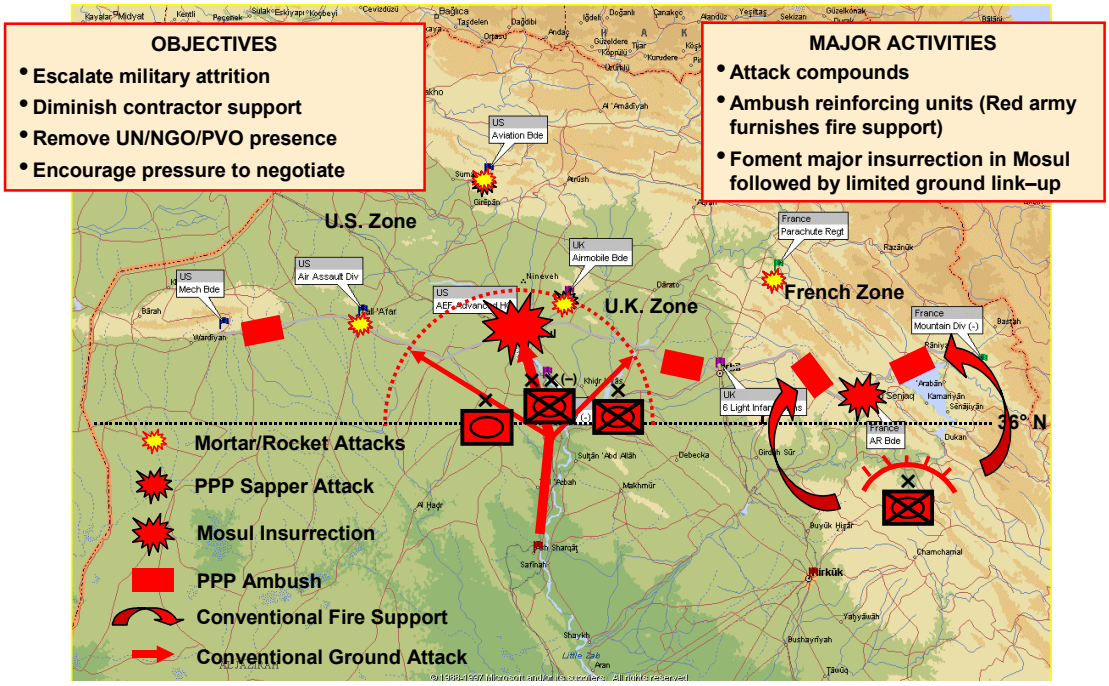
Move 2—Counterinsurgency Campaign

Figure B-3. Blue Counterinsurgency Campaign



As the Red controlled PPP continue to escalate their activities, CJTF Blue launches a counterinsurgency campaign. The Blue CJTF identifies the following essential tasks: first, separate the PPP from its external support. This requires establishing an effective border, sealing the border, aggressively patrolling the border, locating logistical cache sites and focusing intelligence collection on the border. Second, the Blue CJTF must separate the PPP internally from the population by painting the information picture of the PPP as illegitimate; appealing to the populace's ancient hatred of Red and pointing out that the PPP is a puppet of Red; and develop themes that support UN and Blue allies as protectors and saviors of Kurdish culture. This also requires the CJTF to integrate fully with the overall Psychological Operations (PSYOP) plan. Third, he the Blue CJTF must gain and maintain information superiority over Red and the PPP at all levels, and protect the UN and Blue forces own forces. Figure B-3 provides an overview of the Blue counterinsurgency campaign.

Figure B-4. Red Escalation Phase



Low–level insurgent operations having failed to induce Blue withdrawal from occupied Red territory, in 2012 Red determines to ramp up the level of violence. Red's intent remains to avoid open war if possible. Escalation takes the form of direct attacks on Blue patrols and compounds, with particular emphasis on compounds furnishing logistical support, and command and control of Blue and allied military activities.

Special efforts are made to draw reacting Blue units into large–scale PPP ambushes near the protectorate boundary, where they can be supported by indirect fire from prepositioned regular Red units. Where possible, Blue units are drawn into hot pursuit across the protectorate boundary where they can be confronted by Red army units in prepared positions on Red soil. In late 2012, PPP cells in and around Mosul launch a mass attack against occupying Blue and allied forces and call publicly for Red military support.

In response to this, Red army units in division strength attack across the boundary with the nominal objective of establishing a corridor to Mosul's besieged freedom fighters, and the actual objective of establishing a strong lodgment in Mosul, thereby reasserting Red's sovereignty over Mosul while simultaneously depriving Blue of Mosul's air and logistical staging facilities. At the same time, Red mobilizes, placing its forces both in theater and abroad on full alert, and calls for international mediation.

Blue Integrated Attack

Red has miscalculated Blue resolve and has triggered the Blue National Command Authority to direct the Commander in Chief (CINC) Blue forces to conduct an integrated attack against Red. CINC Blue's mission is to conducts military operations as necessary to destroy Red's ability to wage war; eliminate PPP combat force in the protectorate; and retrieve friendly hostages and prisoners held by Red or the PPP in order to bring stability to the region.

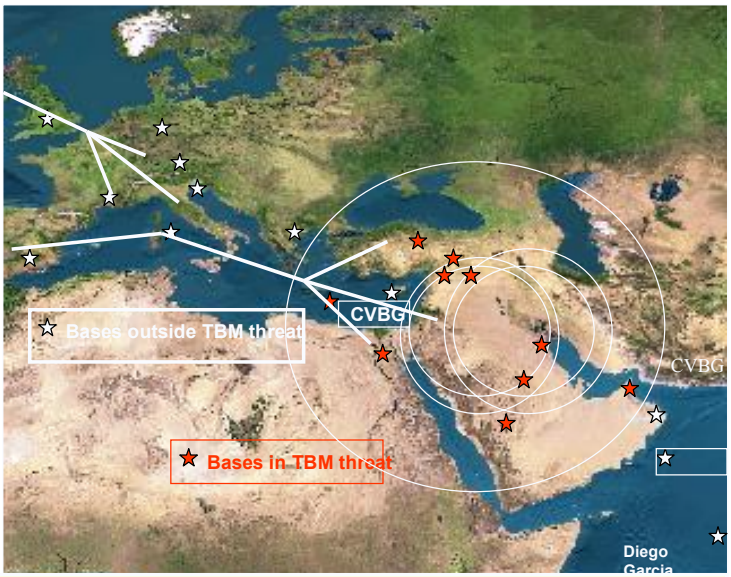
Blue has not been ignorant of the purpose of the 9 year increase in Red hostilities in the protectorate. Blue strategy reviews indicate what is occurring in the background as Red manipulates the insurgency in the protectorate. Blue has also noticed the homeland defensive preparations started by Red. Blue has an advantage in intelligence, surveillance, and reconnaissance, (ISR) capabilities, which Red recognizes. Nevertheless, Red continues to attempt to maintain the element of surprise through deception tactics, such as decoy facilities and concurrent construction and collocation of military and civil infrastructure. Blue, however, has the ability to detect most of Red's weapons build up through foreign suppliers, training of military personnel and exercises.

The Blue CINC started the normal levels of dialogue with the DOD leadership and Joint Staff, and has received the priorities necessary for extensive all source intelligence collection against Red for several years. In addition, Blue has a level of insight into Red's actions through HUMINT channels sufficient to have raised concern, and triggered updates to regional alliances and infrastructure. Red's attack on Mosul was not a "bolt out of the blue," nor is the rebuilding of Reds military capabilities a complete surprise. The NCA is prepared for a long-term campaign. Political will is strong and the NCA intends to holds to its objectives to destroy Red's military, and negate Red's regional influence.

CINC Blue intends to fight an integrated campaign that is air heavy at first. In this phase, CINC Blue intends to dominate the battlespace by conducting parallel attacks on vulnerable decisive points, disrupting C3I mechanisms, and isolating Red leadership. The Blue CINC also intends to neutralize Reds revenue stream by interrupting Red's oil exporting capabilities and reducing Red's ability to sustain the war. Airpower and light ground forces will be used to destroy supply lines of communication (LOCs) and forces deployed in the field; as well as PPP staging areas and logistics support; hence denying sanctuaries. A combined ground and air phase will follow the air heavy phase.

Move 3—Blue Force Projection

Figure B-5. Blue Force Projection



Application of stealth, stand-off, tankers, IW and TBM defensive capability enables access

•US strategy uses several bases, Joint capabilities to gain initiative, complicate Red targeting
•launch
•recovery
•deception
•ABL, THAAD in AOR
•Maritime forces engage with NTW platforms
•Long range bomber strikes from beyond TBM threat attrit TBMs, gain base security
•Coordinated space based IW campaign against C2
•US gains aerospace control
•Bases closer to AOR allow more sorties to be generated
• Arriving forces engage in campaign, increase combat power for CINC

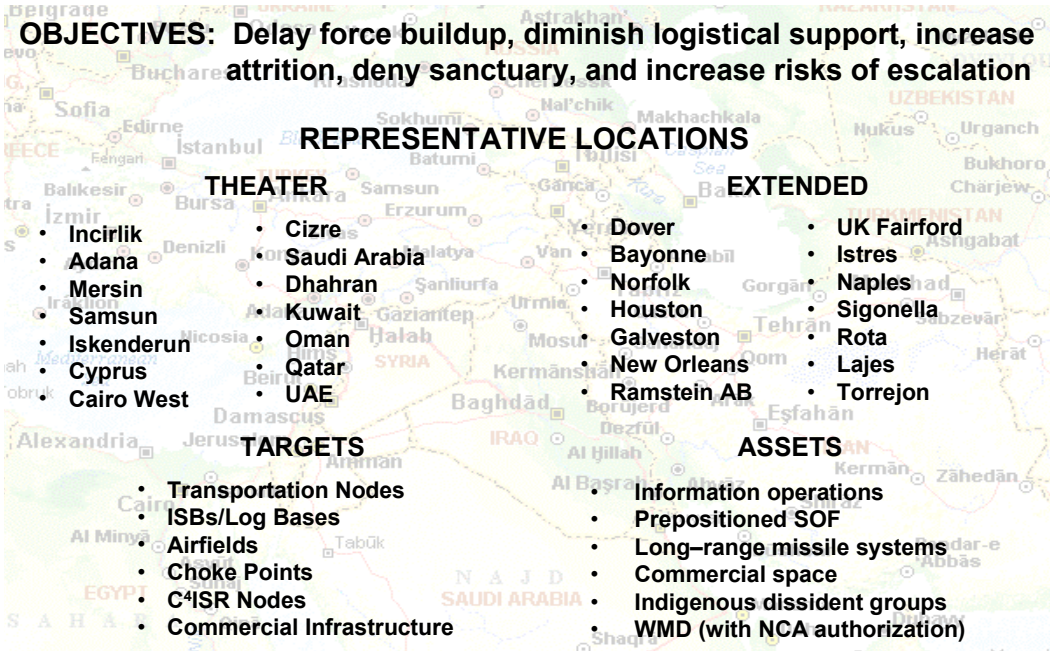
Access is a joint challenge. Blue must meet the issues of time and theater access. Joint power projection is the early key. Deploying firepower, rather than forces, beyond Red effective missile range (1800 kilometers) to stop aggression from a safe distance is essential. Blue's plan is to neutralize Red's anti-access threat and allow safe, orderly deployment of follow-on forces. Figure B-5 shows how Blue intends to gain access to the theater in the initial stages of the operation and depicts the formidable red missile capability that must be neutralized early in the conflict.

This approach is not a war-winning objective, but an enabling strategy to achieve larger objectives. Long-range bombers and sea-based missile forces will engage in early strike operations to negate Red's long-range threat. Airborne and space-based C2ISR will aid planning, managing the battle, targeting and strike assessment. CONUS and theater-deployed stealth assets will enable operations, and Joint Theater Missile Defense (TMD) will defend against ballistic and cruise missile threats, and enable long range joint attack operations.

SEAD and battlespace awareness will ensure rapid aerospace dominance, rapidly halt enemy aggression, and counter Red surface movement and strategic attack. Aerospace dominance is also essential to enable safe follow-on force deployment,

since this is a contested entry under fire. Early weight of effort must be divided between striking Red homeland centers of gravity (COG) and increased access to AOR. Initial operations are to counter WMD, the TBM threat, and maritime anti-access operations (i.e., de-mining and ASW). As forces and capability build in the AOR, the weight of effort will increase across the target sets to achieve the NCA's objectives.

Figure B-6. Red Anti-Access Operations



Red recognizes that it cannot defeat Blue militarily. Its only hope of achieving an acceptable conflict outcome is to convince Blue and its allies politically that a war against Red will be unacceptably prolonged and expensive. It's self–defense preparations and anti–access strategy are designed to deprive Blue and its allies of a quick, cheap victory. In support of that strategy, Red anti–access activities are designed to delay, disrupt, and attrit Blue/allied force generation and sustainment activities from point-of-origin to location of commitment, and to deny out–of–theater sanctuary.

Anti–access operations include both conventional and unconventional attacks, and focus wherever possible on deployment facilities, the personnel operating them, and the forces and supplies flowing through them. Real–time targeting is managed through an extensive network of prepositioned human collectors supported by extensive use of commercial space and communications facilities.

Anti–access operations are initiated following, and paced by, Blue attacks on the Red homeland. They are designed to continue undiminished throughout the conflict. Medium–range missile systems assigned anti–access responsibilities are deliberately located in major urban defensive zones where they will be difficult to

target and destroy without large number numbers of precision guided and ground penetration munitions, and possibly ground forces. Some medium–range systems are deliberately withheld from the anti–access effort to provide a credible Weapons of Mass Destruction threat, and information to that effect is leaked to keep the Allies on edge and focused more on force protection than on efficient logistics operations. Figure B-6 shows the types of targets Red would engage in its anti-access operations.

Move 4—Homeland Attack

Figure B-7. Red Sanctuary Denial Operations

OBJECTIVES: Disrupt deployment, create confusion, degrade C⁴ISR, weaken public support, and demonstrate resolve

Attacks executed over two week time frame; multiple objectives:

- **Disrupt BLUE/Allied ability to move equipment and personnel in BLUE homeland and to RED theater of operations**
- **Create fear, panic, and confusion**
- **Degrade BLUE/Allied ability to see, communicate, and collect information at home and in the battlefield**
- **Weaken BLUE/Allied public, private and congressional support for BLUE's fight**
- **Demonstrate seriousness of resolve**

Attacks carried out by Red saboteurs network assisted by domestic and international collaborators

- **Multiple targets: critical infrastructure, force deployment, population centers**
- **Multiple tools: conventional explosives, computer-based attacks, incapacitating biological agent releases**

Concurrent with and contributing to the anti–access campaign, Red special operations forces conduct a deliberate sanctuary denial effort in Blue and allied homelands to disrupt military deployment and sustainment operations, increase the domestic political price of continued hostilities, and encourage Blue and allied governments to seek a negotiated settlement that preserves Red interests.

As with anti–access operations, sanctuary denial operations are paced by, and publicly defended as a symmetric response to Blue and allied attacks on Red's homeland. Targets are limited to those having proximate impact on Blue/allied ability to prosecute war. To thwart Blue accusations of terrorism, civilian casualty infliction and collateral damage are restricted to that incidental to the attack of arguably military targets.

Non–lethal WMD are widely employed both for their direct effects and to demonstrate Blue/allied vulnerability to potential employment of lethal WMD should the conflict persist. Special efforts are made to target identified production choke-points for critical high–consumption weapons and equipment such as

missiles, precision guidance systems, satellite and communications equipment—e.g. Raytheon's Tucson cruise missile production facility. Similar targets are simultaneously attacked in Great Britain, France, and Turkey.

Move 5—Major Conflict

Red judges that, given its open geography, Blue air dominance makes a war of maneuver impracticable. Accordingly, Red homeland defense is based on an extensively prepared and fortified positional "web" defense surrounding and centered on Red urban areas. The latter are selected in priority to preserve the regime, critical national civil assets, and long–range strike capabilities.

A defended zone consists of geographically distributed strong points, obstacle zones, fire sacks, and covered and concealed reserve assembly areas, the whole protected by a dense, multi-layered air defense umbrella. The web is not intended to prevent ground penetration outright, but instead to enmesh attacking ground formations in a multi–directional threat environment which breaks their momentum, forces them repeatedly to mass, then defeats them by fires. The web defense thus is attrition–oriented. It can be overcome with patience, but is resistant to rapid penetration and collapse unless the attacker is prepared to pay heavily in casualties and collateral civilian damage.

Defended zones exploit civilian structures for both cover and concealment. All critical facilities, including headquarters, communications links, medical facilities, and missile storage and deployment sites, are below ground. Occupied positions are backed by an extensive system of dummy positions and multi–spectral decoys. Tunnels permit concealed and protected movement of personnel and supplies within–zone. No significant between–zone movement is contemplated once hostilities begin. Each zone is logistically self–sustaining from cached supplies, including food, fuel, water, ammunition, and medical materiel for approximately 180 days.

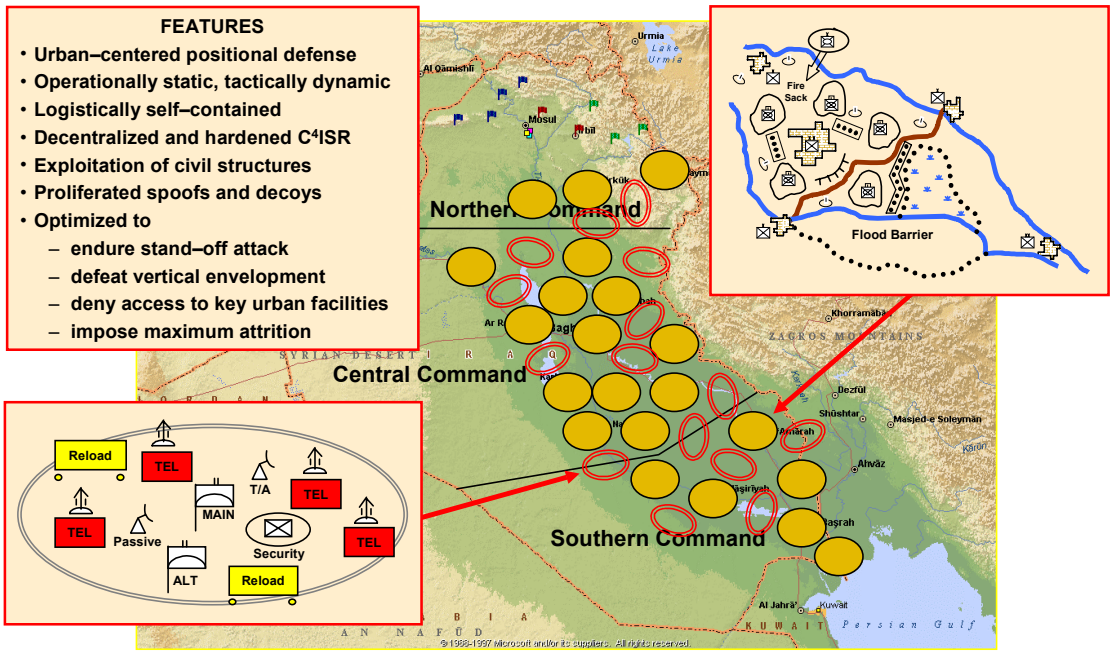
Although operationally static, the web is tactically dynamic. Strong points are mutually supporting and seek to engage cooperatively. Zones are seeded with mobile counterattack units concealed in prepared and protected sortie positions. Each has predesignated counterattack responsibilities and triggers, arranged to minimize distance to the objective. Counterattacks are designed solely to restore compromised web positions. Gradual consumption of mobile forces is expected and considered acceptable provided it results in significantly greater attrition of the attacker. Enemy forces outside web areas are engaged by fires and SOF only.

The web is deliberately designed to minimize requirements for centralized C2. Buried fiber optics and cellular communications link all defended positions. Obstacle zones and fire sacks are seeded with unattended ground sensors, as are the undefended corridors between and among web areas. The latter also host SOF elements and small, dispersed air defense ambush sites designed to deprive an attacker of unrestricted low level transit through the undefended corridors.

Within urban complexes, defensive arrangements are designed in priority to deprive the enemy of vertical envelopment, close major ground arteries, and deny physical access to key facilities such as communications sites, medical facilities, power supplies, and cached logistics. Urban defenses are deliberately arranged to make maximum use of civilian structures, making standoff attack difficult without severe collateral civil damage. Political C2 is distributed among zones.

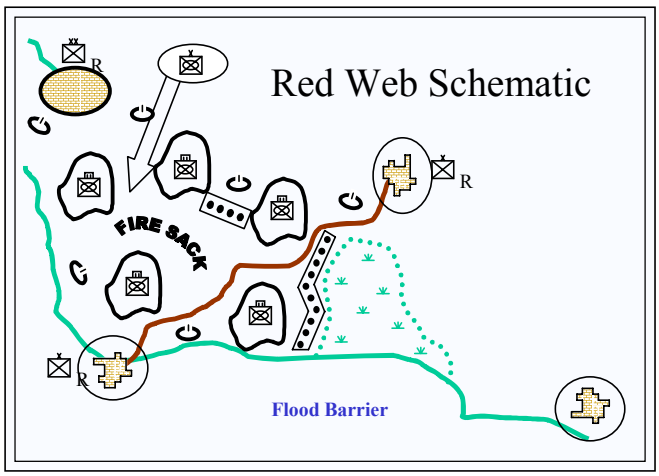
Figure B-8 shows Reds scheme of web defenses.

Figure B-8. Red Web Defense



Next a nodal analysis of critical paths between webs must be conducted

Figure B-9. Details of Blue's Attack on Red Web System



Stimulate air defenses with decoys
- •Break down fire discipline, exploit RED tactics
- •reveal SAM and AA sites, IADS C+C,

IO efforts make SAMS " turn dumb"
- •malicious code insertion, degrade C+C

Stimulate 'fire sacks" with decoy/deception
Gain information superiority over time--week or two
Mount concentrated air attack, adjust, reattack if needed, move on to next web or support ground force urban assaults

Demonstrate ability to destroy webs to Red leadership, populace and media
- •measured, patient attack
- •adjust Blue tactics and technology in real time
- •industry should be able to respond rapidly

Subsequent webs attacked by coordinated air ground campaign
Lure forces out to FCS engagement
Air Campaign completes isolation of single center
SOF employed to manipulate comm links
Ground forces attack after vulnerabilities discovered

Blue uses shoot-look-learn-adjust-shoot approach
Learning curve applied to next web attack
Red capitulates after intense 6 month campaign

CINC Blue has identified essential intelligence tasks to successfully attack and defeat the web. First web vulnerabilities must be identified and then exploited. All sources of intelligence are focused on the webs. Blue weapons development capabilities are a high priority as the results of the information are shared with laboratories and manufacturers in order to tailor in-service systems and experiences. Web stronghold vulnerabilities are to be identified through the use of intelligence, reckon by fire, probing patrols, entry into Red computer nets by coordinated information operations and access gained through portals. Patient probing and spoofing of the web will reveal technical, logistical and even doctrinal vulnerabilities—-breakdowns of fire discipline, for example. Early use of Special Operating Forces will also help identify web vulnerabilities.

As with Red's leadership, Red webs do not necessarily need to be physically destroyed to be negated. Decreasing web habitability, through denial and disruption of core infrastructure functions, such as air circulation and electricity reduces civil support. When force is used, it stresses the civil sector tolerance for damage. Psychological operations must convince the populace they have unnecessarily been put in harm's way.

The tempo of Blue operations is driven by intelligence. Advanced command and control systems provide Blue commanders a common relevant operations picture. All sources of intelligence are focused and totally integrated into all actions. Based on intelligence collected, the air campaign is used to complete the isolation

of webs, SOF are employed to manipulate Red C4ISR links, and ground forces attack where vulnerabilities are discovered. Improved command and control allows Blue forces to learn better tactics, techniques, and procedures (TTP) and to task organize in real time.

Improved acquisition and production allows the development and production of situation specific warfighting tool in real time. To minimize Blue casualties, CINC Blue employ robots, unmanned combat aviation vehicles (UCAVs) and unmanned aerial vehicles (UAVs), unattended ground sensors, and spoofing. Blue demonstrates its ability to destroy webs to the Red leadership, populous and worldwide media. Blue conducts a measured patient attack, while continuing to adjust tactics and, with industry help, insert technology in real time.

Blue continues attacking webs with a coordinated air-ground campaign. Wherever possible, Blue tries to lure Red forces into the open to engage seemingly lucrative targets, allowing ambushing of Red mobile formations. Improved lift platforms allow rapid movement to points of engagement from distant points in the battlespace. This rapid movement and engagement is aided by, access to and fusion of, information from all sources. Throughout the conflict, standoff precision weapons are employed in greater numbers than currently available.

After six months of Blue operations, Red's webs have either been defeated or sustained heavy damage. Most web defensive enclaves are reaching the end of their six months stockpile of supplies. Red realizes the survival of its regime is in doubt, and capitulates to Blue.

Move 6—Blue Consolidation

Blue consolidation tasks following Red capitulation include:

- Continuing the protectorate mission
- Destroying the remaining Red weapons stockpile
- Cleaning up CB and unexploded ordnance in the region
- Resolving refugee and humanitarian problems
- Providing UN, NGOs, PVOs, IOs sustaining support, airlift, and other services.
- Assisting civil authorities in occupied areas.
- Reconstitute Blue forces.
- Develop theater reconstitution plans.

Deploy specialized units from CONUS as required.

Appendix C
Participating Organizations

Appendix C is a list of the commercial and DoD organizations that participated in the Defense Reform Initiative: Seminar Game 00. This is a composite list. It includes organizations that participated in the junior game warfight and discussions, as well as those that participated in the senior seminar.

DEPARTMENT OF DEFENSE PARTICIPANTS

- Program Analysis & Evaluation Directorate, Office of the Secretary of Defense
- SAF/AQC
- The Acquisition Resources & Analysis Directorate, Office of the Secretary of Defense
- The Army Reserve
- The Defense Information Systems Agency
- The Defense Logistics Agency
- The Defense Procurement Directorate, Office of the Secretary of Defense
- The Defense Reform Initiative Office, Office of the Secretary of Defense Office
- The International & Communications Systems Acquisition Directorate, Office of the Secretary of Defense
- The Office of the Assistant Deputy Under Secretary of Defense, (Acquisition Process and Policies), the Office of the Secretary of Defense
- The Office of the Assistant Deputy Under Secretary of Defense, Command, Control Communications & Intelligence, Office of the Secretary of Defense
- The Office of the Assistant Deputy Under Secretary of Defense, Logistics Architecture, Office of the Secretary of Defense
- The Office of the Assistant Secretary of the Army, Acquisition, Logistics & Technology

- The Office of the Chief Information Officer, United States Army
- The Office of the Department of the Navy, Chief Information Officer
- The Office of the Deputy Assistant, Secretary of Defense, Chief Information Officer, Office of the Secretary of Defense
- The Office of the Deputy Chief of Naval Operations, Logistics, United States Navy
- The Office of the Deputy Chief of Staff for Logistics, United States Army
- The Office of the Deputy Chief of Staff Installations & Logistics, United States Air Force
- The Office of the Deputy Under Secretary of Defense Acquisition Reform, Office of the Secretary of Defense
- Principal Deputy Under Secretary of Defense (Acquisition Technology & Logistics), Office of the Secretary of Defense
- Deputy Under Secretary of Defense, Logistics & Material Readiness, Office of the Secretary of Defense
- The Office of the Deputy Under Secretary of Defense, Logistics Systems Modernization, Office of the Secretary of Defense
- The Office of the Joint Staff, Director for Logistics
- The Strategic and Tactical Systems, Munitions Directorate, Office of the Under Secretary of Defense, (Acquisition Technology & Logistics), Office of the Secretary of Defense
- The United States Joint Forces Command, J-9
- The United States Marine Corps
- The United States Transportation Command, JU-LT

COMMERCIAL PARTICIPANTS

- Association for Enterprise Integration
- Atlantic Management Center, Inc.
- Boeing
- Brown and Root Services

- Business Executives for National Security
- Calibre
- Carric Communications
- Caterpillar, Inc.
- CISCO
- Coker Logistics Solutions, Inc.
- Honeywell
- The Institute for Defense Analysis
- Litton PRC
- Lockheed Martin
- The Logistics Management Institute
- Northrop Grumman
- Research Planning Inc.
- SRS Technologies
- Whitney Bradley & Brown