

## Chapter 6

### Theater Communications Network

At the theater level, organizations and the operational chain-of-command are unified, possibly consisting of armed forces from two or more US service components and supporting commands, other US Government agencies, and combined forces. They plan joint operations in support of a single theater commander, the Commander in Chief (CINC) or Commander, Joint Task Force (CJTF). All efforts in the theater of operations contribute to the CINC's intent and concept of operations.

#### SECTION I. – THEATER COMMUNICATIONS

##### ASSETS

6-1. There are seven potential sources of communications assets to the theater of operations for the execution of the CJTF or CINC's operational intent. In some theaters, part or all of these sources may be well developed; in others, they may be underdeveloped or nonexistent.

##### SERVICE COMPONENT TACTICAL COMMUNICATIONS

6-2. These are military tactical communications assets organic to assigned theater Army Forces (ARFOR), Air Force Forces (AFFOR), Navy Forces (NAVFOR), Marine Forces (MARFOR), and Special Operations Command forces. These assets are interconnected under the direction and management of the CINC/CJTF Command, Control and Communications (C3) systems directorate (J6) to form a hybrid network that is called the Theater Communications System (TCS).

##### SUSTAINING BASE COMMUNICATIONS

6-3. These communications assets normally support base operations at posts, camps, and stations worldwide. The United States Army Signal Command (USASC) has management responsibility for US Army assets. Other services have similar operations. During war, these systems continue to be used to support routine garrison operations, as well as any intermediate staging of mobilizing or deploying forces.

##### STRATEGIC COMMUNICATIONS

6-4. These communications assets provide connectivity between the sustaining base and theater/tactical environments on a worldwide basis. The Defense Information Systems Agency (DISA) has overall management responsibility for the Defense Communications System (DCS). The ASC has

management responsibility of the segments of strategic systems provided by the Army. During war, at the direction of the CINC, these systems may be reconstituted or extended into the Joint Operational Area (JOA) via tactical communications assets. These systems provide the JOA with critical Command and Control (C2) gateways to the sustaining base environment.

#### **COMMERCIAL LEASED COMMUNICATIONS**

6-5. These are existing US commercial communications systems throughout the world. These assets are made available through the Defense Certification Office-Army (DCO-A). As the Army's advocate for telecommunications, the DCO-A manages Army requests for service for leased commercial communications. These requests must be validated by the CINC/CJTF J6.

#### **ALLIED/COMBINED COMMUNICATIONS**

6-6. These are existing commercial communications systems provided by allied forces. Interoperability with these systems is not well documented and continues to be an item of serious study by the various CINC staffs and the Joint Interoperability Engineering Organization (JIEO).

#### **CHAIRMAN, JOINT CHIEFS OF STAFF (CJCS) CONTROLLED COMMUNICATIONS**

6-7. These are tactical US military communications assets under the direct operational control of the CJCS. These assets may be organic to a joint organization such as the Joint Communications Support Element (JCSE) or to a tactical unit of one of the services. The Theater Signal Command (TSC) may submit a Memorandum of Policy (MOP) 3 request for the release of CJCS controlled assets to support theater requirements for which assets are not available in the JOA. A MOP 3 request for the release of CJCS controlled assets is required before deploying a tactical unit of one of the services that has organic CJCS controlled assets.

#### **HOST NATION COMMUNICATIONS**

6-8. These are communications assets, indigenous to foreign nations, used in support of the public. Past operations have demonstrated the importance of a full and complete understanding of these systems. Sophistication and availability vary from theater to theater and country to country. It is especially important at Echelons Above Corps (EAC) to understand the availability of these systems and the requirements to interface with them.

#### **INTERFACES TO DEPARTMENT OF DEFENSE (DOD) NETWORKS**

6-9. The TCS provides circuit or message switches as well as direct access to various worldwide DOD networks. Some of these DOD networks are briefly discussed in this section.

#### **AUTOMATIC DIGITAL NETWORK (AUTODIN)**

6-10. AUTODIN is the principal, long-haul, DOD automatic digital network. AUTODIN provides message switching for the transmission of record data traffic on a store and forward basis between AUTODIN Switching Centers (ASCs), tactical message switching equipment (such as the TYC-39(A)), and a

wide variety of fixed or transportable subscriber terminals. Types of subscriber terminals include teletypewriters, teleprinters, local digital message exchanges, and computers.

6-11. AUTODIN is designed around remote, interconnected ASCs. Subscribers may access the ASC using the Allied Communications Publication (ACP) 127, Joint Army-Navy-Air Force Publication (JANAP) 128(I), US Message Text Format (USMTF), and Defense Operating Instructions (DOI) 103 formats. The ASCs provide for the transmission of record or data traffic between dissimilar terminals by virtue of code, format, and line speed conversions. ASCs processes General Service (GENSER), or "R" type traffic, and Defense Special Security Communications System (DSSCS), or "Y" type traffic, separately. Elaborate security measures protect against the inadvertent transmission of DSSCS traffic to unauthorized terminals.

6-12. Tactical theater subscribers usually gain switched access to the AUTODIN via the AN/TYC-39(A) message switch. The AN/TYC-39(A) emulates an ASC in capabilities and characteristics. This switch is a store and forward message system that forms the message switched network at theater level and is capable of providing a gateway to AUTODIN and allied networks.

6-13. There are currently two messaging classes: organizational and individual. The majority of organization messaging is currently provided by AUTODIN. Within the Defense Digital Network (DDN), individual messaging is currently provided by Standard Mail Transfer Protocol (SMTP)-based systems and other proprietary Local Area Network (LAN)-based e-mail systems. Users are demanding additional features that are not provided by these SMTP-based systems. Users also want to connect to a single system that provides both organizational and individual messaging capabilities.

6-14. AUTODIN is based on 30-year old technology with high operational costs and staffing. Defense Message Switch (DMS) updates this technology while lowering the operational costs and level of staffing. DMS is implemented in three phases. A transitional phase is underway with the placement of some gateways between AUTODIN and DDN, allowing AUTODIN and SMTP users on DDN to exchange messages.

- **Phase I.** With the initial fielding of Phase I, some DMS components will be added to DDN. DMS Phase I security level will be unclassified but sensitive.
- **Phase II.** During Phase II, some of the AUTODIN components are replaced with transitional components, and users begin to transition to the new services. DMS is Multi-level Security (MLS).
- **Phase III.** During Phase III, the SMTP and AUTODIN systems are disbanded. All e-mail and AUTODIN users transition to X.400/X.500/DMS.

**DEFENSE SWITCHED NETWORK (DSN)**

6-16. The DSN is the principal common-user, switched, nonsecure voice communications network within the DCS that provides long-haul voice communications.

6-17. The Continental United States (CONUS) DSN consists of commercial leased facilities, while Outside Continental United States (OCONUS) DSN is principally government owned.

6-18. The DSN processes traffic using common control cell switching and stored program routing. A Multilevel Precedence and Preemption (MLPP) feature is employed to ensure completion of high precedence telephone calls. The DSN accommodates all levels of precedence.

6-19. Tactical subscribers usually gain common-user, circuit switched access to DSN via the TCS. Interswitch Trunks (ISTs) are established between DSN switching centers and several TCS gateways employing an AN/TTC-39(A) circuit switch. Call processing throughout the circuit switched network supports the DSN MLPP features. The ISTs may be established to support any level of precedence and preemption. Subscribers must be individually class marked in the network switching database for DSN access and maximum precedence allowed.

**DEFENSE INFORMATION SYSTEMS NETWORK (DISN)**

6-20. The DISN consists of three Internet Protocol (IP) Router Networks separated by classification level. They are:

- N level (Unclassified-but-Sensitive) IP Router Network (NIPRNET), which replaces Military Network (MILNET).
- Secret IP Router Network (SIPRNET), which replaces Defense Integrated Secure Network (DISNET) 1,2&3. (Note: SIPRNET provides transport for the Top Secret Support System (TSSS).
- Joint Worldwide Intelligence Communications System (JWICS) (Top Secret (TS)/Sensitive Compartmented Information (SCI)).

6-21. A formal definition for DISN was originally established by the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence (ASD/C3I) in February 1994. It states: "A subelement of the Defense Information Infrastructure, the DISN is the DOD's consolidated worldwide enterprise-level telecommunications infrastructure that provides the end-to-end information transfer network for supporting military operations. It is transparent to its users, facilitates the management of information resources, and is responsive to national security and defense needs under all conditions in the most efficient manner."

6-22. The DISN strategy is intended to guide the evolution of DOD's information transfer capabilities over the next 15 to 20 years. In February 1995, in approval of this strategy, the Joint Requirements Oversight Committee stated, "The DOD's worldwide protected network allowing warfighters to 'plug in' and 'push or pull' information in a seamless, interoperable, and global battlespace."

6-23. The new DISNs provide the warfighter with a full range of government-controlled and secure information transfer services for exchanging voice, video, data, and imagery to support warfighter requirements into the 21st Century. It will be structured to satisfy requirements that are evolving in response to changing military strategy, changing threat conditions, and advances in information and communications technology.

6-24. The chosen alternatives maximize the use of commodity services that exploit off-the-shelf technology. DISA will capitalize on efforts and resources previously expended in consolidating the DISN router and multiplexer networks. Multiple procurements will be executed for the replacement of expiring contracts and aging systems (i.e., MILNET & DSNET).

6-25. The DISN architecture represents a technological evolution from the use of networks and systems that are owned and operated by the DOD to the use of commodity services wherever possible. DISN is the subset of the Defense Information Infrastructure (DII), primarily providing information transport services both within the DII and across the DII boundaries. The DII is a seamless web of communications networks, computers, software, databases, applications, and other capabilities that meet the information processing and transport needs of DOD users in peace and in crises, conflict, humanitarian support, and wartime roles.

6-26. The DII is a subset of the Government Systems Information Infrastructure, which provides the same service functions for the US Government. DII is also a subset of the National Information Infrastructure and the Global Information Infrastructure, providing the same service functions for the nation, including private and commercial concerns.

6-29. Tactical Theater subscribers access the DISN via the TCS. Access methods vary depending on the theater of operations. Access may be via a sustaining base host computer, tactical host computer, a Tactical Army CSS Computer System (TACCS), or a tactical Packet Switched Network (PSN).

#### **GLOBAL COMMAND AND CONTROL SYSTEM-ARMY (GCCS-A)**

6-30. The GCCS replaces the Worldwide Command and Control System, (WWMCCS). The army's portion of the GCCS is the Global Command and Control System-Army (GCCS-A). The GCCS provides combatant and supporting commanders with the required command and control capabilities that the WWMCCS provided plus much more. It provides the means to migrate from the proprietary architecture of WWMCCS to open systems architecture. When fully implemented, GCCS embodies a network of systems providing the CINC with a full complement of command and control capabilities. The goal is to implement GCCS by linking LANs by SIPRNET among the CINCs and supporting Defense agencies.

#### **DEFENSE SATELLITE COMMUNICATIONS SYSTEM (DSCS)**

6-31. DSCS is the DOD high capacity transcontinental transmission system, providing long-haul service between CONUS and various OCONUS locations. Operating in the Extremely High Frequency (EHF)/Super High Frequency (SHF) bands, the space and associated ground segments provide critical strategic connectivity, and directly supports the ground mobile forces.

6-32. DSCS normally provides theater access to the DCS. The DSCS can provide analog and digital transmission paths for virtually every type of military telecommunications application. In the JOA, Ground Mobile Forces (GMF)/SHF provides theater access to the DSCS. Special user requirements for critical voice and secure voice (2.4 to 50 kbps), computer-to-computer connectivity (9.6 to 56 kbps), and low to medium speed (75 bps to 4.8 kbps) data/teletype duplex circuits can be accommodated, with Joint Chief of Staff (JCS) approval, via the DSCS.

## **COMMUNICATIONS WITHIN THE THEATER**

6-33. As the CINC describes his operational intent, theater strategy, and campaign plans, communications at the theater level must be an integration of all the multigeneration advanced communications systems throughout the JOA. Communications equipment and facilities cannot be employed in the JOA without regard for overall theater system integration and the standards and procedures established by the CINC.

## **BACKGROUND**

6-34. In the past there have been artificial boundaries between peacetime and wartime equipment, sustaining base and tactical equipment, garrison and field environments, joint and the individual service component's equipment and systems, and military and civilian equipment and services. Communications at the theater level require the elimination of these boundaries to provide the greatest degree of flexibility, capability, and survivability of information systems in support of the CINC's operational intent.

6-35. FM 11-45 is to be used in conjunction with FM 24-1 and the Joint Publication 6 series for the planning, installation, operation, and maintenance of communications at the theater level. Communications at the theater level employ an architecture that is based on a joint, integrated circuit switched network, with centralized control and management by the Joint Communication Control Center (JCCC). Communications equipment is installed, operated, and maintained by the service components in support of communications at the theater level.

6-36. Theater unique and mission-related requirements allow for an infinite number of permutations between the Initial Joint Command, Control, and Communications System (IJC3S) and a fully mature communications system at the theater level. Similarities exist between the IJC3S and a mature TCS, derived from the employment of joint switched network architecture. The CINC or CJTF provides a theater network manager and a JCCC from their J6 assets.

## **THEATER COMMUNICATIONS SYSTEM (TCS) CONNECTIVITY**

6-37. In general, the TCS has the following functions:

- Supports joint or combined US military and allied/host country forces.
- Provides intertheater and intratheater common-user services for component elements and allied/host forces.

- Integrates all communications, component services, equipment, and personnel into a composite system. These can include DCS/DSCS entry and exit station, mobile/transportable equipment, and submarine cable heads.
- Links with the DCS to provide worldwide connections.
- Connects theater headquarters to each component service and allied/host forces headquarters.

### **THEATER COMMAND, CONTROL, AND SUPPORT SYSTEMS**

6-38. The theater command, control, and support systems include both communications and automation systems. The Area Common-User System (ACUS) consists of communications equipment and facilities installed, operated, and maintained for common- user access by the Army. The ACUS, primary provider of Army EAC subscriber access to communications at theater level, simultaneously provides theater level network switching, gateway access, and redundancy. The Standard Theater Army Command and Control System (STACCS) is a user owned, operated, and automated C2 support system used throughout the operational continuum. STACCS assists theater commanders in the execution of crisis and wartime EAC sustainment and limited operational maneuver functions. Centralized control and management of the TCS and associated communications facilities (by signal support units) and automated C2 support systems (by commanders and staffs) are imperative. They are fundamental to survivable, robust, and redundant communications and automation support at the theater level in support of the CINC's intent.

### **AREA NODAL TOPOLOGY**

6-39. Communications at the theater level employ an area nodal topology, with the AN/TTC-39(D) family of circuit switches as the key piece of equipment in an area node. The AN/TTC-39(D) provides subscriber access and tandem switching to the area node. The area node primarily provides tandem switching for communications at the theater level, while generally supporting a few loop devices. Redundant trunking of these circuit switches forms the basis of the theater architecture. Figure 6-1 illustrates an area nodal topology.

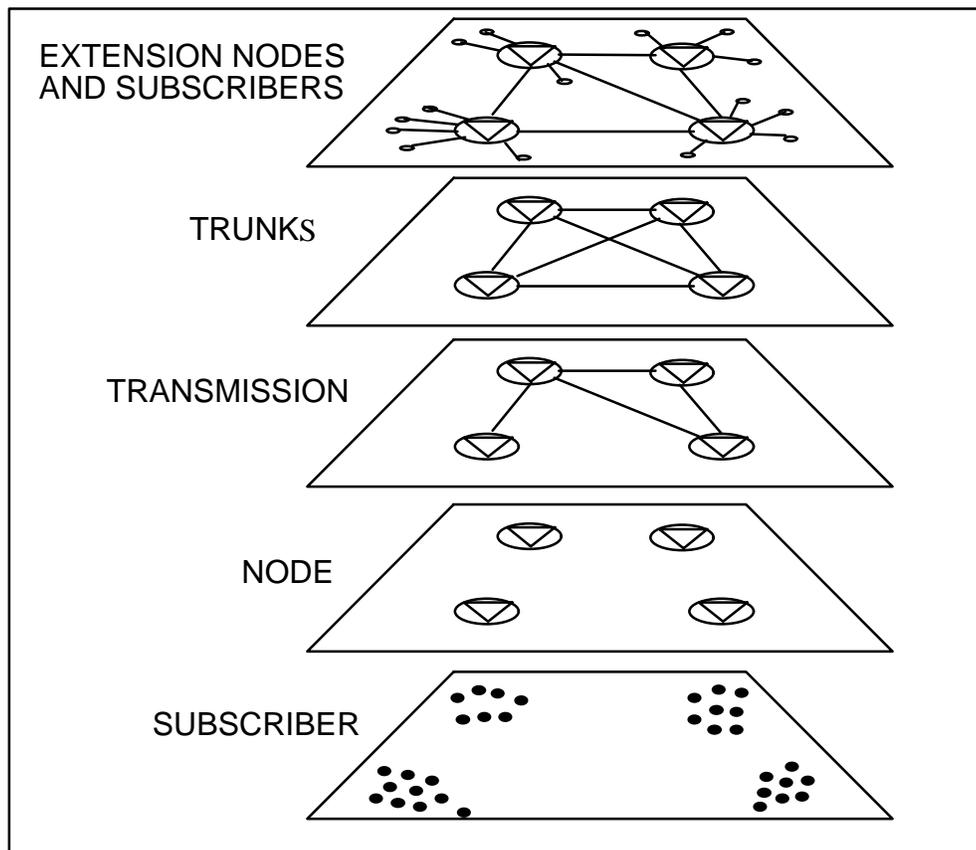


Figure 6-1. Area Nodal Topology

### SUBSCRIBER ACCESS

6-40. Extension nodes, either the Small Extension Node (SEN) or the Large Extension Node (LEN), provide subscriber access on a geographic area basis at the theater level. Extension nodes connect to an area node for tandem switching and network access. SENs connect to one area node and LENs connect to two area nodes. The LENs support large command group clusters

### SUBSCRIBER TERMINALS

6-41. Terminal instruments for subscribers at the theater level are generally user-owned and user-operated. The only exception is when the signal unit is supporting a non-army unit (i.e., joint or multidepartmental), then the signal unit is responsible for providing the necessary equipment to effectively accomplish the mission. In addition to secure and nonsecure digital voice terminals, there are personal computers and Integrated Services Digital Network (ISDN) terminals; processor driven, single subscriber communications terminals for access to the message switched network and AUTODIN (GENSER and DSSCS); and lightweight digital facsimile machines. Data ports on some voice terminals allow for data transmission on a dial-up basis.

## RESPONSIBILITIES

6-42. The CJCS, through the unified commands, the DISA, and the military services, ensures that the commander at each echelon has the communications necessary to accomplish his assigned mission. The required communications capability is provided from the DCS, other national level agency's communications systems, or from other DOD communications systems.

6-43. The Director of the DISA provides engineering support, technical support, and commercial leasing assistance to the JCCC to ensure seamless architecture and satisfaction of user requirements for the DCS interfaces and fulfillment of any requirements of the National Command Authority (NCA) and GCCS.

6-44. The CINC prepares and submits to the CJCS (with information copies to the services, defense agencies, and the JIEO) requirements for tactical communications capabilities for joint operations within the scope of their respective missions and functions. Included are the requirements for JCS-controlled mobile/transportable communications assets, when normal Military Departments (MILDEPS) or military service processes do not satisfy such requirements. The CINC is responsible for the control, review, and coordination of assigned communications resources and actions affecting Command, Control, Communications, and Computers (C4) resources. Tactical communications in the JOA and/or theater is phased-in and established in accordance with appropriate plans and orders. These are prepared based on the concepts and interfaces specified in the Joint Publication 6-05 Series and the JIEO Handbook 8000.

6-45. The CINC reports incompatibilities or lack of interoperability among tactical C3 systems and between tactical systems and the DCS to the Director, DISA. As a part of JCS-sponsored or command-sponsored exercises, the CINC tests the communications portions of the appropriate Operation Plan (OPLAN).

6-46. Service components and subordinate unified commands submit requirements for all tactical and strategic communications equipment applicable to joint operations through the CINCs to the MILDEPS or services in accordance with required operational capability procedures. CINCs biannually submit a C4 system master plan to the CJCS.

6-47. The US unified commander is responsible for providing communications between the unified headquarters and the US service component headquarters, and, as required, to other US government agencies and allied commands within the theater of operations. The US unified commander assigns these communications tasks one or more of the service components.

6-48. The US unified commander normally assigns the J6 the responsibility of planning and managing the TCS. The J6, in conjunction with the service components, develops a responsive and redundant secure and nonsecure communications system to ensure positive C2 during each critical phase of operations in the JOA. The J6 places emphasis on the planning and engineering requirements for a joint, integrated circuit switched network supporting communications at the theater level.

6-49. The JIEO, in coordination with the unified commands, is responsible for developing technical interoperability standards for tactical communications use during joint operations.

6-50. The J6 establishes the JCCC to manage and control the TCS. The JCCC establishes and promulgates the plans, policies, and procedures used to implement, monitor, direct, and control the TCS. Each service component establishes a similar staff to interface with the JCCC. The TSC has this responsibility for the Army. Changes to the TCS are not made without prior approval of the JCCC. With the advent of TRI-TAC automatic switching systems, which require intensive database management to ensure interoperability throughout the switching network, the JCCC takes on the role of the network manager for the TCS.

6-51. Each service component is generally tasked to install, operate, and maintain a portion of the communications at the theater level. The integration of each of the service component's communications equipment provides for joint common-user access on a geographic area basis at the theater level. The CINC/J6 may task an individual component to install, operate, and maintain a portion of the TCS that is in direct and primary support of another service component. The CINC/J6 may also task the TSC to take on the unified theater responsibilities as either the J6 or the JCCC. All service components should comply with joint communications doctrine as prescribed in JCS publications and as supplemented by the US unified commander.

## SECTION II. – THEATER SIGNAL SUPPORT

### BATTLEFIELD INFORMATION SYSTEMS

6-52. At the theater level, commanders need to have a robust information system that supports the CINC's operational intent. Theater level information systems must accurately process and disseminate information in sufficient time for forces to process and respond appropriately. The goal of the theater level information system is to enhance and facilitate agility, initiative, depth, synchronization and versatility on the battlefield. This concept supports implementation, operation, and signal support management in the theater/tactical environment.

6-53. Individuals collect, process, store, create, and distribute information to support the commander. Information systems are built to perform these same functions. The user of an information system determines what information is needed to support the commander. Users own and operate the requisite means to provide that information. Information managers determine how the information should be collected, processed, transferred, presented, stored, and disposed of when no longer needed. Centralized control is a constraint rather than an aid in such an environment. However, a consistent direction is necessary. Information management provides that consistent direction.

6-54. The commander is responsible for the management of his information just as any other critical resource. The commander is assisted in his information management role by his signal element, which has the responsibility to provide the technical direction, assistance, and integration of the required support. The approved concept of "user-owned and user-operated" with TSC advice and technical assistance is fundamental.

6-55. The "user-owned and user-operated" concept means that the commander manages information by operating owned information systems (hardware, software, and people) to create and use information internal to his needs. The commander must rely on external information systems to distribute and retrieve that information external to his command. The TSC provides interfaces to external systems, as well as the technical oversight and direction that produce an integrated system of systems. The concept is extended to individual responsibilities, since the production, control, dissemination, and disposal of information is the responsibility of the originator or user of the information. The TSC is responsible for providing the interfaces for transferring permanent battlefield information and records to Army and national archives.

6-56. Information management at the theater level includes all resources and activities employed in the acquisition, development, collection, processing, integration, transmission, dissemination, distribution, use, retention, retrieval, maintenance, access, disposal, security, and management of information.

6-57. Theater level tactical signal support is the implementation of signal support at the strategic through tactical levels of war. It is also the collective, integrated, and synchronized use of information systems to support warfighting capabilities across the operational continuum.

## **SIGNAL SUPPORT DISCIPLINES**

6-58. The concept of signal support at the theater level is more than communications and involves more than the TSC. Signal support consists of the disciplines of communications, automation, and visual information.

6-59. Technological advances are causing the disciplines to converge upon a common foundation. Today's manual methods are being converted to automated processes. Smaller, more sophisticated and powerful devices have led to the era of "user-owned and user-operated" systems. All of the disciplines are evolving towards one integrated information system capability within the Army at the theater level.

## **ENVIRONMENTS OF SIGNAL SUPPORT**

6-60. Signal support exists in the following three environments:

6-61. **Tactical Environment.** This environment supports the operational warfighting effort. Examples of these types of information are:

C2.

- Air defense.
- Fire support.
- Intelligence.
- Combat service support.

6-62. **Strategic Environment.** Strategic information systems connect the theater to the NCA and to the CONUS sustaining base. This includes information concerning:

- Major subordinate command status.
- Deployability.
- Strategic movement.
- Port embarkation/debarkation.
- Strategic intelligence.
- Strategic contingency plans.
- Information supporting the national decision making process.

6-63. Strategic information generally flows between the NCA and the US unified commander.

6-64. **Sustaining Base Environment.** This information is used for managing Army resources and managing the installation, deployment, and sustainment of the fighting force. Examples of this type of information include:

- Information required for planning and programming for budget execution.
- Force structure.

- Payrolls.
- Information related to the Army Stock Fund.
- Installation housing.
- Mobilization.
- Financial management.

6-65. Major Army Commands (MACOMs) and MSCs are the major participants in acquiring, creating, and using this information. General purpose and commercial equipment are normally used to process this type of information.

6-66. The three signal support environments are recognized for establishing orderly management. It is not intended to emphasize the differences among the environments. On the contrary, a specific objective of information management is to eliminate artificial barriers between these environments and integrate the flow of information. As the Army continues to exploit available and emerging technology, the distinction between tactical, strategic, and sustaining base will become even more obscure. Commonality of hardware and software among all three environments provides a long-term solution to interoperability. Using Non-developmental Items (NDI) approaches to information/automation systems acquisition, while adhering to commercial standards, is inexpensive, takes advantage of technological growth, and helps to solve the interoperability dilemma.

## **SIGNAL SUPPORT**

6-67. At the theater level, the signal support disciplines must directly support the tactical commander. Each unit commander is ultimately responsible for how well the information created and used in his unit is managed. The primary office/staff supporting the commander in his information management responsibilities is the signal office (see Figure 6-2 for an illustration of signal corps responsibilities).



the US unified commander. AR 25-1 prescribes the policies and responsibilities for the management of information and information systems.

**Table 6-1. Signal Support Responsibilities at the Theater Level** <sup>NOTE 1</sup>

	<b>TACTICAL</b>	<b>SUSTAINING BASE</b>
<b>CORRESPONDENCE</b>	User <sup>NOTE 2</sup>	User
Preparing correspondence: Establishing distribution schemes	OS	TSC/OS
Authenticating correspondence: (defined as approved for release)	User	User
Reading file:		
Management	Staff	Staff
Input	User	User
Staff supervision of correspondence:	OS	TSC
Setting local procedures		
Governing authentication (who, what, when, how)		
Setting local procedures		
Governing reading files		
Correspondence training	User	User
<b>CLASSIFIED DOCUMENT CONTROL</b>		
Classification authority	J2/G2	J2/G2
Classification document control: policies, procedures, and inspections	OS	TSC
Classified document distribution	OS	TSC <sup>NOTE 3</sup>
Classified document storage	User	User
TOP SECRET centralized repository	OS	TSC
Document destruction:		
SECRET	User	User
TOP SECRET	OS	TSC
<b>PRINTING</b>		
Process requests	OS	TSC
Identify requirement	User	User
Approve requirement	Staff	Staff
<b>REPRODUCTION</b>		

**Table 6-1. Signal Support Responsibilities at the Theater Level** <sup>NOTE 1</sup>

	<b>TACTICAL</b>	<b>SUSTAINING BASE</b>
Setting policy and procedure	OS	TSC
Staff supervision of reproduction	OS	TSC
Copier management:		
Determine need for requirement	User	User
Validate Requirement	OS	TSC
Assist/advise in satisfying requirement	OS	TSC
Copier operation and user maintenance	User	User
Centralized reproduction	OS	TSC
<b>PUBLICATIONS</b>		
Staff supervision of publications		
Setting policy and procedures	OS	TSC
Publications account management	OS	User
Identify publications requirement	User	User
Publications library:	Staff	Staff
Not a mandatory requirement		
When applicable, geared towards user's function (for example, maintenance)		
Command unique publications storage and distribution	NA <sup>NOTE 4</sup>	TSC
<b>FORMS</b>		
Forms management:		
Setting policy and procedures	OS	TSC
Compiling, ordering, and internal distribution of forms	OS	NA
Area stockage, acquisition, and distribution	Staff	TSC
Requests for new forms (Recommend approval)	User	User
Adhere to forms usage policy:		
Includes use management	User	User
Requesting resupply	User	User
Resupply stockage	OS	TSC
<b>FILES MANAGEMENT</b>		
Staff supervision of files management	OS	TSC
Files transfer to records holding area	User	User
Operate records holding facility	Sig Spt	Sig Spt
Approval of files listings and electronic	OS	TSC

**Table 6-1. Signal Support Responsibilities at the Theater Level** <sup>NOTE 1</sup>

	<b>TACTICAL</b>	<b>SUSTAINING BASE</b>
conventionalizing		
Files maintenance	User	User
<b>DISTRIBUTION</b>		
Staff supervision	OS	TSC
Community distribution	NA	TSC
Unit Distribution	OS	NA
Pickup and internal distribution	User	User
External distribution service		
Set policy and procedure	Sig Spt	Sig Spt
Provide resources for necessary messenger service	User	User
Official Mail: <sup>NOTE 5</sup>		
Official mail delivery	OS	TSC
Censorship	User	Use
<b>PRIVACY ACT AND FREEDOM OF INFORMATION ACT (FOIA)</b>		
Staff supervision of FOIA	Sig Spt	Sig Spt
Implementation of FOIA	User	User
POC for Privacy Act/FOIA	OS	TSC
<b>VISUAL INFORMATION (VI)</b> <sup>NOTE 6</sup>		
Establish policy and procedures	Sig Spt	Sig Spt
Staff supervision of VI policy and procedures	Sig Spt	TSC
Develop VI requirements/needs	User	Sig Spt
Allocate VI resources	User	Sig Spt
Integrate VI into OPLANs, battle plans, and SOPs	OS	TSC
Determine interface requirements	Use	User
Perform technical integration of VI into functional communications and information systems	OS	TSC
Provide technical integration of assistance for systems integration and standardization of VI into functional information systems	OS	TSC/Sig Spt
Install, operate, maintain VI equipment/systems designated user-owned and user-operated	User	User

**Table 6-1. Signal Support Responsibilities at the Theater Level** <sup>NOTE 1</sup>

	<b>TACTICAL</b>	<b>SUSTAINING BASE</b>
Effective maintenance beyond PMCS	Sig Spt	TSC
Effect disposition of record/file VI material	User	User
Coordinate VI support not available through organic assets	OS	Sig Spt
<b>COMCAM</b> <sup>NOTE 7</sup>		
Coordinate COMCAM support	OS	Sig Spt
Establish COMCAM policy and procedures	Sig Spt	Sig Spt
Staff supervision of COMCAM policy and procedures	Sig Spt	Sig Spt
Develop COMCAM requirements, and needs	User	User
Establish priorities for COMCAM	TSC(A)	TSC
Allocate COMCAM resources plans and SOP	Sig Spt	Sig Spt
<b>COMCAM OPCON</b>		
Determine interface requirements and perform functional and technical integration of COMCAM into communications and information systems	OS	NA
Manage technical standardization of COMCAM (such as formats and standards)	Sig Spt	Sig Spt
Install, operate, maintain COMCAM equipment/systems	TSC	NA
Produce and distribute unique COMCAM reports/support products for commander/staff	TSC	NA
<b>MAINTENANCE</b>		
Perform user maintenance on COMCAM equipment	TSC	TSC
Perform organizational maintenance on COMCAM equipment	TSC	TSC
Maintain repair parts stockage for COMCAM equipment	TSC	TSC
Maintain direct exchange or backup COMCAM equipment stockage	TSC	TSC
<b>COMMUNICATIONS</b>		
Determine specific communications requirements/need for joint, combined operations	JS/Sig Spt/User <sup>NOTE 6</sup>	JS/Sig Spt/User <sup>NOTE 8</sup>

**Table 6-1. Signal Support Responsibilities at the Theater Level** <sup>NOTE 1</sup>

	<b>TACTICAL</b>	<b>SUSTAINING BASE</b>
Determine communications requirements/need for a heavy/light, light/heavy, integrated Army task force	Sig Spt	Sig Spt
Analyze/evaluate terrain using a map for signal site selection	TSC	TSC
Conduct signal site reconnaissance	TSC/OS	TSC
Configure a signal nodal/site	TSC/OS	TSC
Analyze communications systems and communications equipment outages	TSC/OS	OS
Prepare and update a signal estimate of the situation	OS	OS
Establish Signal Operation Instructions (SOI)	Sig Spt	Sig Spt
Implements SOI	User	User
Identify individual unit communications requirements	OS	TSC
Plan and coordinate communications operations, including preparation of signal plans and orders	OS	Sig Spt
Provide over the counter service	TSC	TSA
Coordinate with appropriate signal supporting elements	User/OS	User/OS
Coordinate for external signal support	OS	TSC
Install, operate, and maintain "user-owned" and "user-operated" equipment	User	User
Identify and evaluate ECCM requirements and plans	OS/TSC	TSC
Implement ECCM	User/OS	User/TSC
Execute communications operation	User/OS/TSC	TSC
Frequency management	TSC	TSC
Manage COMSEC key distribution	OS	OS
Protect communications equipment from EMP	User/OS	User/OS
Signal and communications securities Establish policy and procedures	Sig Spt	User/Sig Spt
Follow policy and procedures	User/OS	User/TSC
<b>MAINTENANCE-SIGNAL AND COMMUNICATIONS SECURITIES</b>		
Perform operator PMCS on communications equipment	User	User
Perform organizational maintenance on signal communications equipment	OS	TSC

**Table 6-1. Signal Support Responsibilities at the Theater Level** <sup>NOTE 1</sup>

	<b>TACTICAL</b>	<b>SUSTAINING BASE</b>
Perform organizational maintenance on communications equipment from other than signal units	User	User
Evacuate communications equipment to next higher maintenance level	User/OS	User/TSC
Perform direct support and higher maintenance on communications equipment	OS/Ordinance	TSC/Ordinance
Maintain repair parts stockage for communications equipment	User/OS/Ordinance	User/TSC/Ordinance
Plan, install, and operate all noncommunications electrical systems (i.e., lighting, power security, intelligence, and entertainment systems)	User	User
Perform organizational maintenance for all noncommunications electrical systems	User	User
<b>PLANNING AND ADVICE FOR AUTOMATED INFORMATION SYSTEMS</b> <sup>NOTE 9 NOTE 10</sup>		
Determine specific automation requirements for joint and combined operations	JS	JS
Establish standards for the design and implementation of locally developed AIS	Sig Spt	Sig Spt
Define standards for interface with net	Sig Spt	
Develop information requirements/needs	User	User
Establish priorities for information	User	User
Allocate automation devices	User	User
Develop COOP	Sig Spt	TSC
Plan wide area network (WAN)	TSC	TSC
Design databases	User/ Sig Spt	TSC
Determine initialization information for devices and data	User	TSC
Advise user regarding AIS bases	Sig Spt	TSC
<b>INSTALLATION OF AIS</b> <sup>NOTE 11</sup>		
Install equipment for operation	TSC/User	<b>TSC</b>
Install local area network	User	User
Coordinate interface requirements with communications network	TSC/ User	TSC/User
Local system, functional software	TSC/ User	TSC

**Table 6-1. Signal Support Responsibilities at the Theater Level** <sup>NOTE 1</sup>

	<b>TACTICAL</b>	<b>SUSTAINING BASE</b>
<b>OPERATION OF AIS</b> <sup>NOTE 12</sup>		
Operate functional AIS	TSC	TSC
Perform basic word processing and spreadsheet functions	User	User
Update and manipulate databases	User	User
Backup and restore databases	User	User
Employ automation security procedures	User	User
Supervise AIS network operations	TSC/User	TSC/User
Develop and produce unique reports for commander/staff	TSC/User	TSC/User
Control software versions	Sig Spt	TSC
<b>MAINTENANCE OF AIS</b>		
Perform operator maintenance	User	User
Perform unit level maintenance/evacuate	User/OS	User/OS
Troubleshoot and isolate faults to hardware or software	User/OS	User/OS
<b>AIS TRAINING</b>		
Conduct operator/crew training	User	User

**Table 6-1. Signal Support Responsibilities at the Theater Level.**

NOTE 1: In this table, organic signal (OS) elements are the signal assets on the MTOE/TDA of a given unit. The OS elements are not only limited to nonsignal units, but also refer to duties a signal element in a signal unit must do. Under the Tactical column, TSC refers to the tactical signal units assigned to the TSC. Under the Sustaining Base column, TSC refers to the strategic and sustaining base signal units within the TSC. Signal support denotes the DCSIM/DOIM staff. When used in this table, the term staff refers to the functional staff element and user refers to user responsibilities.

NOTE 2: User refers to the organization or individual and signal represents ISSO responsibilities assigned to the supporting signal unit.

NOTE 3: Distribution internal to community for sustaining base.

NOTE 4: This level only orders.

NOTE 5: Delivery of mail is a postal function, not a Signal function. Official mail is delivered by a postal unit. Once it is received by headquarters, it becomes distribution.

NOTE 6: Functional commanders and users are responsible for integrating VI (enhancements) into their information systems and activities to support their own requirements on the battlefield. Units such as PSYOP, intelligence, medical, and public affairs, own and operate their own VI equipment and systems in support of their mission. Irrespective of its functional application, the sole purpose of VI equipment/system is to perform VI functions, provide VI services, and produce VI products. The application of all VI on the battlefield is governed by VI (Signal Support) doctrine.

NOTE 7: COMCAM is VI documentation covering air, sea, and ground actions of armed forces in combat and combat support operations, and in related peacetime training activities such as exercises, war games, and operations. COMCAM capabilities are external to any specific functional (user-owned and -operated) information system, and are provided by TSC COMCAM teams and signal units. COMCAM is not meant to replace user-owned and user-operated VI systems such as those used specifically for intelligence, medical, prisoner documentation, and PSYOP. The purpose of COMCAM is to provide combat documentation in support of the NCA, the local commander's decision making process, and to create an operational record of unit activities on the battlefield. COMCAM will augment functional VI systems only when they cannot provide the required support. VI is the responsibility of the echelon signal office.

NOTE 8: All three must participate simultaneously on a single concept of operations.

NOTE 9: At the theater level, the automation responsibilities of the US unified commander overlap those of the USASC. In this table, the USASC provides support to the theater on a regional basis. While some of the organizations within the theater are actual USASC assets, they are considered part of the theater, specifically the TSC.

NOTE 10: At the theater level, all planning for and staff supervision of TA automation activities are general done by the TSC. DCSIM staff validates user requirements. Identification of needs and allocation of resources to meet the needs are done by the user. For joint automation activities, these functions are generally performed by joint staff.

NOTE 11: Installation of major, theater-wide Army AIS is generally the responsibility of the TSC. Other AIS and local area networks are installed by using organizations.

NOTE 12: Operation of TA AIS is generally the responsibility of the TSC. Other AIS and local area networks are operated by the using units.

## **BATTLEFIELD INFORMATION SERVICES (BIS) MANAGEMENT**

6-70. The signal officer's tool for the management and coordination of the BIS in support of the theater and subordinate unit headquarters is the Information Services Support Office (ISSO). BIS are correspondence, files and forms management, classified document control, Privacy Act and Freedom of Information Act (FOIA), distribution, printing, publications, official mail, and reproduction.

6-71. The ISSO has staff supervision responsibility for all BIS, recommending policy, procedures, standards, and conventions to facilitate information services support. The ISSO also provides for the centralized execution of and central point of contact for BIS requiring centralized management to the headquarters, that is distribution and official mail, Privacy Act and FOIA, and printing requests.

6-72. An ISSO is established at every echelon at the theater level and is under the signal officer's control. At battalion and brigade, the S1 accomplishes the ISSO function. At support units with no organic supporting signal unit, the signal office is the proponent for information services on the staff. The functional staff remains responsible for its execution. The responsibilities of the ISSO at the theater level are listed in Table 6-2.

**Table 6-2. Signal Support/ISSO Responsibilities at the Theater Level.**

<b>THEATER</b>	
<b>CORRESPONDENCE</b>	
Supervision of correspondence:	ISSO
Recommending policy, procedures, and conventions	
Preparing correspondence:	User
Establishing distribution schemes	ISSO
Authenticating correspondence: (authentication is defined as approved for release)	CDR
Reading file:	
Management	Staff
Input	User
Staff supervision of correspondence:	ISSO
Recommending local procedures and conventions governing authentication (who, what, when, how)	
Recommending local procedures governing reading files	ISSO
<b>CLASSIFIED DOCUMENTS CONTROL</b>	
Staff supervision of classified document control:	ISSO
Recommending policy, procedures, and convention	
Classification authority:	CDR
Recommending classified document control, policies, procedures, and inspections <sup>NOTE 1</sup>	ISSO
Classified document distribution	ISSO
Classified document storage	User
TOP SECRET repository	ISSO
Classified document control:	User
As correspondence or file	
Document destruction:	
SECRET	User

**Table 6-2. Signal Support/ISSO Responsibilities at the Theater Level.**

	<b>THEATER</b>
TOP SECRET	ISSO
<b>PRINTING</b> <sup>NOTE 2</sup>	
Staff supervision of printing:	ISSO
Recommendation policy, procedures, and conventions	
POC for any request to be forwarded	ISSO
Priority establishment	User
<b>REPRODUCTION</b>	
Staff supervision of reproduction:	ISSO
Recommending policy, procedures, and conventions	
Copier management:	User
Determining need for requirement	ISSO
Validate requirement	ISSO
Assist/advise in satisfying requirement	
Copier operation and user maintenance	User
Contracting and maintenance coordination	ISSO
<b>PUBLICATIONS</b>	
Staff supervision of publications:	ISSO
Recommending policy, procedures, and conventions	
Publications account management:	ISSO <sup>NOTE 3</sup>
Consolidating, ordering, and distributing subordinate unit requests through pin-point distribution requests through function occurs only at the echelon owning the pin-point account.	
Identify publications requirement	User
Publications library:	User
Not a mandatory requirement	
When applicable, geared towards user's function (S2, maintenance)	
<b>FORMS</b>	
Staff supervision of forms management:	ISSO
Recommending policy, procedures, and conventions	
Compiling, ordering, and distributing forms:	ISSO
This function occurs only at the element owning pin-point account	
Requests for new forms:	
Recommending	User
Approving	Staff/ISSO
Adhere to forms usage policy:	
Includes use management	Staff/User
Requesting resupply	User

**Table 6-2. Signal Support/ISSO Responsibilities at the Theater Level.**

<b>THEATER</b>	
Separate user pin point accounts	Staff
<b>FILES MANAGEMENT</b>	
Staff supervision of files management:	
Recommending policy, procedures, and conventions	ISSO
Files transfer to records holding area	Staff
Approval of files listings and electronic conventionalizing	ISSO
Files maintenance	Staff/User
<b>DISTRIBUTION</b>	
Staff supervision of distribution	
Recommending policy, procedures, and convention	ISSO
Internal Headquarters distribution POC	ISSO
Distribution center operations	ISSO
Pickup of distribution	User
External distribution service:	
Recommend policy, procedures, and convention	ISSO
Provide resources for necessary messenger service.	User
Maximum use is made of existing delivery systems (Classes I, V)	
Task resources for necessary messenger service	ISSO
Official mail distribution	ISSO
Censorship	User
<b>PRIVACY ACT AND FREEDOM OF INFORMATION ACT</b>	
Staff supervision of privacy act and FOIA:	
Recommending policy, procedures, and convention	ISSO
Implementation	User
POC	ISSO
NOTE 1: Classified Document Control must apply in all phases and areas of the Signal Support (correspondence, printing/reproduction, distribution/mail, and file management).	
NOTE 2: The Signal Reproduction Detachment provides volume printing (reproduction) support at theater when required. If the need arises, the ISSO forwards printing requests through signal channels to the signal reproduction unit.	
NOTE 3: Separate user pin-point accounts.	
NOTE 4: Mail may be categorized as both official and personal, however, once a unit receives official mail, it becomes normal distribution. Personal mail remains mail, subject to postal regulation until delivered to the intended recipient. Official mail contains military information. Personal mail contains personal information, subject (sometimes) to censorship.	

6-73. Each functional staff element is responsible for implementing signal support policies, procedures, and standards within the functional area of operation. For instance, the S3 will provide internal distribution at the tactical operations center location when tactically deployed.

6-74. Generally, the signal unit, the ISSO, and signal staff at each echelon at the theater level will have the same mission and functions.