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OPERATIONAL CONCEPT
COMBAT SERVICE SUPPORT

1 April 1997

FOREWORD

United States (US) national and military strategy is changing dramatically in response to massive global political and economic turbulence. Tomorrow's Army will be faced with a far more complex world than ever before. The dynamics of this new environment are compounded by the broad availability of advanced technology. Information technology is expected to make a thousand fold advance over the next 20 years. The rapid diffusion of information, enabled by these technological advances, particularly those offered through the use of space systems, will challenge the relevance of traditional organizational and management principles. The Army must recognize where bold change is necessary and where little or no change is needed. Meeting these challenges will take a long-term sustained commitment to excellence--to develop leaders, soldiers, equipment, and organizations capable of performing the diverse missions of the future. Whether appearing in the form of an effective peacetime forward presence or a decisive power projection, readiness and the ability to sustain such missions will be the hallmarks of tomorrow's Army.

This pamphlet provides a conceptual framework for the accomplishment of combined arms support for the future. It is intended to be a living document that presents emerging doctrinal ideas of support for the future. Rapid force projection, extended lines of communication, and potential forcible entry into bare-based areas of operations require Army development of a combat service support (CSS) system that is versatile, deployable, and expansible. The Army remains the nation's pre-eminent land-based strategic force and, as such, will be increasingly called upon to perform support operations in joint, multinational, and interagency environments. Army CSS personnel must be fully prepared to respond to these worldwide challenges.

Department of the Army
Headquarters, United States Army
Training and Doctrine Command
Fort Monroe, Virginia 23651-5000

TRADOC Pamphlet 525-53

1 April 1997

Military Operations
COMBAT SERVICE SUPPORT

Summary. This pamphlet serves as the basis for developing doctrine, training, leader development, organizations, materiel, and soldier (DTLOMS) focused requirements and solutions for CSS operations. Under this concept, CSS capabilities are projected across full dimensional operations to meet mission requirements. It proposes a baseline from which CSS needs of the future can be addressed at the strategic, operational, and tactical levels.

Applicability. This pamphlet applies to all U.S. Army Training and Doctrine Command (TRADOC) and Department of the Army (DA) activities which develop DTLOMS requirements.

Suggested improvements. The proponent of this pamphlet is the Deputy Chief of Staff for Combat Developments. Send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) through channels to Commander, TRADOC, ATTN: ATCD-BP, Fort Monroe, VA 23651-5000. Suggested improvements may also be submitted using DA Form 1045 (Army Ideas for Excellence Program (AIEP) Proposal).

Availability. This publication is also available on the TRADOC Homepage at http://www- tradoc.army.mil.

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Chapter 1
Introduction

1-1. Purpose.

a. The purpose of this pamphlet is to provide an overarching combat service support (CSS) operational concept outlining in general terms the capabilities required to support future Army operations as described in TRADOC Pamphlet 525-5. Details on specific functional areas and initiatives will be developed in separate concepts and in other DTLOMS products. TRADOC Pamphlet 525-5 is the conceptual basis for the Army's continuing growth toward the future. It describes future full-dimensional operations for Force XXI--a strategic Army that will continue to meet our national security requirements. It describes how the Army will conduct operations in the future when control on land is essential to success. The future Army--Force XXI--must be prepared to face the full range of military operations and missions. The Army, therefore, must design organizations and develop capabilities that will allow it to be rapidly tailorable and expansible, strategically deployable, and effective as part of a joint and multinational team.

b. Force XXI is complex. It will depend on continuing hardware improvements (new and improved warfighting systems, radios, transport or materials-handling equipment, etc.), on adopting new techniques for assimilating and distributing knowledge (intelligence collection, the exploitation of computers, satellite communications, etc.), and on the dissemination of information to all echelons. It will also depend on updating doctrine and training personnel to employ these tools most effectively. Mastery of the many associated changes will project Force XXI into the

Twenty-First Century as the world's preeminent land fighting force.

c. The effectiveness of future Force XXI military operations will be tied to the CSS capability to acquire, project, receive, onward move, sustain, and redeploy the joint/multinational force. From national providers at the strategic level to support forces at the tactical level, this concept describes the CSS pipeline capabilities the Army requires to support the full range of joint, interagency, and multinational operations (see fig 1-1). Through information technology, the CSS managers will have a wealth of information upon which to draw a picture of the battlefield. A common, relevant picture of the battlefield coupled with the information provided by a fully integrated CSS system (ICS3) will allow the Force XXI CSS manager to anticipate requirements and provide focused support when and where needed.

1-2. References. Appendix A contains the required and related publications used in this pamphlet.

1-3. Explanation of abbreviations and terms. Abbreviations and special terms used in this pamphlet are explained in the glossary.

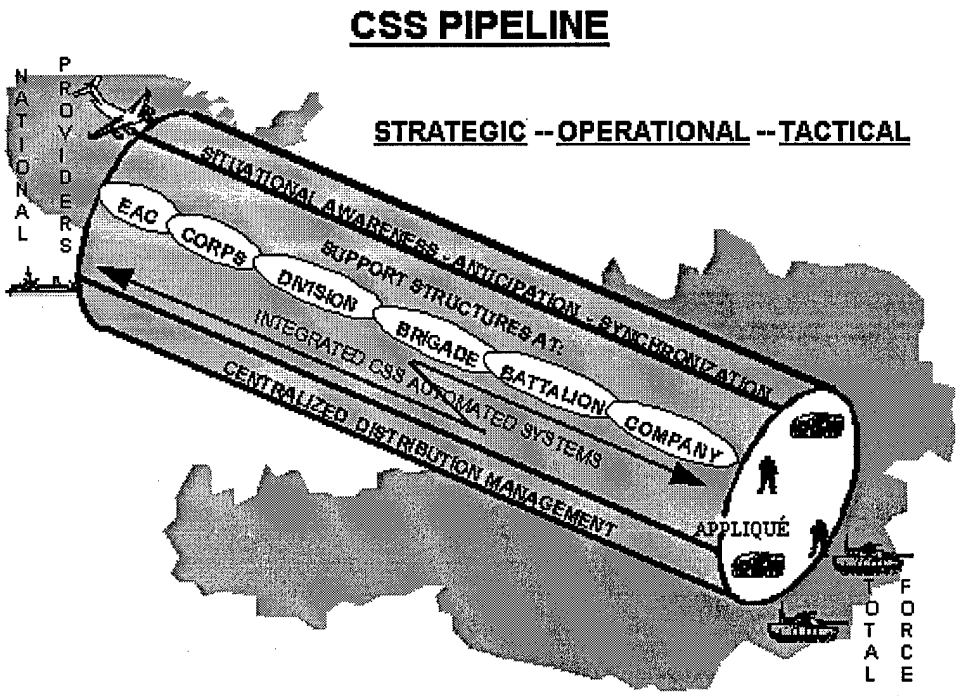

Figure 1-1. CSS Pipeline

Chapter 2
Overview

2-1. Why the concept is needed. The character of future military operations can no longer be anticipated merely by analyzing an adversary's stage of economic development; regional or even local powers may possess the capability of employing extremely advanced military technologies. Actions by an adversary will require intelligence analysis into areas extending far beyond the traditional battlefield focus. Current political and technical trends suggest that, as a matter of course, successful operations will depend on multinational commitment, joint involvement, and high tolerance for the new forms of conflict. Future military success requires the Army to rapidly project lethal and survivable combat power into any part of the world and support forces across a broad range of military operations and climatic conditions. To meet these demands, a CSS system is needed that is versatile, deployable, and expansible. Development of this CSS system necessitates weaving the current strategic, operational, and tactical levels of CSS into a seamless continuum. This seamless system must extend throughout the total force and take into consideration the integration and use of civilians.

2-2. Assumptions.

a. Threat. As the world changes, so does the nature of the threat. The most serious challenge to U.S. military superiority on the future battlefield will come from the proliferation of advanced weapons and technology. Conditions or events that would cause forces to be employed will challenge Army capabilities. Such conditions include drug trafficking, natural and man-made disasters, regional conflicts, civil wars, insurgencies, and intimidation by irrational

and often ruthless extremists who have available for their use all types of advanced weapons and systems, including weapons of mass destruction. CSS personnel, equipment, and facilities will continue to be a target for threat forces. The CSS system is vulnerable to attack from the entire spectrum of threat weaponry and forces to include sabotage and clandestine operations. Proximity of CSS assets to other targets on the battlefield, the level of conflict, and the region of the world where operations are being conducted will affect the likelihood of encountering various threats. CSS elements must be prepared to perform their designated role within the overall security plan.

b. The Reserve Component (RC). In addition to support provided by the active Army, both the U.S. Army Reserve and the Army National Guard will be relied upon to provide a number of CSS units and functions in support of the full range of military operations and missions. Given a shrinking force structure and declining defense expenditures in general, this reliance on RC CSS capabilities will increase in the future. The RC will continue to maintain a significant portion of the Army's CSS force structure.

c. Civilians in support of military operations. Department of Defense (DOD) civilian personnel; personnel from non-DOD organizations; civilian contractors such as those associated with the Logistics Civil Augmentation Program (LOGCAP); and elements of host nation, allied, and coalition support organizations will provide an ever-increasing number of capabilities in support of future Army operations. Use of these support personnel will require their integration into the battle command environment and into the CSS framework, as well as mission training for the civilians involved.

d. Joint, multinational, and interagency operations. Early Twenty-First Century American land operations will be fully integrated, completely joint, and usually multinational. Required legislative intervention will facilitate such integrated operations. The goal is that these operations be conducted under conditions where U.S. forces, supported by our joint/multi-national partners, enjoy a qualitative materiel, training, leadership, and, most importantly, information edge.

(1) Joint operations. Missions that require the projection of Army forces are intrinsically joint operations. In addition, joint force commanders may exercise directive authority for support to ensure effective execution of operations plans, economy of operations, and prevention of duplication of facilities and functions. Therefore, joint force CSS interoperability will be crucial to the success of CSS operations. Army CSS doctrine must be compatible with joint doctrine. Further, in addition to effectively using communications systems to pass CSS information, joint force CSS personnel must be able to use and integrate national intelligence systems linked into joint command, control, and terrestrial and space-based communications systems. During peacetime, the Army must properly train, structure, and equip its units to prepare for joint CSS operations in support of the projection of U.S. forces.

(2) Multinational operations. Multinational operations will continue to require a different CSS integration process than the one used during the Cold War. Historically, providing CSS has been predominantly a national responsibility. Multinational efforts designed to streamline the focus of combat power are supplanting national doctrines. The Army can expect combatant commanders to be more prone to ask national commanders to take on CSS missions in support of the multinational force. Given the demands of these types of operations, interoperability between forces of different nations (as well as the various U.S. services) in doctrine, tactics, techniques, procedures, and equipment will be required. CSS automation and communications must support these efforts, though CSS personnel must understand and plan to deal with the fact that multinational partners (and various elements of the joint force, even within the Army component) are likely to be at different stages of technological development. While standardization is the ideal, it is rarely fully achievable; therefore, interoperability efforts must continue where they are feasible and practical. Multinational forces must capitalize on the unique strengths of individual members who can best provide specific support to deploying forces.

(3) Interagency operations. Army forces will often operate in support of non-DOD civilian agencies in achieving objectives associated with the economic, political, and informational elements of national power. In some cases, these interagency operations may require support from the Army's CSS system. In all cases, Army CSS personnel will coordinate with other involved agencies to ensure effectiveness and efficiency in the total support effort.

e. Technology. The Army will continue to leverage existing and emerging technology capabilities to enhance support. Advances in information management and distribution will help CSS commanders in integrating support functions, and in tailoring CSS forces and arranging them on land. New communications systems will allow nonhierarchical dissemination of intelligence, CSS, and other data into and within the CSS environment.

2-3. Overarching concept. This concept supports the Army's overarching concept described in TRADOC Pamphlet 525-5, and the new Force XXI division operations described in TRADOC Pamphlet 525-71 (to be published). It also supports the capstone joint logistics doctrine in Joint Publication 4-0, as well as the Army Strategic Logistics Plan.

a. Force XXI is defined in TRADOC Pamphlet 525-5 by five characteristics: doctrinal flexibility, strategic mobility,

tailorability and modularity, joint and multinational connectivity, and versatility. All these characteristics influence this CSS concept. In addition, TRADOC Pamphlet 525-5 describes the five battle dynamics for meeting the challenges of the future as battle command, battlespace, depth and simultaneous attack, early entry, and CSS.

b. TRADOC Pamphlet 525-71 describes the characteristics of Force XXI division operations as multidimensional, and defined by precision, nonlinearity, distribution, simultaneity, and integration. It goes on to further depict the execution of Force XXI operations through patterns of operations. These patterns will incorporate all elements of operations, from initial receipt of mission through return to home station. The patterns will not be phases nor will they be sequential. They will serve to focus the many tasks armies have always performed in war and other military operations. The patterns are: project the force, decisive operations, gain information dominance, shape the battlespace, protect the force, and sustain the force.

c. The CSS system must be designed to meet support requirements in all patterns of operations. To do so, CSS capabilities must be developed according to the criteria shown in figure 2-1.

2-4. Limitations.

a. Successful long-term implementation of this concept is contingent upon the vast array of support information systems and an accompanying communications network to provide a timely, accurate picture of the entire battlefield. Integration of CSS automation systems within the Army Battle Command System (ABCS) is essential to execute CSS effectively. This integration, along with compatibility with joint systems, will be required to facilitate the flow of CSS requirements and synchronization of support activities. It will also enhance throughput and increase the velocity of support.

b. CSS will be influenced by the resources available in the area of responsibility (AOR), including materiel prepositioned on land or afloat, host nation support (HNS), and contributions by other members of a multinational force. The level of infrastructure development (such as port facilities, intratheater lines of communications, and other facilities) will measurably affect CSS operations and force closure into the AOR. Resources not available locally must be brought into the AOR, committing scarce strategic lift resources.

c. The extent to which future CSS operations are multinational will be limited by U.S. and international laws, treaties, and agreements. Joint CSS operations will be subject to U.S. laws, joint doctrine, and interservice agreements. Successful implementation of this concept will also be limited by the level of interoperability of equipment and systems with other services and allies.

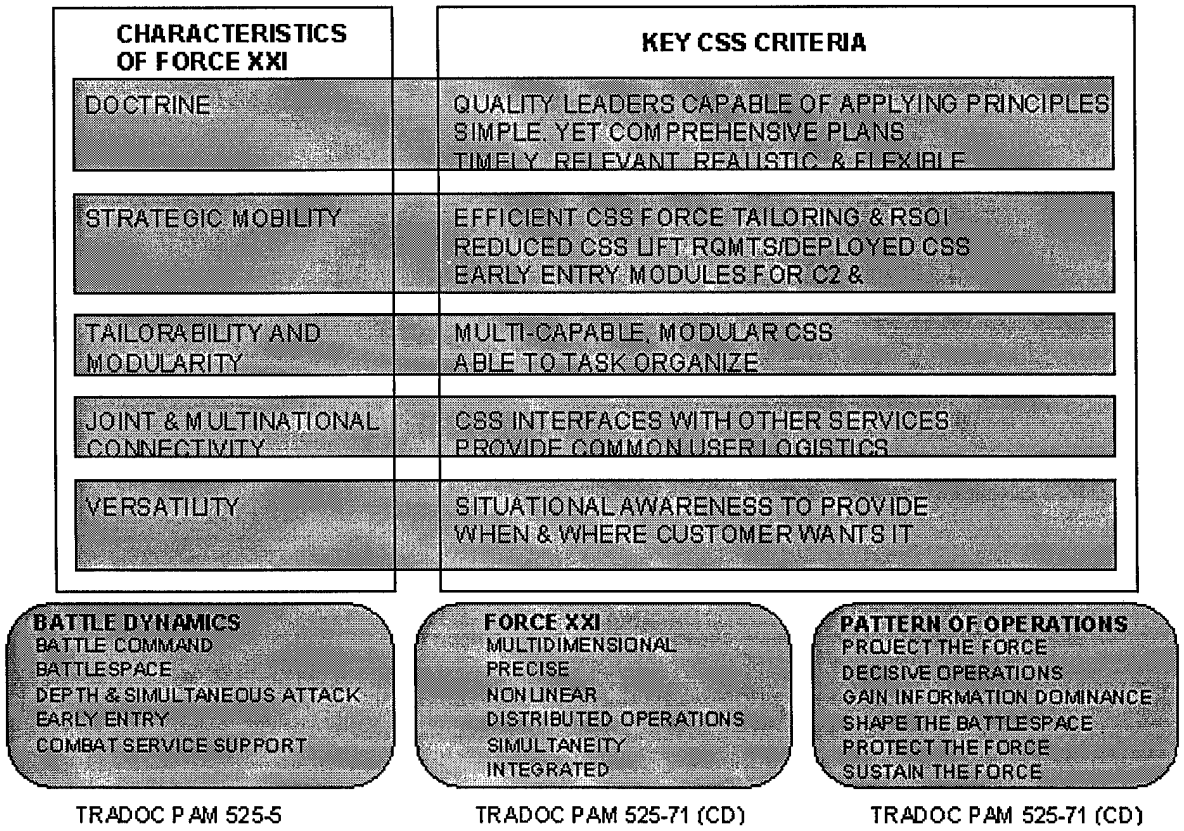

Figure 2-1. Overarching concept relationships

Chapter 3
Concept

3-1. Overview. The Force XXI Army will require a seamless CSS system capable of providing responsive, effective support for America's Army in any scenario. The system will embody a support continuum consisting of soldiers, civilians (DOD and contractors), organizations, modular support forces, and an integrated, intelligent, networked information system. It will establish a CSS pipeline providing all CSS from the sustainment base to meet the requirements of the battle commander throughout the full range of Army operations. Command, control, and coordination headquarters responsible to the battle commander will be in the area of operations. These commands will direct the flow of support through the pipeline to meet operational needs and Commander in Chief (CINC) priorities. To achieve such a system will require a cultural change in how the Army views CSS. As discussed below, it will require new approaches to such areas as database management, dependence on organizations outside the military for support, reliance on real-time situational awareness, and conversion from traditional battlespace relationships, with wholesale and retail orientations and breaks between providers at various levels of war, to a seamless CSS continuum. Further, it is envisioned that improvisation, one of the fundamental characteristics of present CSS doctrine, will remain as critical as it currently is. In a rapidly changing strategic environment with dramatic advances in technological applications to military operations, CSS doctrine must be flexible, and support personnel must be willing and able to apply evolving principles and tech niques to varying dynamic situations. Transition to this future CSS system will occur incrementally. Some aspects of it, such as use of host nation support, the logistics support element, or contingency contracting, will involve refinement of current systems and practices. Implementation of other elements of the system, such as battlefield distribution, integrated sustainment management, and velocity management, has already begun but will continue to evolve for years to come. Still other components such as some of the automated systems and space-based capabilities, will take significant long-term effort to bring to maximum effectiveness. Activities required to transition from the current CSS system to the system described in this pamphlet are outlined in chapter 4.

a. Support to force projection. The challenge of Army CSS is extraordinarily wide-ranging. The system must anticipate support requirements for future operations and work towards acquiring and developing the personnel and materiel resources and other capabilities to meet those needs. It must then apply these resources to support forces during training and other peacetime activities. In addition, the system must provide support throughout all stages of force projection operations. In this context, it must first support the mobilization and deployment of forces to an area of operations. These forces must include a modular CSS force, with an adequate command and control structure, sequenced to arrive early in the area of operations (AO) and build incrementally to meet the needs of the supported force as it flows into the area. The CSS force will focus initially on providing reception, staging, onward movement, and integration (RSOI) support to the arriving force; such support includes sustainment support to early entry elements. The CSS focus will transition to force sustainment as the force conducts operations. Support must include all aspects of CSS--maintenance, transportation, combat health support, supply, personnel/personnel service support, and field services. The system will have to meet the significant demands placed on it during reconstitution, redeployment, and demobilization of forces once objectives have been met. The CSS system must be flexible enough to provide support to operations ranging from small unit operations in remote sites to theater-wide, high operational tempo combat operations. These requirements dictate the need to establish an efficient sustainment base to acquire and develop the full range of CSS assets and capabilities to fill the pipeline with all the resources needed to sustain the operational tempo of the force. The system must also continue to improve its ability to move and control the resources through the pipeline itself. Finally, the trend toward developing CSS organizations which are flexible and deployable to minimize the support footprint in the area of operations will persist. These organizations will have an improved capability to anticipate requirements in the battlespace and direct the flow of support through the pipeline to meet the battle commander's needs. CSS organizations will employ modularity and split based operations to meet these organizational requirements. Modular organizations will consist of modules with discrete functional capabilities. They may operate as a single entity, or modules may be detached from the parent unit and used to tailor a force projection organization. The parent unit will remain operative at a reduced capability level. Split based operations will allow routine CSS management functions to be accomplished within the continental U.S. (CONUS) or at the home station while critical wartime functions can be projected forward early in an operation.

b. Single CSS system. This chapter discusses CSS in terms of strategic, operational, and tactical implications. However, this framework is merely a construct to facilitate discussion. In reality, the distinctions among levels is already somewhat artificial, and they will become increasingly so in the future. Ultimately, the conduct of Force XXI land operations will require a single, seamless CSS system. U.S. forces will seek to dominate an expanded battlespace with a minimal number of deployed troops through depth and simultaneous attack. This will present vast challenges for the CSS system. It will have to meet various simultaneous demands across a potentially large battlespace with a reduced CSS force presence. This can only be accomplished with an agile system with no breaks in the distribution

flows at seams between levels. It will also require enhanced situational awareness and full synchronization of effort. Support personnel must have an increased awareness of both what is required and what is available. Understanding what is required relies on synchronization of CSS operations with operational activities through the ABCS. Support will become more efficient and effective through improved anticipation as CSS personnel are better able to foresee future operations and to identify, accumulate, and maintain the assets, capabilities, and information required to support them. Awareness of what is available and the ability to direct it to where it is needed at the required time will require total integration of all components of the CSS system--including active and reserve component Army, joint, multinational, civilian, and other agency components. The system must network decision makers as well as those responsible for executing CSS operations. It must link CINCs, DOD and service staff managers, personnel support managers, weapon system managers, distribution managers, services managers, information managers, and CSS operators. This network will support continued CSS capability enhancements through initiatives such as telemedicine, battlefield distribution, total asset visibility, and velocity management.

(1) Telemedicine will provide real-time medical situational awareness and casualty care to the soldier in a manner independent of distance and time through superior medical monitoring and clinical consultation throughout the battlespace. Telemedicine will exploit advanced medical technologies, integrating modalities (audio, visual, and digital) to network patient care from the medic in the battlespace to CONUS. This ability to virtually project forward the right mix of skills and clinical capabilities will greatly enhance the quality of health care by drawing on critically short personnel resources from an expert location to allow valuable assets to be dually resourced against deployed and fixed patient loads.

(2) Battlefield distribution (BD) will provide the combatant commanders with fully integrated distribution management. It will enable U.S. forces to effectively request, receive, redirect, maintain, distribute, control, and retrograde support within a single distribution system. It will maximize throughput and ensure timely visibility of units, personnel, unit and sustainment materiel, and services moving to and within the area of operations. The essential characteristics of BD include a designated distribution manager at each level of command, employment of a hub and spoke distribution system, reduction in the layering effect of current support operations, increased throughput operations, improved CSS communications flow, real-time horizontal and vertical asset visibility, and a theater force opening module.

(3) Total asset visibility (TAV) will provide support personnel at all levels with a near real-time picture of asset availability throughout the supply system. TAV consists of two subordinate elements: asset visibility and in-transit visibility. Asset visibility will focus on resources in inventory, or static in the CSS system. In-transit visibility will focus on resources in motion through the CSS pipeline. Ultimately, distribution managers must have visibility of Army assets as well as all common-user items for which the Army has executive agency responsibilities to provide in order to match theater requirements to capabilities. TAV will be greatly enhanced and dependent on the use of space systems.

(4) Velocity management (VM) will be aimed at enhancing the CSS system's capability of getting support into the hands of the soldier as fast as any first-rate commercial firm, while providing a hedge against unforeseen interruptions in the CSS pipeline. The focus of VM is on CSS processes and how they can be improved. It will find and eliminate sources of delay and undependability in Army's CSS processes. It will ultimately result in reduced stocks and real dollar savings as the Army replaces support mass with precision and speed.

(5) Automation and communications are the critical enablers that hold together the CSS continuum. New Global Command and Control System (GCCS) and GCCS-compatible automation and communications technologies and procedures must be leveraged to support force projection in a joint, multinational, and inter-agency environment. Today's practice of processing data sequentially at different horizontal echelons will be replaced by a system of information access for organizations in the sustainment base as well as in the battlespace. Automated information technologies will support source data automation through a variety of media. Knowledge and information will be available through data access to a single CSS database using knowledge-based, intelligent networks. The Integrated CSS System (ICS3) will establish the overall architecture and needs for CSS automation and communications in accordance with (IAW) the Army Technical Architecture. Tactical users will communicate with the system using portable, state-of-the-art input/output devices featuring a single standard system with embedded functional applications. Those applications will be updated through the intelligent network as system changes are approved. Using the concept of assured support (a predictive push and responsive pull system of support), use of supplies and services in the battlespace will generate requirements in the CSS system with support provided directly to the unit's peacetime location or, during operations, to CSS personnel within the battle command. Knowledge-based systems will refine predictive push support pre-planned by the operational commanders and strategic providers. In addition, the operational commander will retain a capability to request support outside that pre-established support as mission requirements evolve. Through simultaneity, all echelons and organizations supporting the operation will have access to the same CSS and operational data in real time at the same time as the unit, the support manager, CSS command elements, the Army service component commander, the CINC, or DA headquarters. To gain efficiencies at all levels and to minimize the support presence in the area of operations, the system will also continue to give priority of effort to integrating support

with other services, nations, and agencies, as well as private sources. So, for example, automation and communications will link vendors and transportation elements such as freight forwarders directly to the Army's support system and provide better support for units in the field.

(6) Finally, Army support will expand the use of space-based systems far beyond current levels. Additional applications of space-based technologies will significantly upgrade the speed and accuracy of CSS information available to commanders.

c. Full range of military operations and missions. The fundamental purpose of the Army is, and will remain, to provide the land component of the joint force to fight and win the nation's wars whenever and wherever required. The Army's CSS system must always be capable of supporting this mission. However, it must also be able to provide routine sustainment during peacetime, as well as support to any selective engagements conducted during peace or to deter conflict. In some Army peacetime engagements, such as humanitarian operations, CSS may be the predominant Army activity. In all engagements, it will play a part. Whether the operation involves military-to-military contacts, nation assistance, security assistance, counterdrug and counterterrorism, peacekeeping, or any of the wide range of deterrence and conflict prevention operations, CSS is required in both the force projection and sustainment aspects. Functions performed are essentially the same as those performed during war. However, there will be differences. Support personnel will likely have to establish effective interfaces with forces of other countries and a potential myriad of governmental and international agencies. Operations may also include a higher incidence of the Army providing support to civilians.

d. Characteristics. In short, the characteristics of an Army CSS system to meet the requirements of Force XXI are listed below:

(1) Integrated into a single CSS system.

(2) Based on an intelligent, networked system electronically linked with compatible communications operating in real time.

(3) Digitized, space-based, simultaneous, and anticipatory.

(4) Designed to interface with joint, multinational, and interagency elements and take advantage of all potential sources of support including HNS and civilian sources.

(5) Synchronized and compatible with all active and reserve combat, combat support, and CSS organizations.

(6) Providing horizontal and vertical visibility of assets throughout the system.

(7) Built on flexible, modular organizational elements.

(8) Operating under a concept of assured support, which involves a predictive push and a responsive pull-type interface between provider and user with the assurance of the right support on time where it is needed.

(9) Cost effective and transparent to user.

(10) Based on nonhierarchical structure with multifunctional components.

(11) Knowledge-based versus based on echeloned sequential processing.

(12) Integrated into the overall security plan.

3-2. Strategic CSS. Strategic CSS involves the national-level capability to manage, resource, and control the personnel activities, financial management, transportation, materiel management, maintenance, combat health support, services (to include explosive ordnance disposal), procurement, distribution, and force projection support functions for the Army or other joint or multinational forces. It brings the full power of the national sustainment base (including DOD civilians as well as the U.S. industrial base) to satisfy the CSS needs of the supported CINC over a seamless pipeline of support that extends directly to the warfighting elements (fig 3-1). In peacetime and wartime, this includes all functional CSS operations in the U.S. and its territories and in areas of operations that are not performed by integral elements of deployable, combatant organizations that would constitute the joint forces command.

a. Functions. Strategic functions revolve around maintaining the national sustainment base and providing support to force projection. Strategic support elements fill the pipeline with personnel and materiel resources and services capabilities required by the supported CINC, conduct industrial operations, maintain the industrial base, provide

information services, provide strategic-level services, and manage strategic stockpiles. They focus on the following:

(1) Determining support requirements at global and regional levels.

(2) Acquiring resources while forging strategic alliances.

(3) Coordinating industrial base activity. Integrating personnel, financial management, materiel, services, and distribution management information systems of the Army with other military services and governmental agencies.

(4) Providing base support and services.

(5) Maintaining national-level medical services and facilities.

(6) Determining requirements for, and stockpiling and positioning resources afloat and on land around the world.

(7) Deploying and maintaining forward presence forces.

(8) Identifying mobilization and demobilization requirements and resources.

(9) Providing strategic mobility.

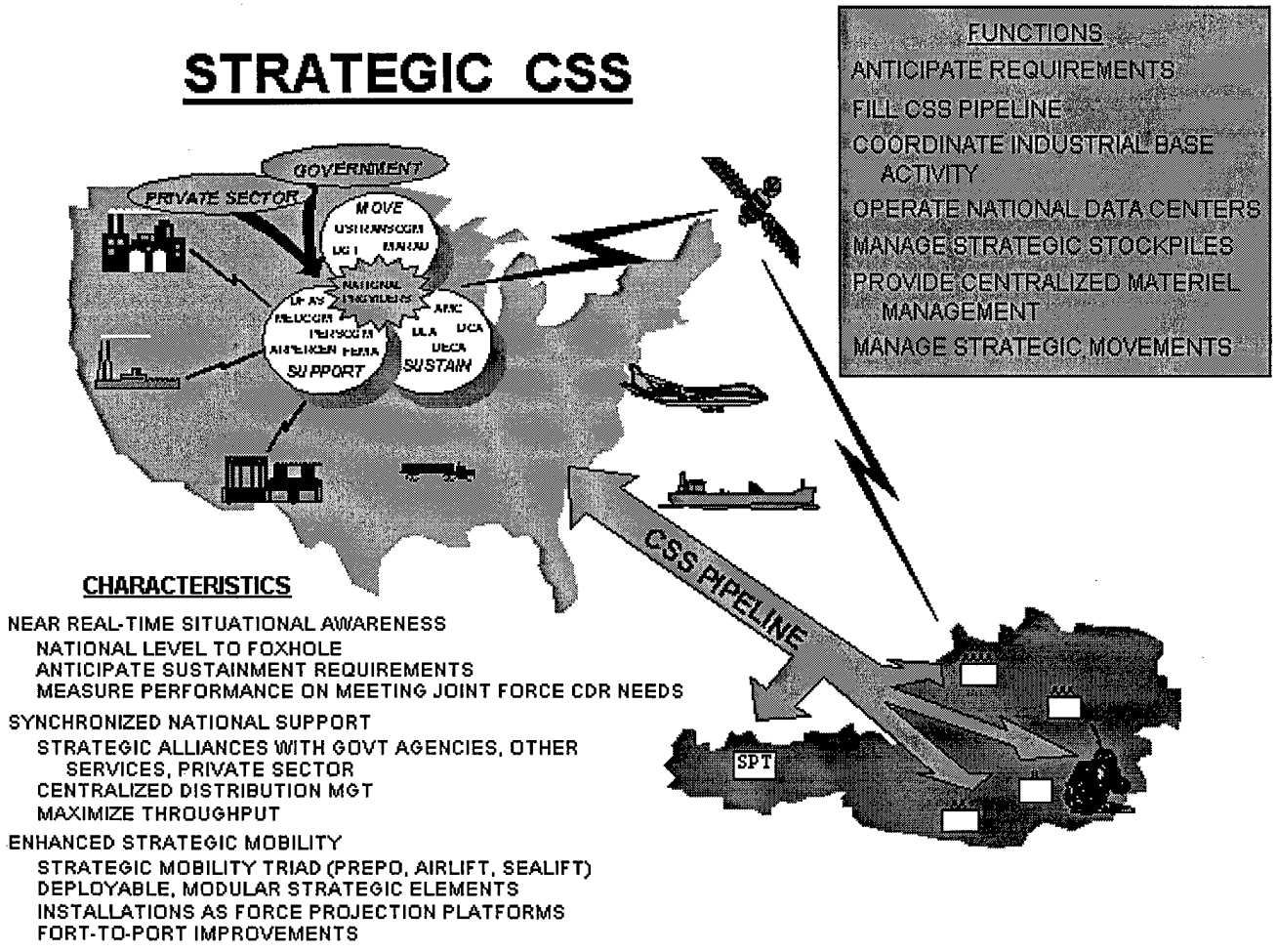

Figure 3-1. Strategic CSS

b. Sustainment base. The sustainment base, as well as strategic deployment components, represents a national capability. It involves DOD, the military services, and other government agencies with the support of the private sector. These national providers comprise the national-level capabilities to manage, resource, and control the materiel management, maintenance, procurement, services, distribution, and deployment functions for the Army and other joint and multinational customers. Whether DOD involvement becomes more centralized (resulting in fewer national providers) or the services maintain their current level of strategic capabilities, strategic Army elements will increasingly have to integrate operations with other providers of support at the national level (fig 3-1) as the national infrastructure

becomes more streamlined.

(1) The challenge facing the sustainment base is to meet the needs of the combatant commanders in the Force XXI battlespace of depth and simultaneous attacks while operating in the context of a dynamic environment. There must be a more rapid response to the requirements generated by more complex weapon systems from a base characterized by decreasing CSS-related defense work for the industrial base, fewer manufacturing sources, and decreasing surge capabilities.in such areas as warehousing, maintenance, transportation, materiel management, and training. It will use electronic data interchange, electronic commerce, and other progressive business practices to effectively integrate with Army strategic CSS operations. The Army will be more heavily involved in joint ventures and co-production and will become more dependent on foreign nation support. Such initiatives, as well as routine operations, will be enhanced through a systematic program of benchmarking and adoption of effective commercial and governmental business processes.

(2) In response, the sustainment base must become increasingly seamless. Army strategic support elements will continue to forge strategic alliances with DOD, other services, and the private sector, and to integrate their activities into the strategic CSS planning process. The private sector will assume more functions.

(3) In a Force XXI environment, sustainment base components will measure performance in terms of meeting the needs of the combatant commanders. They will focus on minimizing response time. Total asset visibility initiatives and other components of distribution and velocity management programs will help reduce or compress response time. So will integrated sustainment maintenance (ISM). ISM will focus on centralized management and work-loading of all sustainment maintenance activities under a single manager. Its goal will be to maximize repair capability through integrated work-loading and management, and decentralized execution of total Army sustainment maintenance requirements.

c. Strategic deployment. Power projection is a fundamental principle of US national security strategy. Therefore, force projection will be fundamental to future Force XXI operations. The need for force projection requires support planners to structure support units with the capability of deploying the right amount of capability with the minimum force necessary to successfully accomplish the mission. The future CSS system will place a premium on efficiency without compromising effectiveness. The most effective mix of active and reserve components, DOD civilians, and private-sector contractor personnel will be assembled and deployed to sustain the force.

(1) The Army mobility requirement is to incrementally deploy five and one-thirds divisions and the required support structure from fort to foxhole in 75 days. Success in deployment is measured by meeting the CINC's requirement for combat power at the tactical assembly area within the CINC's established timeline.

(2) Force projection will dictate that CSS capabilities be sequenced into the AO. The CINC will seek to seize the initiative and to conduct successful decisive operations as quickly as possible using strategic lift assets efficiently. Planners must ensure that the CSS assets with adequate command and control are included in the flow at the right time to support RSOI and sustain- ment operations as the force builds incrementally.

(3) Strategic deployment will include activities at Army posts, camps, and stations and will culminate with the discharge, reception, and onward movement of forces within the AO to be integrated into the in-theater force. Posts, camps, and stations must continue their development into becoming force projection platforms. Installations with deployable units must treat deployment as their primary mission, and the installations themselves must be equally as capable of short notice response as the force they support. Likewise, installations selected as RC mobilization stations must become launch platforms for their units and must respond with the sense of urgency the joint force commander requires. In addition, elements of the sustainment base which may be required to shorten the CSS pipeline by providing support within the AO must become and stay proficient in preparing for and conducting deployment. Containerization capabilities with accompanying asset visibility and the capability to handle and move containers to and within the AO will and maintain an integrated, balanced force of air, land, sea, and space assets. The ability to rapidly project power worldwide will depend on increased airlift capability, increased sealift surge capability, improved readiness and responsiveness of the ready reserve force, and increased prepositioning of heavy equipment afloat and on land. also continue to evolve. Deployability of all these elements and resources will be enhanced by continued improvements to the nation's infrastructure to speed up the fort-to-port process as well as the ability to load strategic transportation assets.

(4) The requirement will remain to develop prepositioned assets to assist in early sustainment of operations are configured to support selected force deployments. They are positioned in selected overseas regions for initial support and kept afloat for rapid response. War reserve assets are also stored in CONUS for reinforcement. The use of prepositioned ships, together with the reallocation of Army reserve stocks, will greatly increase the Army's ability to rapidly respond to contingency requirements.

(5) Strategic deployability will also be facilitated through the continued development of modular forces that can be more efficiently mobilized and deployed to minimize strategic movement requirements. Also, CSS elements will employ split based operations to minimize the size of the deployed CSS force. In addition, situational awareness integrated with operational plans will enable CSS planners to more specifically identify CSS force deployment requirements. Finally, this awareness, coupled with computer simulation models, will provide more accurate forecasts of sustainment support requirements which will minimize the support resources moved through the pipeline as well as the requirements for distribution assets to get them to the combatant command.

3-3. Operational CSS. Operational CSS ties tactical requirements to strategic capabilities in order to accomplish operational plans. Army support at this level is integrated into the total support required to conduct joint/multinational campaigns and other military activities within a joint operational area. As previously indicated, the seams separating operational CSS from strategic and tactical support are often indistinguishable and will become more so. Support personnel at this level must be cognizant of the supported CINC's theater strategic perspective as well as the requirements at the tactical level which must be the focus of operational CSS activity (fig 3-2).

a. Logistics preparation of the theater (LPT). One of the processes associated with situational awareness for CSS personnel is LPT. It is a wide-ranging process that involves the efforts of numerous CSS staffs and operators. It includes all the actions taken by CSS personnel to maximize the means of supporting the commander's plan. It involves anticipating requirements, identifying resources available to meet requirements, and taking the steps necessary to ensure the CSS system will be able to provide required resources on time. It takes into account survivability and security risks. It also includes managing information on available supplies and services, theater infrastructure, existing support agreements and contracts, and prepositioned stocks. A single, up-to-date CSS database that can be accessed by operational CSS planners will improve the ability to identify all available resources and will minimize deployment of CSS assets. LPT also includes actions taken to enhance the theater's capability to receive, move forward, and sustain the force, and to conduct redeployment. Actions will typically include negotiating support agreements, contracting for supplies and services and executing existing CSS augmentation contracts under LOGCAP, selecting base sites and lines of communication (LOC), and improving base and LOC capabilities. Such activities will often require early deployment of tailored CSS elements from echelons above corps to perform these functions.

b. Support structures. To maximize support efficiencies, the Army will require an effective CSS command and control structure to integrate CSS functions at the operational level. The supported commander will require a tailorable early entry support force to provide required functional expertise plus command and control for support elements providing essential support during early stages of force closure. Support structures at the operational level must be capable of expanding from early entry modules to whatever sizes are required to support operations. They will effectively employ both active and reserve component elements and take advantage of split based operations, contracting, and HNS, as appropriate.

(1) Operational support forces will be jointly staffed as required to integrate support to and from other services. When designated by the CINC, they will provide common support to joint forces. They will also be prepared to interface with the support elements of allies and coalition forces, as well as other agencies, to synchronize support operations as appropriate.

(2) To smooth the seams between the operational and strategic levels, elements of the national sustainment base will deploy and be integrated into the operational-level support force. One such element is the Army Materiel Command's (AMC) logistics support element (LSE). The LSE is a flexible, civilian- dominant organization which will provide CONUS-base logistics and limited general support within the AO. It will supervise AMC elements as well as contractor activities, forward repair activities, and individual DA personnel in the AO. The LSE will also provide the single focal point in the theater responsible for central oversight management of LOGCAP in peacetime and upon deployment. The Defense Logistics Agency (DLA) will also support the CINC/joint task force commander as a member of the integrated support structure with a DLA contingency support team, much like the AMC LSE. This team will provide a point of contact for DLA supply support and distribution, as well as logistics services such as contract administration support and reutilization and marketing services. Other strategic agencies that may deploy elements as components of the integrated support force include the U.S. Transportation Command, the Defense Finance and Accounting Service, the U.S. Space Command, and the Army and Air Force Exchange Service.

(3) In many scenarios, operational and tactical support will also be provided by HNS, foreign nation support (FNS), and contractors. Efforts must be made to pre-negotiate HNS and FNS agreements that fulfill the CINC's requirements whenever support is available and reliable. Such support should be coordinated with other services and with allies/coalition partners to prevent competition for resources and to ensure the highest priority requirements are met. HNS may include function or area support, use of host nation facilities, or support from government agencies or host nation civilians or military units. Support will also be provided by DOD/DA civilians as well as contractors. For command and control purposes, DOD and DA civilians as well as some contract personnel may be assigned to operational support organizations, in many cases within the LSE. Support planners will also incorporate support

provided through contingency contracting into the theater support plan. Contingency contracting may be used to bridge gaps that may occur before sufficient organic support units arrive in theater. It is also frequently an effective force multiplier for supporting forces throughout all phases of an operation. Such support may be through LOGCAP or through contingency contracts negotiated for that specific operation. Under LOGCAP, the Army will do advance planning for the use of civilian contractors to augment the major command's or CINC's force during contingencies. As part of this program, the Army will maintain an umbrella contract designed for responsive and flexible provision of selected logistics and engineering services. With all contingency contracting, it will be critical to ensure that the efforts of all contracting personnel (from all Army elements, as well as those of other services and nations) are fully coordinated so that resources are attained economically and applied most effectively to meet the prioritized requirements of the joint/multinational force commander.

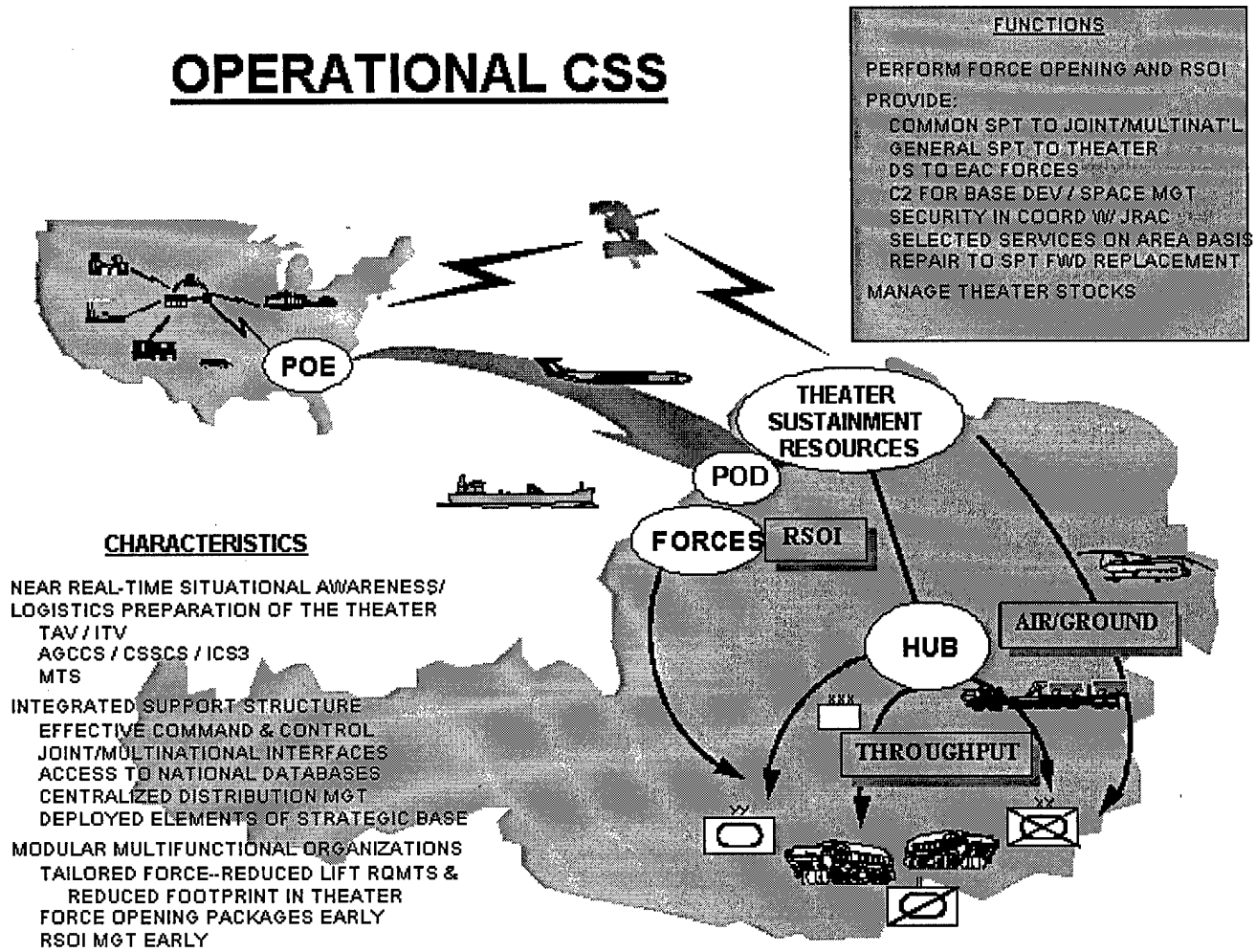

Figure 3-2. Operational CSS

c. Functions. Operational CSS elements provide support from reception in the AO through redeployment. Early entry modules with appropriately assigned organizational elements will be included in the theater force opening package as required. Early deployment of critical CSS functional and command and control (C2) capabilities will allow simultaneous RSOI and sustainment operations to begin when required. RSOI is composed of those essential and interrelated processes in the operational area required to transition arriving personnel and materiel into forces capable of meeting operational requirements.

(1) RSOI challenges will intensify as advances in strategic mobility capabilities allow the US to move more forces to ports of debarkation more rapidly. Development of efficient operational-level support structures and modular force-opening packages as well as in-transit visibility improvements will help meet the challenges. However, there will also be requirements to enhance status reporting procedures and to conduct more and better deployment simulations. Elements involved in RSOI must be fully prepared to operate in a joint, multinational, and civilian environment.

(2) The operational level of CSS will be the focus for the majority of general support operations on the Force XXI battlefield. The "hub" of the battlefield distribution system will be located at this level along with any deployed general support supply, sustainment maintenance, Level III medical (with in- theater hospital facilities), and personnel support elements. Direct support elements will also support forces operating in this area. Most stocks in support of the AO will

be stored within the operational level, thus allowing the CSS units at the tactical level to be as mobile as the supported units. Total asset visibility will reduce CSS reaction time, lowering maintenance down time and stockage levels required on the battlefield. The in-transit visibility (ITV) piece of TAV will allow the centralized distribution manager at this level to redirect moving assets to weight the battle. Near real-time situational awareness provided through such systems as the Army Global Command and Control System (AGCCS), CSS Control System (CSSCS), and ICS3 will allow effective support. Support at this level will also include common support to joint and multinational forces as required.

3-4. Tactical CSS. Support personnel at the tactical level will operate at the end of the support pipeline to provide direct support to the battle commander. They will synchronize all the CSS activities required to sustain soldiers and their systems (fig 3-3). Their goal is to remove inhibitors to the tactical commander's scheme of operations.

a. Support structures. Military units organic to the deployed tactical force will continue to make up the bulk of the CSS structure at the tactical level. However, as at operational level, support may also come from the host nation, joint and multinational sources, DOD/DA civilians, and civilian contractors. Support forces will be austere, tailored, and multifunctional down to the appropriate level. Habitual relationships will continue to exist between support units and the units they support. The CSS command and control structure at each echelon will provide a support operations element to fully integrate CSS operations. Distribution management centers (DMCs) at each echelon will plan and coordinate the delivery of units, personnel, and materiel, as well as the transfer of maintenance workload among maintenance activities. These centers will be linked via an integrated communications network using automated information systems, automated identification technology, and voice systems.

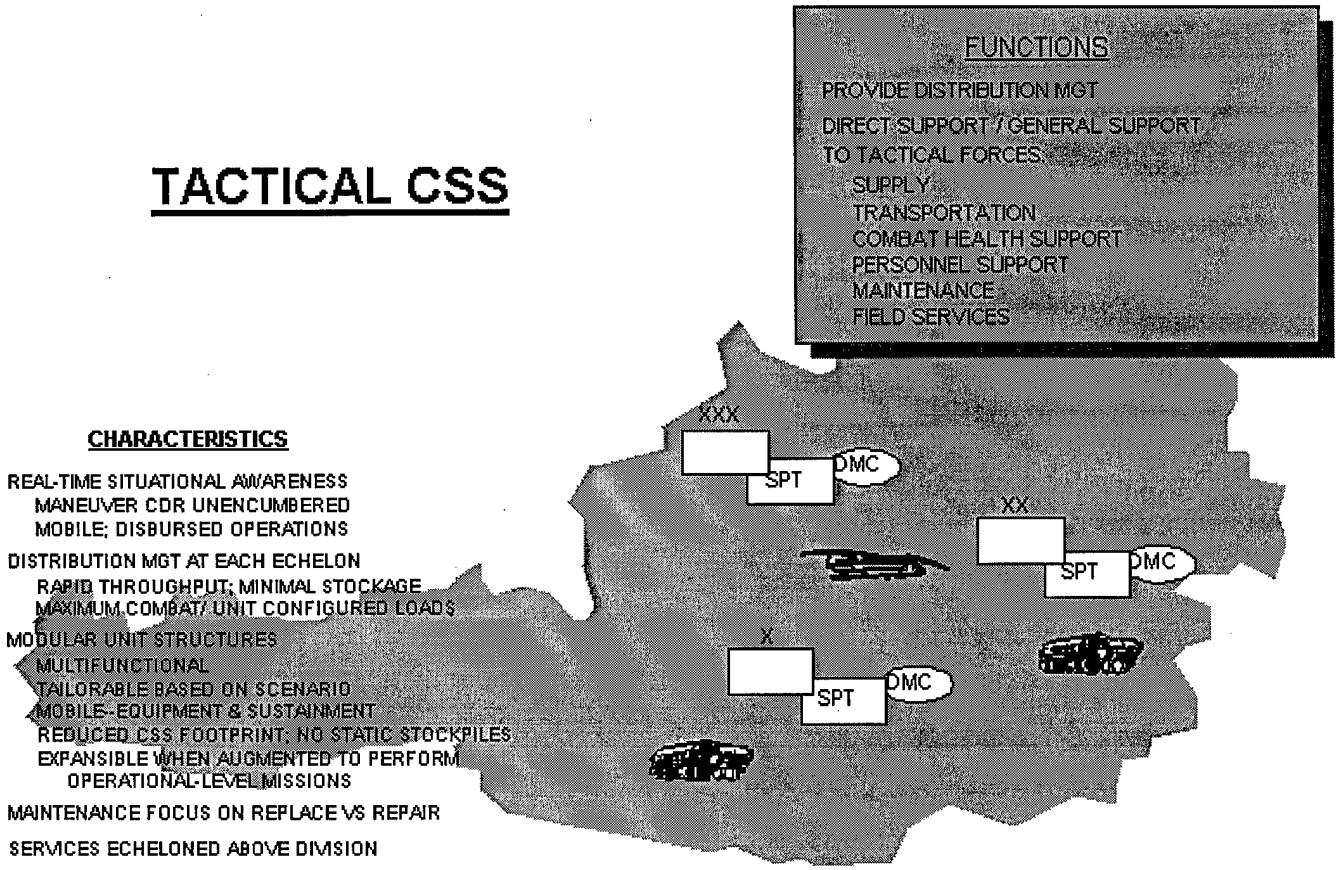

Figure 3-3. Tactical CSS

b. Functions and the role of technology. Tactical CSS elements will provide coordinated, tailored support for the warfighter. They will control austere inventories and the maintenance, transportation, personnel, medical, finance, and field service capabilities necessary to satisfy specific tactical requirements. Performance of these functions will be influenced dramatically by advances in information technology. These advances will influence CSS across all levels of war. At the tactical level, they will give the CSS manager the ability to anticipate, diagnose, and monitor the status of combat vehicle platforms via digitized information systems. The CSS manager will also be able to monitor and control the flow of support assets within his area of responsibility and back to their source. Finally, the support manager will have access to national-level data via intelligent networks and be able to exercise command and control over the entire CSS apparatus via the digitized information system. The objective is to maximize the capability of every individual involved in providing support at the tactical level. Timely and accurate reporting, coupled with visibility across the battlefield, will lead to efficient support provision and will help minimize supervisory redundancy. During operations,

digital capabilities will minimize human intervention, yet allow the allocation of support at the appropriate place and time. Recovery and maintenance assets (with position location equipment) will be dispatched precisely to where they are needed. The evacuation of casualties will be directed to the medical facilities with sufficient capability and capacity. Elements providing personnel services will have access to national databases. CSS requirements will be specifically tailored to unit needs and sent to unit locations by effectively allocating available transportation assets.

3-5. Required capabilities. Many of the required capabilities have already been discussed in this concept and apply to multiple areas of CSS. These include such capabilities as enhanced ability to tailor and deploy CSS forces through methods such as modularity and split based operations; and improved situational awareness and CSS management capability through such means as integrated CSS automated systems, total asset visibility, and automated identification technology. Other capabilities are more specifically associated with particular functional areas. Some examples are discussed below.

a. Personnel support. Enhanced situational awareness through automation and communications systems as well as more tailorable organizations are required to provide support in future force projection operations. Though these operations will require an uninterrupted flow of skilled personnel to man systems, the Army will exploit technology to reduce personnel requirements on the battlefield across all functions, especially in administrative and management areas. Personnel service support will rely on support from the civilian sector to reduce the footprint on the battlefield. The system will also require access to distributed databases for soldiers to be able to receive personnel services down to the tactical level. Deployed personnel will require enhanced postal and morale, welfare, and recreation support during contingency operations. The postal system will be integrated into the distribution system to provide required improvements in visibility and effectiveness of postal movements. Financial management will be automated with real-time links to integrated service centers. It will require the capability to provide effective guidance, control, and accountability in a wide range of scenarios with complex financial conditions such as those inherent in joint and multinational operations. Tactical and operational finance elements will have to be able to provide effective support in environments that may involve extensive use of contracting and local purchase.

b. Combat health support. In the area of combat health support (CHS), improved organizational designs are required for 24-hour operations with reduced administrative overhead, a smaller footprint in the AO, and greater mobility. There is also a need to be able to deploy an early entry medical force to plan CHS in the AO and provide area support early on.

(1) Medical treatment will be provided by modular medical elements designed to perform specific battlefield functions. There will also be an increased requirement to project resuscitative surgery far forward due to extended distances. Veterinary services, dental, combat stress control, and laboratory services elements will be designed around modules for greater flexibility. Theater hospitals will be redesigned to enhance deployability and to decrease site limitations and sustainment requirements. Hospitals in the sustainment base will provide ultimate treatment for patients generated within the AO.

(2) A unit distribution system will push preconfigured medical supply and services as far forward as needed. State-of-the-art information and communications systems will facilitate TAV, automated transmission of optical fabrication requests, management of blood and blood products, management of medical equipment readiness, and management of captured enemy materiel and equipment. Also, using advanced technology, the disease surveillance system will coordinate health data from CONUS health facilities to the most forward medical treatment facilities in a joint environment.

c. Maintenance and explosive ordnance disposal. The Army will continue to provide maintenance support as close to the customer as possible and to support all customers within a given area.

(1) Maintenance will be performed at locations which have the capability to perform the mission as determined by the battle command logistician. The key is to be able to anticipate user requirements. The ultimate goal is to anticipate requirements and initiate responses before failure or shortages occur. Fielded systems will have to make maximum use of built-in test equipment, self-diagnostics, and self-repair, where possible. Quicker order-ship time performance for repair parts expanding on the improvements gained in the BD and VM initiatives will directly increase unit readiness. Increased usage of computers on the battlefield will require enhanced maintenance capabilities in that area.

(2) In the area of explosive ordnance disposal, the Army will require the capability to render safe systems which will have the ability to detect, identify, and select specific targets using infra-red, proximity, magnetic influence, acoustic, and seismic technologies. This will require application of robotics, advanced radiological systems, remote sensor detectors, remote neutralization measures, and many other technological advances.

d. Supply and field services. Implementation of the supply and services portion of the CSS concept will require new or improved capabilities in several areas including:

(1) Centralized distribution management.

(2) Automation, including automated identification technology, communications, and Army management information systems.

(3) Asset visibility, awareness of capabilities/capacities, and positive control.

(4) Tailored unit loads requiring minimum transshipment/handling in the pipeline.

(5) Modular CSS forces.

(6) Prepositioned resources. Individual areas of supply will require more specific capabilities. For example, in the area of ordnance, the strategic system will resupply technically advanced, lethal ammunition in mission-oriented preconfigured packages as far forward in AOs as possible. Improvements will also be required in Army capabilities in such areas as field sanitation, water distribution, and tactical field exchanges to meet the needs of a force projected into potentially austere environments.

e. Transportation. A force projection Army depends on the ability to move rapidly and efficiently anywhere in the world. Strategic movement requirements are discussed earlier in this chapter. However, other transportation capabilities will also be required. These include more effective tactical mobility and improved capability to track transportation assets. Efficient force projection will also require the integration of port and movement control operations to achieve seamless information management in support of RSOI operations. Finally, this concept which relies so heavily on throughput, austere inventories, and rapid mobility of the supported force will require substantial transportation and cargo- handling assets within the AO as well as the capability to effectively control their movements.

Chapter 4
Implications

4-1. Doctrine.

a. Future CSS doctrine will be increasingly influenced by a number of factors, such as changing strategy, developments in human sciences, and information technologies. Information Age technology will have a profound impact on both the doctrinal process and, of course, the doctrine itself.

b. This concept will affect CSS doctrine at all levels. All Army CSS doctrine will have to be examined for necessary changes. Emerging concepts will require doctrine writers to update and modernize doctrinal publications to reflect the vision of CSS planners. CSS doctrine must provide common, unifying terminology and establish procedures that will facilitate task organization and the tailoring of CSS forces to support the full range of military operations and missions. CSS doctrine also must emphasize the joint and multinational nature of CSS operations and be consistent with emerging joint doctrine. Finally, it must cover CSS at all levels of war from tactical-level activities to the sustainment base.

4-2. Training.

a. Force XXI characteristics will necessitate a relook at the CSS training pillars of institution, unit, and self-development.

b. CSS forces require joint and multinational training programs to develop effective rapid deployment and sustainability capabilities at all levels. CSS units must continually train to operate in coordination with elements of other services, agencies, and nations. Joint and multinational training will ensure adequate knowledge of doctrine, tactics, techniques, and procedures of other services or countries. Common training in many CSS skills, especially for support to joint operations, must be a routine part of the CSS force training. The use of simulations, models, and other training exercises should be maximized. Simulations should use the same automation and communication systems used by support personnel whenever possible.

4-3. Leader development.

a. CSS leaders will be trained at all levels to adapt to the changing global situation. Like all other Army leaders, CSS leaders will be trained and developed under conditions that approximate projected operational environments and will encounter conditions that frequently change and become progressively more difficult. CSS leaders will aggressively train in the joint environment and assess requirements for multinational training on a routine basis. A

heavier reliance on the industrial base suggests that the services combine and expand the Training with Industry Program.

b. Quality soldiers and confident, competent leaders will remain the Army's most valuable, yet perishable asset. Premium leader development will ensure the U.S. Army remains the world's dominant land power and a viable component of the nation's strategic force.

4-4. Organizations.

a. The future Army will be smaller, yet have new, expanded, and diverse missions in an unpredictable rapidly changing world environment. These factors mandate changes to the way the Army organizes. CSS organizations will be modular, tailorable, and flexible to support future Army operations. Organization design must facilitate operations in a split based configuration and employ Information Age technologies to produce the optimal seamless soldier and weapon support system.

b. The ability to tailor CSS forces with the necessary capabilities is essential. The CSS force structure must be totally responsive to the joint/multi-national force commander. The support will grow from a nucleus of established CSS functional capabilities to meet the requirements of the supported force. As the deployed force grows, the CSS structure will gain required functional capabilities and expand. These CSS forces will be modularly designed, which should make them more agile, more capable, and easier to be trained.

c. The CSS system must be tailored across the joint/multinational and commercial spectrum. Force tailoring is a function of logistics preparation of the theater, which includes the identification of mission, enemy, terrain, troops, and time available (METT-T), determination of strategic lift availability, evaluation of prepositioned assets and an analysis of host nation support capability. Key considerations are the selection of an appropriate force mix for the mission and the sequencing the flow of forces to permit simultaneous deployment, employment, and sustainment. The CSS force must be capable of integrating support with all other providers and receivers of CSS IAW support agreements, contractual arrangements, and CINC directions.

d. Digitization of the battlefield and other advances in information technology will result in smaller CSS staffs and highly mobile command posts at all levels of command.

4-5. Materiel.

a. The Army must continue to explore technological opportunities to design, acquire, and field more capable weapons systems and support systems to achieve higher productivity and a more efficient and effective force.

b. Split based operations, total asset visibility, telemetry to allow anticipation of requirements, containerization, and improved automation and communications will provide flexible, prompt, and efficient support. Increases in system reliability and modular packaging of support resources will be based on METT-T. The development of a capability for remotely operated, teleoperated, and autonomous robotic ground vehicles to perform a variety of missions will enhance the CSS system's ability to support the force. Enhancements may include improvements in acquisition, refueling, rearming, distribution, materials handling, environmental sensing, and route planning.

c. The Army must develop the command, control, communications, computers, and intelligence operational and system architecture that support split based operations and the technical architecture (TA). The architecture must encompass interoperability among the Army's operational and sustainment base components. The design must be IAW the Army TA and the joint TA to ensure seamless communication.

d. The Army must design equipment to operate more efficiently. Reducing ammunition, fuel, and maintenance requirements will assist in decreasing CSS requirements for combat forces. Initiatives to reduce diversity of support requirements (such as a single fuel on the battlefield) will also result in efficiencies. Enhanced built-in testing and predictive failure diagnostics capabilities will allow more efficient stockage of repair parts and components.

4-6. Soldiers.

a. Quality soldiers, trained and led by competent and caring leaders, will remain key to the Army's success. CSS soldiers in the Twenty-First Century will be faced with a wide variety of challenges in preparing for and executing the mission in full-dimensional operations.

b. Prompt, responsive provision of soldier sustainment items like rations, water, protective clothing, and shelter is required to help maintain high morale among soldiers. The Army must continue to improve morale and welfare support for deploying soldiers. Such support includes postal and legal support, laundry/shower capabilities, and family support

systems. The health of the soldier must be maintained at the highest level.

c. The Army must take significant measures to ensure the health and operational effectiveness of soldiers. This reduces the burden on the personnel replacement system, the medical system, and the training base, and allows a sustained high operational tempo. This should be accomplished by placing emphasis on safety equipment and procedures, preventive medicine techniques, and analyses of methods for maintaining optimal performance.

Appendix A
References

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Logistics Civil Augmentation Program (LOGCAP)

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Operations

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Space Support to Army Operations

Joint Pub 0-2
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TRADOC Pam 525-5
Force XXI Operations: A Concept for the Evolution of Full Dimensional Operations for the Strategic Army of the Early Twenty-First Century

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TRADOC Pam 525-60
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Combat Service Support Battle Dynamic Concept

The 1996 United States Army Modernization Plan

Joint Vision 2010

Logistics Vision 2010

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Glossary
Section I
Abbreviations

ABCS	Army Battle Command System
AGCCS	Army Global Command and Control System
AMC	United States Army Materiel Command
AO	area of operations

AOR	area of responsibility
ARPERCEN	Army Reserve Personnel Center
BD	battlefield distribution
C2	command and control
CD	coordinating draft
cdr	commander
CHS	combat health support
CINC	Commander in Chief
COE	Corps of Engineers
CONUS	continental United States
coord	coordination
CSS	combat service support
CSSCS	Combat Service Support Control System
DA	Department of the Army
DCA	Defense Contracting Agency
DECA	Defense Commissary Agency
DFAS	Defense Finance and Accounting Service
DLA	Defense Logistics Agency
DMC	distribution management center
DOD	Department of Defense
DOT	Department of Transportation
DS	direct support
DTLOMS	doctrine, training, leader development, organizations, materiel, and soldiers
EAC	echelons above corps
FEMA	Federal Emergency Management Agency
FNS	foreign nation support
fwd	forward
FY	fiscal year
GCCS	Global Command and Control System
govt	Government
HNS	host nation support
IAW	in accordance with
ICS3	Integrated Combat Service Support System
ISM	integrated sustainment maintenance
ITV	in-transit visibility
JRAC	joint rear area coordinator
LOC	lines of communication
LOGCAP	logistical civil augmentation program
LPT	logistics preparation of the theater
LSE	logistics support element
MARAD	Maritime Administration
MEDCOM	United States Army Medical Command
METT-T	mission, enemy, terrain, troops, and time available
mgt	management
MTS	Movement Tracking System
opn	operation

PERSCOM	United States Total Army Personnel Command
POD	port of debarkation
POE	port of embarkation
prepo	prepositioned
RC	Reserve Component
rqmts	requirements
RSOI	reception, staging, onward movement, and integration
spt	support
TA	technical architecture
TAV	total asset visibility
TRADOC	United States Army Training and Doctrine Command
U.S.	United States
USACASCOM	United States Army Combined Arms Support Command
USTRANSCOM	United States Transportation Command
VA	Virginia
VM	velocity management

Section II
Terms

Automated identification technology
A family of technologies that support source data automation through various media to facilitate the rapid collection, consolidation, storage, and retrieval of data to and from Army management information systems.

Battlefield distribution
A holistic methodology involving information exchanges, management procedures, functional designs, and reengineered operational processes which enable U.S. forces to properly request, receive, redirect, track, distribute, control, and retrograde personnel, units, materiel, facilities, and services within a single distribution system.

Combat service support
The essential capabilities, functions, activities, and tasks necessary to sustain all elements of operating forces in theater at all levels of war. Within the national and theater logistic systems, it includes but is not limited to that support rendered by service forces in ensuring the aspects of supply, maintenance, transportation, health services, and other services required by aviation and ground combat troops to permit those units to accomplish their missions in combat. Combat service support encompasses those activities at all levels of war that produce sustainment of all operating forces on the battlefield.

CSS pipeline
A distribution network integrating all the resources required to extend support from the sustainment base to the warfighting elements.

Foreign nation support
Identification, negotiation, and procurement of available resources within a foreign nation to support U.S. military missions.

Full-dimensional operations
The application of all capabilities available to an Army commander to accomplish his mission decisively and at the least cost across the full range of possible operations.

Host nation support
Civil and/or military assistance rendered by a nation to foreign forces within its territory; assistance provided during operations based upon agreement mutually concluded between nations.

Integrated Combat Service Support System
The system to establish the overall architecture and needs for CSS automation and communications. It will integrate CSS automation and supporting communications into a single, responsive, and seamless configuration.

Integrated sustainment maintenance
Centralized management and work-loading of all sustainment maintenance activities under a single manager.

Interagency operations
Military operations conducted in conjunction with nonmilitary organizations: agencies of the U.S. Government, nongovernmental organizations, and/or private volunteer organizations.

In-transit visibility
The immediate access to data pertaining to the location of equipment, supplies, and other resources in transit from the provider to the requester.

Logistics civil augmentation program
A program, regulated by AR 700-137, to preplan for the use of civilian contractors to perform selected support functions during contingency operations to augment Army forces. It includes the option for supported commanders to purchase specific services during operations through a pre-existing umbrella contract.

Logistics preparation of the theater
All the actions taken by CSS personnel to maximize the means of supporting the commander's plan.

Logistics support element
A flexible, civilian-dominant organization which provides CONUS-base logistics and limited general support within thearea of operations. The table of distribution and allowances for this organization is maintained by AMC.

Modularity
A force design methodology that establishes a means to provide interchangeable, expandable, and tailorable force elements.

Multinational operations
A collective term to describe military actions conducted by forces of two or more nations typically organized within the structure of a coalition or alliance.

National providers
The national-level capabilities to manage, resource, and control the materiel management, maintenance, services, procurement, distribution, and deployment functions for the Army and other joint and multinational customers. This involves the integrated efforts of a number of national strategic-level CSS organizations.

Ready reserve force
Quick response ships in the national defense reserve fleet, maintained in a high state of readiness by the Maritime Administration for activation in 5, 10, or 20 days.

Split based operations
Operations in which routine CSS management functions are accomplished in CONUS or at home station while critical field functional capabilities are projected forward.

Total asset visibility
The immediate access to data pertaining to the location of aircraft, ships, trucks, and trains moving equipment, supplies, and other resources from the provider to the requester.

Velocity management
A family of initiatives to get support into the hands of the soldier as fast as any first-rate commercial firm, while providing a hedge against unforeseen interruptions in the CSS pipeline. It seeks to eliminate sources of delay and undependability in the Army's CSS processes.

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