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**HEADQUARTERS  
UNITED STATES  
EUROPEAN COMMAND**



**Directive 55-21**

**Common Operational Picture (COP)  
Policies and Procedures  
17 June 2004**

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**Common Operational Picture (COP) Policies and Procedures  
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HEADQUARTERS  
UNITED STATES EUROPEAN COMMAND  
UNIT 30400

APO AE 09131-0400

DIRECTIVE  
NUMBER 55-21

**OPERATIONS**

Common Operational Picture (COP) Policies and Procedures

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**SECTION 1**  
**COP Policies and Procedures**

1. **Summary.** This directive announces policy, assigns responsibilities, prescribes procedures and directs actions related to the Common Operational Picture (COP) established in the USEUCOM Theater of operations.
2. **Applicability.** This directive applies to all HQ USEUCOM Directorates/Staff Offices, the USEUCOM Component Commands, Joint Task Forces (JTF's), Combined Joint Task Forces (CJTF's), and those elements "chopped" to USEUCOM for command and control.
3. **Internal Control Systems.** This Directive contains no internal control provisions and is not subject to the requirements of the internal management control program.
4. **Suggested Improvements.** The Director, European Plans and Operations Center (EPOC) / Director of Operations, U.S. European Command (ECJ3) is the proponent for this publication. Suggested improvements should be forwarded to EPOC Information Superiority / Knowledge Management (ISKM).
5. **References.**
  - a. Joint Pub 3-0, "Doctrine for Joint Operations", 1 Feb 1995
  - b. Joint Pub 3-16, "Joint Doctrine for Multinational Operations", 5 April 2000
  - c. Joint Pub 6-0, "Doctrine for Command, Control, Communications and Computer (C4) Systems Support to Joint Operations", 30 May 1995
  - d. CJCSM 3115.01, "Joint Data Network Operations", 1 October 2000
  - e. CJCSM 3150.01, "Joint Reporting Structure General Instructions", 30 June 1999

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f. CJCSI 3151.01A, "Global Command and Control System Common Operational Picture Reporting Requirements", 19 January 2003

g. CJCSM 6120.01B, "Joint Multi-TADIL Digital Information Link (TADIL) Operating Procedures", 01 March 2000

h. DISA publication, "Department of Defense Joint Technical Architecture" Version 1.0, 22 August 1996

i. USEUCOM Directive (ED) 55-7, "USEUCOM Policy and Concept for HQ USEUCOM Crisis Operations", 30 June 2003

j. ED 55-11 (Coordinated Working Copy), "Joint Task Force Headquarters Policy, Procedures and Organization", July 2001

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This Directive supersedes the Concept of Operations (CONOPS) for the US European Command (USEUCOM) Common Operational Picture (COP) dated May 2002

## SECTION 2

### GENERAL INFORMATION

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#### 1. EXECUTIVE SUMMARY.

*The Global Command and Control System Joint (GCCS-J) is Commander, United States European Command's (USEUCOM) system of record for command and control functions within USEUCOM's Area of Responsibility (AOR) as defined by the current Unified Command Plan (UCP). The Common Operational Picture (COP) is one segment of GCCS-J, and it is the Commander's primary tool for dynamic, graphical situational awareness of the European Theater battlespace. The COP is a timely, fused, assured, and accurate display of information, shared across the command, which facilitates collaborative planning and assists all echelons to achieve situational awareness. The COP is managed information, drawn from the track, link, intelligence, logistics, and Theater Ballistic Missile Defense (TBMD)/ Shared Early Warning (SEW) data provided by Combined/Joint Task Forces, the Joint Analysis Center (JAC), and Service components. The COP is comprised of more than just data, it extends to personnel, policies & procedures, communications, and hardware & software. This directive describes the USEUCOM COP architecture, reporting responsibilities, and data management required to establish a relevant theater COP.*

#### 2. GENERAL.

##### a. Background.

The term "Theater COP" refers to Commander, USEUCOM's depiction of the battlespace for his entire AOR including current disposition of relevant hostile, neutral, and friendly forces as they pertain to US and Allied Joint/Combined operations ranging from peacetime through crisis and war. Commander, USEUCOM, the Joint Staff, Joint Task Force (JTF) Commanders, and the JTF components, service components, and logistics and supporting units share the COP throughout the USEUCOM AOR. The COP provides these organizations and other supporting commands with a common awareness of relevant friendly, enemy, and neutral forces operating within the theater. USEUCOM component, functional and JTF commanders will maintain the COP according to the guidance in this directive. It is imperative that the operational community retain the responsibility for the quality of the information contained in the COP. COP data integrity is primarily an operational responsibility.

##### b. Purpose.

This directive establishes reporting policies, responsibilities, and basic tactics, techniques and procedures (TTPs) required to initiate and maintain the theater COP. This document follows Joint Staff guidance found in Chairman Joint Chiefs of Staff Instruction 3151.01, Global Command and Control System Common Operational Picture Reporting Requirements and USEUCOM Directive (ED) 55-11, Joint Task Force Headquarters Policy, Procedures and Organization (reference a and b). Although the policies in this directive provide a framework for standardization, commanders at all levels must determine specific, detailed implementation procedures that meet the intent of this document. This directive provides guidance based on current technology and is designed to provide COP participants with the appropriate view of the battlespace for any possible situation. It is not the intent of this directive to provide procedures or requirements that restrict the authority or flexibility of the Joint Force Commander (JFC) in the successful execution of mission requirements.

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c. Standardization.

Standard procedures for development of a theater COP are necessary to facilitate accurate situation reporting to Commander, USEUCOM, the National Military Command Center (NMCC) and to authorized external organizations. Standardization is also necessary in order for the Military Services to provide combatant commanders with personnel adequately trained in COP reporting procedures. GCCS-J COP is the standard reporting tool for the full spectrum of US operations, to include conditions warranting the establishment of Joint Task Forces (JTF), crisis situations, humanitarian relief and non-combatant evacuation operations (NEOs), and joint field exercises. The COP is an integral facet of the command and control process. Therefore, use of the COP on a daily basis, as well as for JTF exercises, is necessary to ensure proficiency and continued development.

d. COP Advantages.

A properly managed COP provides warfighters at every echelon with critical battlespace situational awareness for the full spectrum of military operations. GCCS-J COP provides Commander, USEUCOM, Joint Force Commanders (JFCs) and component commanders with the ability to share relevant military information with COP participants throughout the theater. The theater COP is a key tool for commanders in planning and conducting joint operations and in coordinating joint operations across combatant commands. The COP enhances the flow of information among the NMCC, Joint Staff, and theater COP participants, both supplementing and amplifying Commander's Situation Reports (SITREPS), Operations Reports (OPREPS), and other reports outlined in reference c. The COP adds value by displaying battlespace information in a graphical manner with links to detailed information that similar reports such as SITREPS and OPREPS are unable to display.

e. Scope.

This directive applies to all organizations under OPCON of USEUCOM. This includes service components and those elements "chopped" to USEUCOM for command and control. Other organizations operating in the USEUCOM AOR but not under USEUCOM OPCON may be requested to provide data for COP development to enhance theater situational awareness. Such organizations are also subject to this directive with respect to COP feeds they seek to obtain from USEUCOM. The European Plans and Operations Center, Information Superiority and Knowledge Management Division (EPOC-ISKMD) is the primary POC for MOU's to this effect.

**ANNEX A****THEATER COP DEVELOPMENT**

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**1. GENERAL.**

In accordance with reference a, combatant commanders are responsible for developing, maintaining and transmitting a common operational picture to the NMCC for Unified Commander, Secretary of Defense and Joint Staff use. This directive provides specific requirements for building and properly managing an accurate theater COP that will meet Joint Staff needs and provide consistent and critical battlespace information to COP participants throughout the USEUCOM AOR. The basic building blocks of the theater COP include properly managed data (both electronically generated and manually entered), interoperable track database and display platforms and appropriate communications paths for data exchange. Key nodes throughout the AOR equipped with Joint GCCS or Joint GCCS interoperable variants form the backbone of the USEUCOM COP architecture. These nodes, commonly referred to as COP Correlation Sites (CCS), function to consolidate, deconflict, and forward managed data to the "TOP COP" at USEUCOM Headquarters via the SIPRNET.

**2. THEATER COP DEVELOPMENT.****a. Tracks.**

The COP consists of a collection of air, land, maritime, and space tracks. A track is a single entity reported on the COP such as an aircraft, ship, Theater Ballistic Missile (TBM) or emitter. A track can also represent an aggregation of military personnel, weapon systems, vehicles, and support elements or any other operationally significant item. Tracks can be either electronically generated or manually entered. When electronically generated track information does not provide sufficient situational awareness, manually entered track information may be required. In such cases, additional reporting requirements will be directed in appropriate orders from this headquarters.

**b. COP Correlation Sites (CCS).**

(1) Theater CCS Architecture. COP Correlation Sites within the USEUCOM AOR include USEUCOM headquarters, Component headquarters, and the Joint Analysis Center (JAC). All CCSs have the flexibility to establish subordinate nodes as required to provide appropriate data dissemination and management. Upon establishment of a JTF for contingency operations, the Joint Force Commander (JFC) is responsible for establishing a CCS for reporting the local COP/CTP to the USEUCOM CCS. When contingency operations do not require establishment of a JTF, the lead component is responsible for establishing a CCS for reporting required track data to the EUCOM CCS either directly to USEUCOM or through the component headquarters, whichever is more feasible. Figure A-1 depicts the theater CCS architecture.

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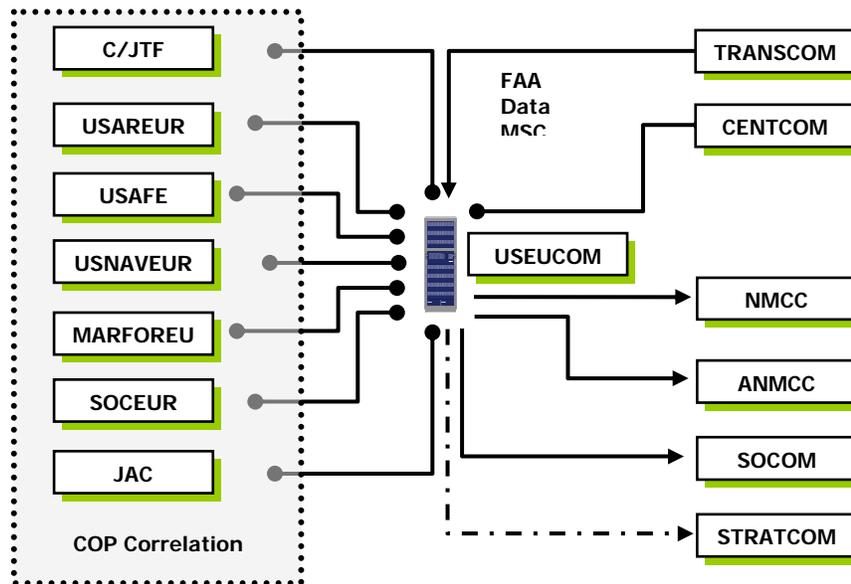


FIGURE A-1. THEATER CCS ARCHITECTURE

(2) CCS Responsibilities.

- (a) The EUCOM CCS has overall responsibility for managing the Theater COP. It directs cross component troubleshooting when problems arise. Architecture management is essential to reducing the potential for COP errors such as data ringing; the EUCOM CCS maintains oversight of the theater COP architecture and maintains/ publishes diagrams to this effect.
- (b) ) The Commander of each COP Correlation Site (Component Commander, JAC Commander, JTF Commander) is responsible for management of all track information for which they have reporting responsibility (see Annex C). In some instances, the Commander may be responsible for management of data not directly injected at the CCS location. For example, the USAREUR Commander is responsible for track management of non-CTF/JTF generated Army ground tracks even though some of these tracks may be injected at other CCS locations via the TRAP Data Dissemination System (TDDS).
- (c) CCSs will develop and share operational overlays to increase situational awareness with respect to current and future enemy and friendly operations. Annotate overlays with DTG preceding the descriptive name to ease identification of current information.
- (d) CCSs will share broadcast filter information with affected COP participants to ensure recipients understand the effects of filtering.
- (e) CCSs, in conjunction with USEUCOM communications planners, are responsible for planning adequate communications paths for transmission of local COP/CTP data to the USEUCOM CCS.
- (f) CCSs are responsible for ensuring hardware/software compatibility with the EUCOM CCS. Figure A-2 depicts theater COP production.

(g) CCS's are responsible for the management of their respective architectures. They ensure that they and their subordinate commands take all reasonable measures to avoid architecturally generated data problems such as ringing. Component CCS's will report their architectures at least annually to ECJ67 and provide updates as and when available.

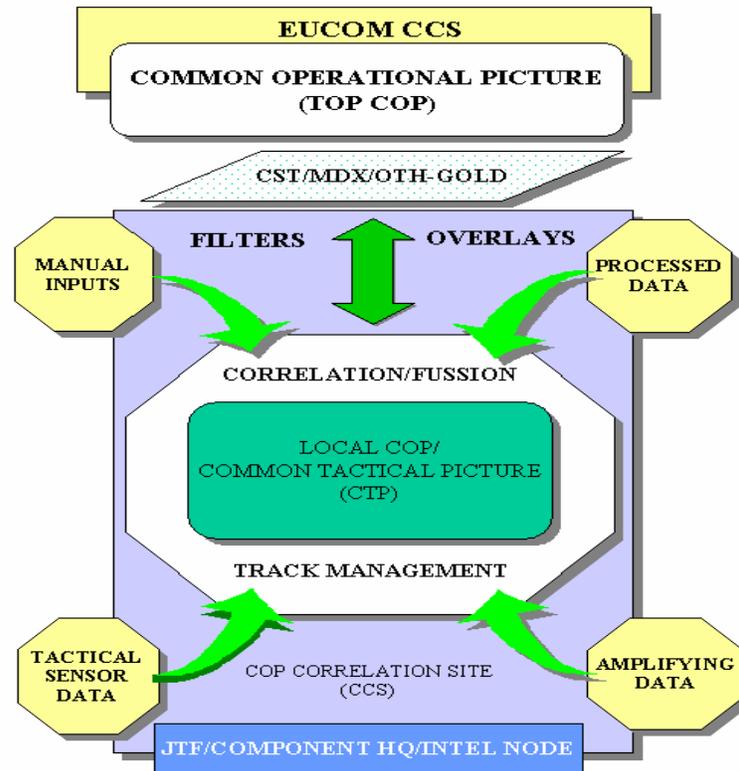


FIGURE A-2. THEATER COP PRODUCTION

### 3. COP DATA REQUIREMENTS.

Each CCS will provide managed COP data to the USEUCOM CCS that depicts current operational/tactical information according to the guidance below and any additional information Commander, USEUCOM or component/force commanders determine relevant to the situation at hand. Specific reporting and data management requirements are covered in Annex C.

#### a. Air Data.

The air element of the COP will include sensor-generated air and space (TBM) tracks regardless of origin (AEGIS, AWACS, P3, CRC, PATRIOT, TAOC, etc.) that are relevant to on-going operations and major exercises within the USEUCOM AOR.

#### b. Ground Data.

The ground element of the COP will depict garrison locations of major combat elements (see glossary) and headquarters and locations of major friendly combat elements and appropriate hostile combat

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elements relevant to on-going operations and major exercises within the USEUCOM AOR. Reporting nodes will include all SOF units participating in operations classified at the secret collateral level and below.

c. Maritime Data.

The maritime element of the COP will depict locations of friendly and relevant hostile and neutral surface and subsurface vessels operating within the USEUCOM AOR.

d. Special Interest Tracks.

Include tracks, regardless of size or composition, of special importance that are key to an operation, linked to major negotiations, or have national-level interest. Examples of this include search and rescue operations, humanitarian assistance forces, activities surrounding mishaps, freedom of navigation operations, Global Reach missions, and transit of forces in high-interest peacekeeping operations.

#### **4. SECURITY CONSIDERATIONS.**

The overall classification of the theater COP is U.S. SECRET. As such, security managers at all levels must be actively involved in establishment of the COP architecture to ensure proper classification and accreditation of hardware, software and distribution of COP data.

**ANNEX B****COP OPERATIONAL ARCHITECTURE AND DATA EXCHANGE**

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**1. GENERAL.**

The USEUCOM COP operational architecture consists of a hierarchy of reporting and processing nodes sharing data injects from sensors, manual inputs, and automated sources. The systems and technical architecture is consistent with the Joint Technical Architecture (JTA) outlined in reference d. To support critical joint warfighter interoperability, the COP operational architecture must be seamless as envisioned in the C4I for the Warrior concept (reference e). Achieving and maintaining this vision requires total interoperability and cooperation of reporting nodes. The key elements of the COP operational architecture are:

**a. Data Sources.**

Track data can originate from a variety of sources both in and outside the USEUCOM AOR and can be incorporated into the COP via automated or manual methods. Real time and near real time data is typically sensor generated and incorporated into the COP at a CCS via automated feeds. It can also originate from Global Positioning System (GPS) based tracking devices. This information may arrive at a CCS via a secure wide area network (WAN) connection or be directly injected from local receive equipment. Intelligence data may be screened or processed via the Joint Analysis Center (JAC) before incorporation into the COP locally. Some data feeds may come from multinational sources through appropriate filters or security devices. Manual input of data from SITREPS, GSORTS or other information sources may occur at any level. This information provides the basic building blocks for COP development at the CCS.

**b. Subordinate CCS.**

A subordinate CCS receives data injects, provides track data management, produces operational overlays and transmits the local COP/CTP to the theater CCS at USEUCOM Headquarters. Subordinate CCSs have the authority to share COP data with subordinate commands as required.

**c. Theater CCS.**

The theater CCS provides overall management of the "TOP COP", adds additional information as required, and acts as the gateway for transmission of the theater COP to the NMCC and supported/supporting Unified Commanders, services, and agencies. The EPOC is the approval authority for providing COP data to all agencies outside the AOR, and for providing COP data to coalition partners or units within the AOR that are not subordinate to an established CCS. Procedures for requesting COP feeds are outlined in Annex C. Figure B-1 depicts the theater COP data flow concept. The EPOC is also the approval authority for requesting COP data (to include C2PC gateway connections) from agencies outside the AOR, or from units within the AOR that are not subordinate to an established CCS.

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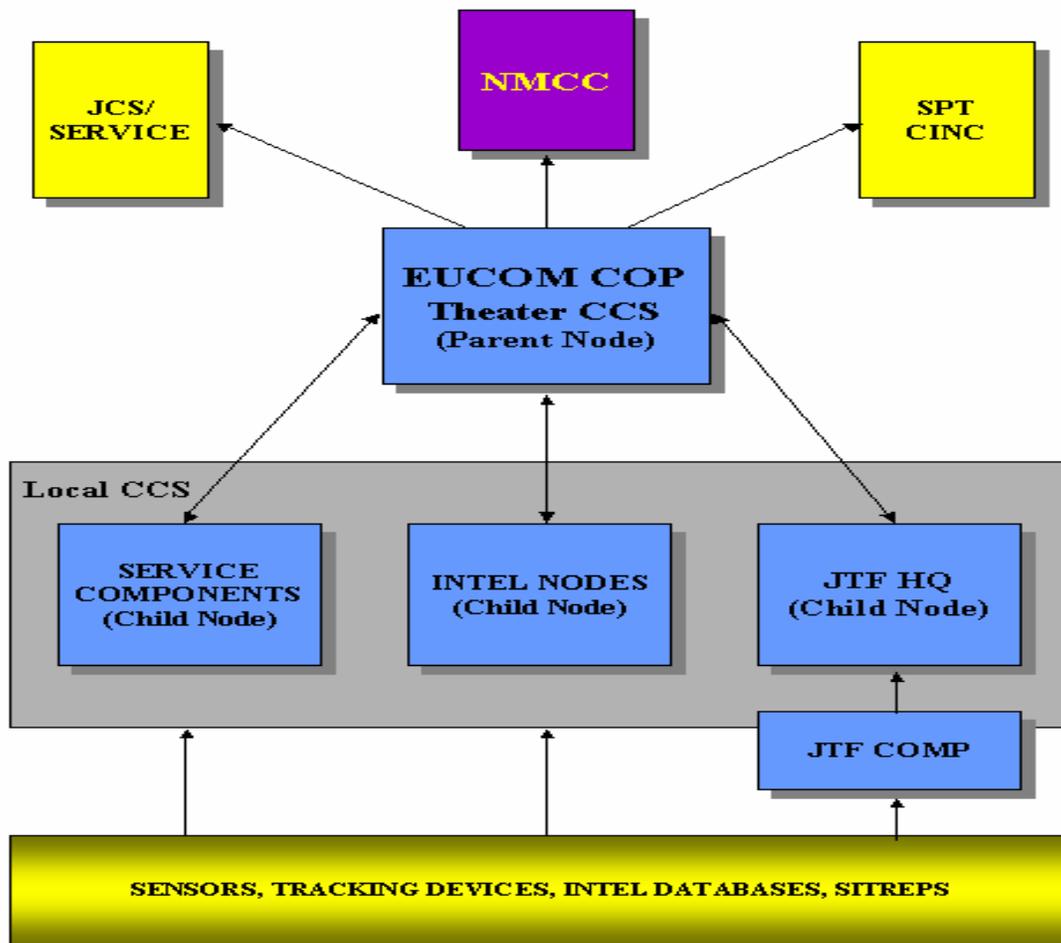


FIGURE B-1. THEATER COP DATA FLOW

## 2. SENSORS.

Organic sensors such as AWACS, JSTARS, Rivet Joint, various land and maritime radars, and others typically provide quality track data directly from the sensor to a JTF component or CCS for inclusion in the COP. Service components, intelligence nodes, and JTFs may use any reliable and appropriate sensor source to build the local COP/CTP at their locations.

## 3. COMMUNICATIONS.

Data distribution between theater CCSs, the NMCC, supporting commands and other external services and agencies is accomplished primarily via the Secret Internet Protocol Router Network (SIPRNET) using CST, MDX, OTH Gold, and other data exchange formats. Communications agencies need early involvement in planning COP operations due to bandwidth requirements. The primary purpose of theater communications networks is to support operational mission traffic. Hence, planners must exercise care in providing a communications architecture to support the COP that does not negatively impact communications assets required for mission accomplishment.

#### 4. COP DISPLAY STANDARDS.

COP displays on GCCS-J workstations can be tailored to mission needs; however, the following guidelines are in effect to provide the basis for a common picture throughout the theater:

a. Icons.

MIL STD 2525B is the default symbology for the Integrated C4I System Framework (ICSF). Naval Tactical display Symbols (NTDS) or MIL STD 2525B can be used for C2PC. Tailored symbology may be used at a particular display site for easy icon recognition, but MIL STD 2525B will be used for all track communications and broadcasts.

b. Mapping Datum.

MIL STD 2401, World Geodetic System 1984 (WGS-84), is the standard to which positional information is registered.

c. Map Products.

National Geospatial Agency (NGA) standard products will be used wherever possible as a basis for common map displays. Any additional map products used locally will be NGA standard compliant. Access to NGA standard products as well as USEUCOM unique geospatial products to support COP displays on GCCS-J workstations will be available through the USEUCOM map server.

d. Time.

The time standard for the theater COP is Coordinated Universal Time (UTC/Zulu).

#### 5. OPTIONAL DISPLAY PLATFORMS.

COP information can be displayed on more than Joint GCCS UNIX workstations. The following are some of the more common display platforms:

a. C2PC/ELVIS II.

COP information can be displayed on PC workstations using the Command and Control for Personal Computer (C2PC) application available on Windows-based clients. For clients running less powerful PCs, the Enhanced Linked Visual Information Service (ELVIS) II application, or WebCOP, allows access to see the tactical picture via a browser. In all cases, servers have to be established to provide this capability.

b. GCCS Service Variants.

GCCS variants have been developed to meet the specific needs of the services. Properly configured GCCS variants are interoperable with Joint GCCS and are authorized to display and manipulate the COP.

c. Advanced Concept Technology Demonstration (ACTD) and other new technology platforms.

EUCOM is the final authority for the use of non-Program of Record (POR) systems for COP display.

#### 6. DATA EXCHANGE/RECEIPT PROTOCOLS/ SYSTEMS.

Data can be exchanged between GCCS-J COP servers and other interoperable COP platforms and received by COP servers at CCSs using a number of different message formats and protocols.

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a. COP Synchronization Tool (CST).

CST is the preferred method of exchanging data between CCSs within the theater. All connected COP servers using CST for data exchange maintain a common information database via TCP/IP over the SIPRNET for GENSER Secret COP. All subordinate nodes connected to the USEUCOM COP server are required to use CST for data exchange unless the capability to do so does not exist. Additional CST information is found in Appendix 1, CST CONOPS (Concept of Operations), to this Annex.

b. OTH GOLD.

OTH GOLD is the basis for non-real-time exchange of data between GCCS-J and other systems. OTH GOLD supports transmission of formatted ASCII text or MDX message data via a serial communications connection.

c. Tactical Information Broadcast System (TIBS).

TIBS is a satellite broadcast system delivering air and TAC ELINT track data using specifically formatted messages. TIBS air data will occasionally provide amplifying track data like course, speed, and altitude.

d. TRAP (Tactical Related Applications) Data Distribution System (TDDS).

TDDS provides near-real-time contact data to Tactical Receive System (TRS), Commander's Tactical Terminal (CTT/H-R) and SUCCESS Radio users. TDDS receives input from local and remote collection systems, converts the data to a binary format, encrypts, encodes, and provides it for broadcast via UHF satellite communications.

e. All Source Analysis System (ASAS) USMTF S309 Enemy Interoperability Message.

The USMTF message that the Army ASAS will input to GCCS-Army to populate the Common Tactical Picture (CTP) for the Army Tactical environment and through GCCS-A to GCCS Common Operational Picture (COP). ASAS can also directly input USMTF S309 messages to Joint GCCS COP. The USMTF S309 is a basic Intelligence report on enemy information that only includes unit information but does not include enemy equipment or facilities.

f. ASAS C103 OBREP (Order of Battle Report) Message.

The USMTF message that the Army ASAS will input direct into GCCS-I3 to populate the I3 Intelligence Database which in turn provides tactical level General Military Intelligence (GMI) to the GCCS-J COP. The C103 provides Unit, Equipment, and Facilities GMI information and is a more detailed Enemy Information report. In comparison, MIDB provides strategic level GMI to I3 and to the COP.

g. Officer-in-charge Tactical Command Information Exchange System.

OTCIXS is a tactical satellite communications network for command and control of battle group operations and ship-to-ship exchange of data link information. OTCIXS provides over-the-horizon (OTH) communications between surface ships, submarines, and shore installations on a near real time basis.

h. Link 11.

Link 11 (TDL A) is a secure data link using M series formatted messages. It provides for mutual exchange of digital information among airborne, land-based, and shipboard systems via UHF or HF transmissions.

i. Link 11B.

Link 11B (TDL B) is a secure, full-duplex, point-to-point digital data link using M series formatted messages. It provides for serial transfer of data between connected reporting units.

j. Link 16.

Link 16 (TDL J) is a secure high-capacity, jam-resistant, nodeless data link that employs the Joint Tactical Information Distribution System (JTIDS) and Multifunctional Information Distribution System-Low Volume Terminal (MIDS-LVT). It promulgates information via J series messages and provides the backbone for multi-TDL networks. JTIDS and MIDS-LVT platforms are principally line of site (LOS); however, range extension capabilities are currently being developed to extend platform connectivity beyond LOS.

k. United States Message Text Format (USMTF).

USMTF is the DOD's message format standard.

l. Air Defence Display System Integrator (ADSI)

The ADSI is a modular, reconfigurable, real-time and control system. ADSI satisfies a wide range of requirements: to include participating in tactical data link networks; forwarding of track information and message between multiple tactical data links; combining multiple radar feeds into a cohesive air picture; integrating radar and intelligence data with tactical data; and the translating information between a wide variety of data links.

m. Multifunctional Information Distribution System (MIDS)

MIDS is capable in participating in a LINK 16 network and exchange J-series messages with the same secure, high capacity, jam-resistant, digital data voice capability and position determination as JTIDS with reduced cost, weight and size.

n. Joint Range Extension (JRE)

JRE is a means of exchanging J-Series LINK 16 messages over a media other than MIDS/JTIDS. Its primary use is to establish Beyond Line-of-Site (BLOS) communications. JRE avoids the saturation of MIDS/JTIDS capacity by using multiple relay hops and can provide LINK 16 data communication between surface/ground units when no airborne relays are available.

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## ANNEX B, APPENDIX 1

COP SYNCHRONIZATION TOOL (CST) CONOPS

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**1. GENERAL.**

The COP Synchronization Tools (CST) interface will be the primary communication method used to share COP data between USEUCOM (parent node) and subordinate commands (child nodes) electronically connected to the "TOP COP". COP Correlation Sites (CCSs) must have Joint GCCS (or compatible service variant) COP servers with CST 2.0 or greater in order to pass data. CST uses a binary transfer method for passing data and provides the capability for all connected sites to share the same Common Operational Picture.

**a. CST Topology Status.**

Each child node is responsible for maintaining a status of GREEN in the CST Topology window. If a child node has a status of anything other than green in the CST Topology window, the node should turn its channel off/on to reconnect the channel. If the channel does not re-attach after doing this, the system may require a reboot. If the channel will not reinitiate, contact USEUCOM GCCS-J system admin at DSN 430-4027/4174.

**b. Secondary Permissions.**

Each child node will be configured with "Secondary" permissions for the primary GCCS-J COP server. Secondary permissions allow a child node to become a parent node to subordinate organizations. CST configuration control is delegated to USEUCOM child nodes for management of their own subordinate COP contributors (secondary child nodes). Each USEUCOM child node with subordinate child nodes must ensure node CST channels are pointed to the appropriate GCCS-J COP server and CST status remains green. In addition, child nodes must ensure subordinate child nodes are given only the data management permissions required to meet mission requirements.

**c. Filtering.**

USEUCOM will not filter data to child nodes unless requested. In the event a filter is required, child nodes must contact USEUCOM GCCS-J system administration personnel for filter activation. In situations where the "TOP COP" track database is vulnerable to track overload, USEUCOM may require nodes to set filters to alleviate the problem. In all cases, filtering should be kept to a minimum to ensure all COP participants maintain appropriate situational awareness.

**d. CST Use with External Organizations.**

CST connections with organizations external to USEUCOM will be selective and require the concurrence of ECJ3. Any CST connection to an external organization requires filters to ensure one-way data flow unless data from the participating organization is desired. A CST connection to an external organization will be subject to immediate termination if the theater COP is negatively impacted at any time.

**e. Child Node Outages.**

Planned outages and unplanned outages expected to last more than one hour must be immediately reported to USEUCOM via the COP newsgroup (gccs.cop.eucom). Child nodes may request reconfiguration of the CST tree at any time to maintain data flow when experiencing COP server problems. USEUCOM retains the right to reconfigure the CST tree when required to gain access to data that would otherwise stop at a child node experiencing COP server problems.

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## 2. CST TECHNICAL ASPECTS.

### a. CST Data Types.

CST is capable of exchanging the following types of data between participating nodes:

- (1) Tracks (Platform, ELINT, Unit, Missile, and LINK)
- (2) Priority Track Data (Theater Ballistic Missiles [TBMs])
- (3) Overlays
- (4) Stored Maps
- (5) Stored Plot Controls
- (6) Position of Intended Movement (PIM) Tracks
- (7) Air Tasking Orders (ATOs)
- (8) Air Coordination Orders (ACOs)

### b. Track Management Functions. CST provides the following track management functions:

- (1) Add tracks
- (2) Delete tracks
- (3) Merge tracks
- (4) Associate/disassociate tracks
- (5) Edit/update tracks

### c. Communications Channels.

CST is based on TCP/IP communication protocols that will provide the user with faster, more reliable communications and an reduction in data latency. CST sends track-related data via TCP/IP communication circuits to the various participating nodes. The communication channel within GCCS-J that has been designed for use with CST is CSTMdxNET. There is also a communications interface within GCCS-J called MdxNET; however, this interface is not as robust as CSTMdxNET and is not recommended for use with CST. Since CST sends all of its data using TCP/IP protocols, participating nodes must have SIPRNET access. If a node wishes to pass all available data via CST (to include all of the available track types), it will require 32-40 kbps of bandwidth. The minimum recommended bandwidth to participate as a COP node is 64 kbps.

### d. Filtering/Permissions.

Filtering can be employed in a CST environment to control the type of data passed between nodes in the COP topology. Generally, the parent node has the ability to set filters for its respective child nodes. CST enables filtering on the incoming as well as outgoing data. Permissions constitute authority granted to a node to perform specific track management functions. The following permissions can be granted by a parent node to a child node:

- (1) Add a track
- (2) Delete a track
- (3) Take ownership of a track (establishes reporting responsibility)
- (4) Update a track
- (5) Merge tracks
- (6) Secondary configuration (Allows child nodes to add subordinate nodes to the CST topology and grant permissions as required.)

e. CST SITREP.

CST must use the CST SITREP for synchronizing the database. The CST SITREP is a completely automated method for maintaining database synchronization. Periodically (e.g., on the hour/half hour) the CST SITREP is automatically generated by the child node and sent to its parent node. If there are database synchronization issues, the parent node automatically generates a response and the database synchronization issues are resolved. The CST SITREP can also be generated and sent manually. Discretion should be used when generating manual SITREPS because it could potentially take several minutes to complete the database synchronization depending on the size of the database.

f. Miscellaneous Features.

(1) Topology Display. CST Topology, accessible from the COMMS menu, provides the user with a graphical representation of the current COP chain configuration. The CST Topology window is updated dynamically as the CST network adds or deletes a node, or as the status of a node changes. CST Topology is checking for CST connectivity status between nodes and does NOT check IP connectivity status of routers or machines. Therefore, if a node turns red, CST does NOT give an indication as to why it has lost connection to the machine. The operator must begin troubleshooting to determine why connectivity has been lost. These procedures are covered in the troubleshooting appendix in this document.

(2) Overlays/Pimtracks. In order to send overlays/pimtracks, the operator creates the overlay/pimtrack, names and saves the overlay/pimtrack, then tells the system to transmit it. On the receiving platform the overlay/pimtrack can be displayed and edited. If the user decides to keep the edited version, it must be re-saved. The edited version is then only available locally unless the operator decides to manually retransmit it. Overlays/pimtracks are handled much the same way in a CST environment with one notable exception. If the overlay/pimtrack is edited by anyone in receipt of it and subsequently saved, the newly edited and saved overlay/pimtrack is immediately transmitted to everyone in the COP chain.

g. TCP/IP Connectivity.

Successful implementation of the COP depends on reliable connectivity to the SIPRNET. Initial configuration of a CST channel on GCCS-J requires the correct IP address to be entered into the host table and the proper port selected.

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### 3. CST Configuration Considerations.

#### a. Track Limits.

To maintain a truly common operational picture among all participating nodes in the CST network, all participating nodes must maintain the same track allocations within their local track databases. The local system administrator sets these allocations. If track allocations differ among the participating nodes, a common operational picture may not be fully maintained. The following track limits are mandatory for all CST COP participants:

- (1) Platform: 2000
- (2) Link: 3000
- (3) Emitter: 1500
- (4) Acoustic: 100
- (5) Unit: 3800
- (6) SPA-25: 250
- (7) RAYCAS V: 50
- (8) SI: 500
- (9) FCS: 100

#### b. COP Server UIDs.

When the COP server is first configured, the default value of the machine User ID (UID) is xxx. Because xxx is an invalid entry, a valid UID with three alphanumeric characters must be entered. Appropriate UIDs provide COP operators with valuable information about the source of data. All organizations must register GCCS-J server UIDs on the USEUCOM COP homepage (<http://www.eucom.smil.mil/ecj3/cop/index.html>) prior to establishing a CST link with any node in the theater COP architecture.

#### c. C2PC Platforms.

C2PC platforms that are connected to the COP architecture via a C2PC gateway are not subject to permissions that are assigned to CST participants. This gives C2PC platforms with read/write permissions the ability to add, delete, or modify any track in the COP track database. To reduce COP architecture vulnerabilities, C2PC platforms will be assigned read-only access unless write capability is required for data input.

ANNEX C

REPORTING RESPONSIBILITIES AND DATA MANAGEMENT

1. GENERAL.

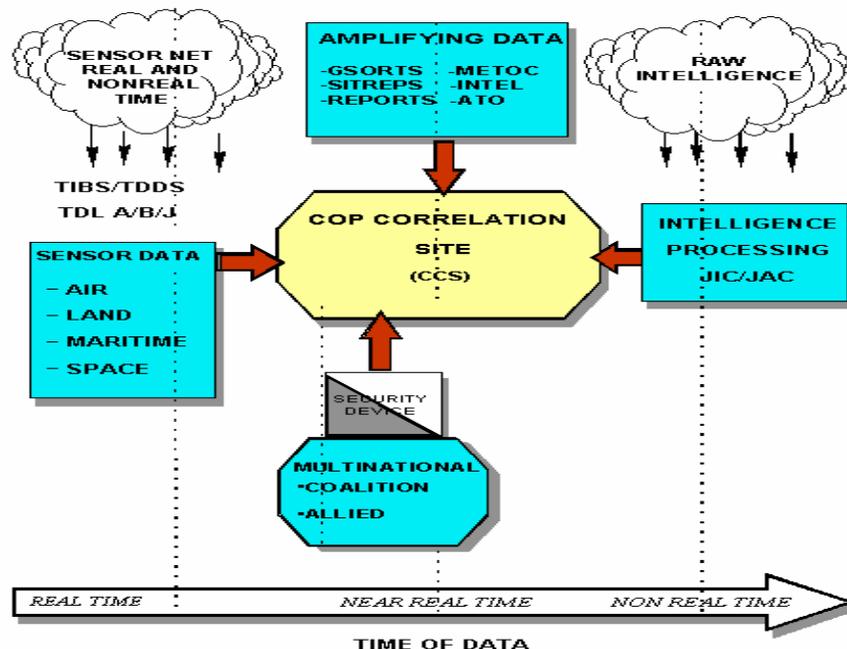
Appropriate track data and proper data management are critical for maintaining a relevant theater COP. Considering track information can come from multiple sources, it is possible that at times two or more sources will provide a contact report on the same object. COP operators at all levels must resolve data conflicts in the COP through the correlation and fusion process. In addition to track correlation and fusion, currency of track data is paramount to creation of a relevant theater COP.

a. Reporting Methods.

Reporting data from source locations may come in one of three ways: (a) automatic detection by remote, dedicated, and organic surveillance sensors; (b) units that automatically report their position or status (e.g., through global positioning system (GPS)); or (c) manually entered data from situation reports, GSORTS, or other source reports. Generally, sensor and GPS-based system reporting provide the most current data.

b. Manual Reporting.

Manually entered track data is the least preferred method to update COP displays. Manual inputs can provide intelligence and force or unit locations not available through automated reporting mechanisms; however, manual input of data is resource intensive and will usually be categorized as non-real time. Commanders at all levels should make automated reporting a top priority. When automated reporting is unavailable, Commander, USEUCOM may require manual reporting to increase situational awareness. In such cases, directives will be provided in appropriate orders. Figure C-1 depicts the relationship between data sources and currency of information.



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FIGURE C-1. DATA SOURCES AND TIME VALUE

**2. REPORTING RESPONSIBILITIES.**

The USEUCOM COP is a compilation of information derived from theater and national data collection and dissemination assets, the local COP/CTP from Combined/Joint Task Forces, the CTP from major joint exercises and component specific data for deployed units participating in a variety of non-CTF/JTF operational missions and exercises. The following delineates data reporting responsibilities for organizations within the USEUCOM AOR.

**a. Operational CTFs/JTFs.**

- (1) Operational CTFs/JTFs are responsible for creation of a local COP/CTP for the Joint Operational Area (JOA) that depicts air, land and maritime locations of friendly, hostile and neutral elements. This COP/CTP must be transmitted to the theater CCS at USEUCOM headquarters.
- (2) Provide operational overlays that enhance situational awareness of CTF/JTF operations.
- (3) Where applicable, import ATOs to GCCS-J; extract mode II or mode III data (whichever is more detailed); and transmit ATOs to USEUCOM CCS via GCCS-J.

**b. Service Components.****(1) USAREUR.**

- (a) Report garrison locations of major combat elements (down to division and separate brigade) within the AOR under USAREUR OPCON.
- (b) Report deployed locations of Army units engaged in non-CTF/JTF real-world missions and unilateral or multinational exercises conducted in atypical training areas. Examples include NATO supported missions and Partnership for Peace (PFP) exercises.
- (c) Provide relevant red ground order of battle data affecting deployed forces engaged in non-CTF/JTF real-world missions.
- (d) Provide operational overlays that enhance situational awareness of Army operations in support of non-CTF/JTF real-world missions.

**(2) USAFE.**

- (a) Report garrison locations of major combat elements (down to squadron) within the AOR under USAFE OPCON.
- (b) Report ground locations of deployed Air Force units engaged in non-CTF/JTF related real-world missions and unilateral or multinational exercises conducted in atypical training areas.
- (c) Provide relevant red air order of battle data affecting deployed forces engaged in non-CTF/JTF real-world missions.
- (d) Provide air track data on aircraft supporting non-CTF/JTF real-world missions. Examples: Humanitarian assistance flights; flights supporting NEO operations.

- (e) Provide operational overlays depicting air routes and other important aspects of non-CTF/JTF real-world missions.

(3) NAVEUR.

- (a) Report garrison locations of major commands within the AOR under NAVEUR OPCON.
- (b) Report locations of friendly, hostile, suspected hostile and neutral surface and subsurface vessels operating within the EUCOM AOR.
- (c) Report Marine units embarked on U.S. Naval vessels (This should be annotated in the remarks section of the track representing the Naval vessel.) and any Marine forces under NAVEUR OPCON.
- (d) Provide maritime air data produced by U.S. Naval assets operating within the USEUCOM AOR that are not participating in a data link network supporting the CTP of a CTF/JTF.
- (e) Provide operational overlays that enhance situational awareness of Naval operations within the USEUCOM AOR.

(4) MARFOREUR.

- (a) Report garrison locations of major commands within the AOR under MARFOREUR OPCON.
- (b) Report ground locations of Marine forces participating in non-CTF/JTF real-world missions and unilateral or multinational exercises conducted in atypical training areas except those under NAVEUR OPCON.
- (c) Provide operational overlays that enhance situational awareness of Marine operations in support of non-CTF/JTF real-world missions.

(5) SOCEUR.

- (a) Report garrison locations of major commands within the AOR under SOCEUR OPCON.
- (b) When security classification permits, report ground locations of SOF elements participating in non-CTF/JTF real world missions and unilateral or multinational exercises conducted in atypical training areas.

c. Joint Analysis Center (JAC).

When security classification permits, report significant intelligence track data impacting non-CTF/JTF operations and U.S. elements deployed to atypical training areas that is not already reported by a service component. Intelligence data provided to a CTF/JTF should be entered into the COP by the CTF/JTF to avoid duplication of data.

d. Exercise JTFs.

The lead component for a JTF exercise is responsible for creation of an exercise COP/CTP and transmission of that COP to the theater CCS at USEUCOM headquarters. The following guidelines are in effect for exercise COPs:

- (1) Incorporate notional and real-world track data for the exercise JOA required to meet the SA needs of the JTF commander.

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- (2) When creating notional tracks, name tracks beginning with the letters "EX" to facilitate identification.
- (3) Where applicable, import exercise ATOs to GCCS-J; extract mode II or mode III data (whichever is more detailed); and transmit ATOs to the USEUCOM CCS via GCCS-J.
- (4) In cases where simulation software is used in an exercise resulting in simulated tracks being reported as real-world tracks on the COP, that COP/CTP **must not** be incorporated into the theater COP. In such cases, an alternate means of receiving/displaying the exercise COP will be determined during the exercise planning process.

### 3. DATA MANAGEMENT.

Appropriate data management must occur at every reporting node regardless of location in the reporting hierarchy. General guidelines for data management are listed below. Specific track management guidance for tactical data link networks is found in reference f.

#### a. Track Correlation.

COP operators at all levels are required to provide correlation of data for which they have reporting responsibility. In most instances, COP software provides automatic correlation of different reports on the same object resulting in one track being displayed. When reports on the same object are not within correlation parameters, COP operators must scrutinize track data and manually correlate tracks to eliminate ambiguities.

#### b. Management of "Unknown" tracks.

The key to a successful COP is clear identification of all track data. Management of "unknown" tracks on the COP is critical. All COP operators must make every effort to correlate or eliminate "unknown" track data that falls under their area of responsibility.

#### c. Data Filters.

Track databases can be easily overwhelmed by extraneous information when filters are not established for receive platforms. The following guidelines apply to all reporting nodes (CCSs) that receive TDDS and TIBS broadcast information:

- (1) Set geographical filters for exclusion of data outside the boundaries of the USEUCOM AOR unless the reporting node requires additional information.
- (2) For CTFs/JTFs, geographical filters should be set to report broadcast information from within the JOA.
- (3) Additional guidance will be provided by the USEUCOM COP functional manager as required.

#### d. Manual Track Inputs.

When automated reporting is unavailable, critical information will have to be manually entered to meet reporting requirements. Enter manual track information according to the following guidelines:

- (1) New Track.
  - (a) Enter DTG of report in DTG field.

(b) At a minimum, enter information for the following fields: name, short name, class, alert, category, threat, flag, type.

(c) Enter "manual" in the "source" field to identify the track as manually generated.

(d) Enter amplifying information in "remarks" section to include number of personnel deployed, expected redeployment date and operation/exercise supported.

(2) New Unit.

(a) Enter DTG of report in DTG field.

(b) At a minimum, enter information for the following fields: name, short name, org type, flag, service, threat, echelon, alert.

(c) Enter "manual" in the "source" field to identify the track as manually generated.

(d) Enter amplifying information in "remarks" section to include number of personnel deployed, expected redeployment date and operation/exercise supported.

e. Track Latency Guidance.

The goal of a COP is to present accurate, timely information for use by decision makers. CCS COP operators at all levels have the responsibility to maintain current track data for which they have reporting responsibility. The following guidelines provide a baseline for ensuring COP currency. In some cases, tracks may exceed time limitations based on special situations. In all cases, extreme caution must be taken when deleting tracks to ensure relevant information is not lost.

(1) Air Tracks. Delete air tracks with time-late periods exceeding 2 minutes. This may be extended to accommodate system/network limitations that result in a preponderance of air tracks being reported on the COP at greater than 2 minutes. Coordinate with originator of late track data to determine status of tracks if uncertain of track validity.

(2) Ground Tracks. Update or delete electronically generated ground tracks with time-late periods exceeding 12 hours. For units that would normally remain fixed in a particular location, this period may be extended indefinitely; however, periodic updates should be accomplished to reflect currency of data.

(3) Maritime Tracks. Update or delete electronically generated non-naval surface, naval surface and subsurface maritime tracks with time-late periods exceeding 12, 24 and 96 hours respectively. Update or delete manually generated maritime tracks with time-late periods exceeding 48 hours. This may be extended for high interest tracks that depend on intelligence data for updates.

(4) Space Tracks/TBM Tracks. Update or delete space tracks with time-late periods exceeding 2 hours unless required for additional analysis.

f. Dissemination of COP Data.

(1) The USEUCOM J3 is the approval authority for dissemination of theater COP data to organizations within the AOR that are not participant CCSs and to all organizations outside the USEUCOM theater. Unless the requesting organization is a potential COP data contributor, the

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request will most likely be satisfied by providing a one-way COP feed. The following guidance is provided for requesting theater COP data:

- (a) Submit a formal request via official message traffic to USEUCOM J3. (DMS: ECJ3; AUTODIN: HQ USEUCOM Vaihingen GE/J3//) Contact the USEUCOM COP functional manager @ DSN 430-8330 to ensure receipt of request.
- (b) Provide organization information and justification for the requirement to receive USEUCOM COP data.
- (c) State in the message text that COP data will not be disseminated beyond the requester's organization.

(2) All child node CCSs in the USEUCOM COP architecture have the authority to disseminate COP data to subordinate units as required.

g. Data Provided from External Sources.

Occasionally, data originating from outside the USEUCOM AOR may be required to complete the theater COP. CCSs requiring data from external sources must seek approval from the USEUCOM COP functional manager prior to incorporation of this data into the theater COP.

h. Foreign Releasability.

Operations within the USEUCOM AOR sometimes include multinational forces organized within the structure of an alliance or coalition. In most cases, dissemination of the COP to coalition or alliance partners requires sanitization. The senior U.S. commander has the responsibility to ensure COP data is properly sanitized using approved security guards before distribution to coalition and alliance forces. Specific cautions on sharing multinational information include:

- (1) Ensure the involvement of the foreign disclosure officer in all releasability issues.
- (2) Ensure releasability of information is consistent with allied and coalition agreements.
- (3) Coordinate security guard requirements with appropriate agencies and data providers.
- (4) Ensure proper accreditation of all security guards.

## ANNEX D

INTELLIGENCE REPORTING REQUIREMENTS

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**1. GENERAL.**

a. Intelligence in the COP refers to the hostile and other intelligence-related portions of that display. Specifically, the correlated, fused, and associated near-real time tracks (NRT data), order of battle/general military intelligence (OB/GMI) data, geospatial, imagery & video from national, theater, and tactical sources and problem set specific intelligence assessments & estimates.

b. The Theater COP links intelligence data to the supported operation and displays this linked intelligence and operational data together in a common operating environment. This is done by linking the relevant intelligence data and processes to the specific operational mission. The resulting Theater COP is an accumulation of all the individual intelligence data sets supporting specific operational problems. Therefore, fundamental to dissemination of a Theater COP is the definition of each USEUCOM mission and management of the intelligence data, or Problem Set, that supports that mission.

c. The COP will be the theater's all-source depiction of the current USEUCOM battlespace. The fundamental elements of the intelligence picture will be assessed hostile and neutral force information displayed within the context of the physical environment and the reported friendly situation. The overriding objective will be to ensure the COP depiction is as accurate and as close to Near Real-Time (NRT) as practical. Intelligence COP data will be replicated from the Top Secret/Special Compartmented Information (TS/SCI) security classification level to the GENSER (SECRET) and Coalition Releasable sides for inclusion on the COP as required by the consumers.

**2. REPORTING RESPONSIBILITIES.**

a. European Plans and Operations Center. The EPOC will identify the theater operational areas of concern and develop an appropriate data set requirement for display on the theater COP. This intelligence data set requirement may include correlated intelligence data from the various track and GMI and imagery data bases, as well as analytical assessments and estimates. The EPOC will work collaboratively with the JAC to identify the hostile/neutral tracks associated with this requirement. Track requirement definition must at a minimum include track type, track echelon and unit type (ground track only), track allegiance and periodicity for track update.

Once operational data set requirements are identified, the EPOC will task appropriate staff elements and/or theater components with production and maintenance of specific intelligence data sets and monitors/manages execution of this production mission. Intelligence data set production for the Theater COP is a top-down managed and bottom-up executed mission.

b. Joint Analysis Center. The JAC, in coordination with the EPOC, will identify intelligence problem sets for display and maintenance on the USEUCOM COP. These intelligence problem sets will correspond to the operational areas of concern and will display an appropriate level of track fidelity to support theater decision making, situational awareness and a shared operational picture. The JAC will create, disseminate and manage specific tracks as tasked by the EPOC.

c. Service Components. In coordination with the JAC, USEUCOM components will be responsible for fusing, correlating, associating and maintaining current track or OB/GMI data on hostile or other activities affecting deployed forces engaged in non-CTF/JTF exercises and operations as assigned. The assignment of OB/GMI production will be based on federation agreements that are tasked and managed by the EPOC

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and based on the delegated command's warfighting capabilities. The components will create, disseminate and manage specific tracks as tasked by the EPOC.

d. Operational CTFs/JTFs. When appropriate capabilities are available and corresponding taskings are issued (through the orders process), the responsibilities for fusing, correlating, associating and maintaining current track or OB/GMI data on hostile or other activities affecting deployed forces may be delegated to a CTF/JTF. In coordination with the JAC, the CTF/JTF will manage and provide relevant hostile and neutral track data within the defined Joint Operational Area. The assignment of OB/GMI production will be based on federation agreements that are tasked and managed by the EPOC and based on the delegated command's warfighting capabilities. The CTF/JTF will create, disseminate and manage specific tracks as tasked by the EPOC.

### **3. ELEMENTS OF THE INTELLIGENCE PROBLEM SET ON THE COP.**

a. NRT Tracks. The theater's neutral and hostile track information is derived from the rapid fusion and analysis of intelligence source information, tactical reporting, and other time-sensitive intelligence data which concentrates on the current position, movement, and operational status of hostile and neutral units. These tracks depict the responsible intelligence nodes' assessment of military forces identified through the deliberate OB process. Each intelligence node becomes a fusion site for its types of tracks and can accept input from other nodes. Track management is critical to keeping an accurate and concise intelligence picture. Within the COP, tracks add value by providing structured data regarding the assessed in-flight/underway/out-of-garrison position, movement, and operational status of hostile and neutral aerospace, air defense, maritime, land, special operations, and unconventional units. This information will be focused on specified areas in and around high-interest portions of the USEUCOM AOR, and managed via the theater's network of GCCS-I3 Tactical Database Managers. Users/producers on the network receive correlated data from responsible fusion sites via a GCCS broadcast medium.

b. GMI/OB Databases. Theater OB production and management includes both local and national. Local production responsibilities may be federated to the subordinate intelligence organizations deployed in support of specific operations. The local effort focuses on the rapid, frequently updated development of data for inclusion in the COP and results in the production of GCCS-J Intelligence Shared Data Server (ISDS) "local records" capable of being exchanged with theater component organizations and other interested recipients. These "local records" can be viewed using GCCS-J tools from either the Theater's GCCS-J ISDS or a component's local ISDS. The theater ISDS contains the same GMI data as the national Modernized Integrated Database (MIDB) database and receives continual updates from MIDB to the strategic view of the ISDS. Theater ISDS database records will be replicated. This technology allows changes made to one ISDS database to transfer to other ISDS databases automatically and in near real time to ensure all ISDS databases throughout the theater contain the same information. The ISDS database(s) may also be replicated inter-Theater (USCENTCOM, USPACOM, etc.). Components may choose to replicate the ISDS to their subordinate units.

c. Imagery/Geospatial Data and Products. The Imagery Product Library (IPL) is used by USEUCOM as the primary means for storing, browsing, and disseminating imagery products that have been created after exploitation and analysis of collected imagery. USEUCOM IPL servers contain primary imagery and finished imagery products produced by Theater organizations. The IPL contains imagery and products from the full range of military sensor systems and sources, as well as commercial imagery and products. Imagery sensor data includes full and partial digital primary images from electro-optical (EO), infrared, synthetic aperture radar (SAR), and multi-spectral (MS) sensors. Theater IPL servers operate and store imagery at the SCI, SECRET, NATO SECRET, and REL NATO classification levels. Users from within the Theater and anywhere in the Intelligence Community are able to access USEUCOM imagery and image products. USEUCOM operates primarily in the "pull" mode – customers determine their requirements and use the Imagery Transformation Service (ITS) imagery server within GCCS-J to identify and retrieve imagery metadata. ITS supports the storage and linking of imagery to GMI facilities and a

common mapping background. Installation, facility, and site records in the ISDS are also linked to available imagery in the ITS.

Geospatial products are available for COP display from the USEUCOM Geospatial database (GDB). Data is managed within the GDB as both raster (images) and vector products. Specific mapping products that can be accessed include CDRG, CIB and VPF.

d. Graphic Intelligence Assessment (GIA). The GIA provides the USEUCOM Theater's overarching threat assessment for a specific COP problem set. It is the single entry point for intelligence analysts up to national agency desk officer to access current theater assessments on designated problem sets. This assessment will address the theater Priority Intelligence Requirements (PIR) and as a minimum provide the situation background data, a current assessment, and a 48 to 72 hour projection. Periodicity of updates will be determined collaboratively by the EPOC and the JAC Lead Regional Analyst and will depend on the Theater priority of the problem set. The GIA includes both textual and graphic products that can be viewed in different combinations and layers to support operations and planning.

e. Collection Operations. A future capability for the COP is to provide visibility into the collection management (CM) process using the Collection Management Mission Applications (CMMA). CMMA is to help collection managers respond to dynamic operational requirements through the effective synchronization and visualization of intelligence Tasking, Collection, Processing, Exploitation and Dissemination (TCPED) activities. An automated collection plan generating capability for each problem set provides visibility over all of the intelligence requirements for the operation. This situational awareness enables the collection managers to better integrate all collection disciplines into the overall collection effort for a specific problem set. This automated collection plan tool creates a collection plan linking the planners Priority Intelligence Requirements (PIR) with their associated Specific Intelligence Requirements (SIR) and the discipline specific collection requirements (CR) into an easy to access and read document for each problem set. Additionally, this tool will provide visibility on the reporting generated by the CRs in order to refine or cancel a specific CR when portions or all of it have satisfied a PIR or SIR.



## ANNEX E

PERSONNEL AND TRAINING REQUIREMENTS

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**1. GENERAL.**

Commanders must ensure that they have highly trained and proficient COP operators to build a complete and accurate COP. In many cases, operator functions will involve the system administrator. The required skills listed here do not imply that COP operators will perform system administration duties. Rather, they serve to provide general skills necessary to maintain a COP, proficiency in operation of the system, and provide a knowledge base of awareness of the system functions. There must be a close partnership between operators and system administrators.

**2. REQUIRED SKILLS.**

The on-line help function for GCCS COP provides a good description of each function. Using the on-line help function in conjunction with scenario-based exercises can provide any operator with rudimentary skills required for displaying and manipulating the COP. Formal training should be sought for COP operators involved with the CTP/COP on a daily basis.

a. Basic Skills.

Know the following basic GCCS functions:

- (1) Log-in/log-out procedures.
- (2) COP display capabilities.
- (3) E-mail and web browser capabilities.
- (4) Interpret displayed data.
- (5) Create tracks, overlays, PIM tracks and track groups.
- (6) Deactivate overlays and declutter display.

b. Advanced Skills.

- (1) Understand the COP architecture, where data is originating and how data is incorporated into the COP.
- (2) Perform preliminary troubleshooting to assist system administrators in isolating hardware/software problems.
- (3) Know how to create slides, recall slides and mail slides.
- (4) Know how to manipulate the COP display to meet the needs of the supported commander.
- (5) Perform track data management in accordance with guidance in Annex C.
- (6) Be able to upload and manipulate maps.

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(7) Be able to capture, save and recall data on COP displays.

### **3. PERSONNEL.**

a. CCS requirements demand proficient data managers. Every effort must be made to train personnel assigned to a CCS as COP operators prior to arrival. When components source for COP operators they need to specify that personnel need formal training or experience in COP operations prior to arrival in the AOR. Even if formally trained, personnel should refresh their skills by reviewing appropriate COP operator handbooks or running scenario-based examples if they have not used COP on a daily basis.

b. Personnel trained as COP operators and system administrators need to be identified and tracked due to the special training, complexity of skills, and experience required to successfully manage the COP. The components will develop a means of identifying COP operators and system administrators to facilitate the identification of trained personnel for potential deployment in support of contingency operations.

### **4. TRAINING OPPORTUNITIES.**

a. Joint Maritime Command Information System (JMCIS) Operator School - Course #J2212306 (NTCS-A Display Operator for three weeks.). NOTE: The Navy has responsibility for joint COP training. The name and course number may change as the course is tailored for GCCS COP.

b. DISA's Mobile Training Team (MTT), call (312) 223-5853.

c. Web sites with links to GCCS COP training:

(1) Air Education Training Command (AETC): <http://nmcc20a.nmcc.smil.mil/training.html>

(2) Single Service Training Manager (SSTM): <https://www.afxo.pentagon.smil.mil/gccs-sstm/Training%20Avail.htm>

## ANNEX F

ADMINISTRATIVE RESPONSIBILITIES

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**1. EUCOM.**a. ECJ3.

- (1) Maintain configuration management of the theater COP architecture.
- (2) Identify information requirements above and beyond those already defined in this directive.
- (3) Control dissemination of the theater COP to external organizations.
- (4) Provide overall management of theater COP data.
- (5) Provide DJTFAC support for establishment of a CCS for CTFs/JTFs.
- (6) Conduct COP assistance visits to CCSs as required.
- (7) Enforce COP reporting requirements defined in this directive.
- (8) Provide filter guidance for global broadcast information.
- (9) Maintain a UID registry on the USEUCOM COP SIPRNET homepage.
- (10) Ensure USEUCOM meets NMCC reporting requirements.
- (11) Coordinate COP/C2PC training for the theater.

b. ECJ6.

- (1) Establish the theater CCS at Patch Barracks and O&M appropriate GCCS COP, C2PC and ELVIS servers to support COP users throughout the theater.
- (2) Provide technical assistance to ECJ3 and CCSs for establishment of the theater COP architecture.
- (3) Provide communications planning for establishment of appropriate communications links to support the theater COP architecture.
- (4) Provide technical assistance for establishment of approved COP feeds to external organizations.
- (5) Act as the accounts manager for GCCS COP, C2PC and ELVIS participants.
- (6) Provide DJTFAC support for establishment of a CCS for CTFs/JTFs.
- (7) Support COP assistance visits as required.
- (8) Provide 24x7 on-call COP technical support for the European Theater Command Center (ETCC).

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(9) Monitor COP related communications links and report outages to the ETCC and USEUCOM COP Functional Manager.

(10) Provide technical support for COP/C2PC training.

c. ECJ2.

(1) Coordinate incorporation of intelligence data for the COP.

(2) Maintain the USEUCOM Map server.

(3) Act as the intelligence data manager for GCCS I3.

## **2. Components/CCSs.**

a. Maintain the COP in accordance with reporting responsibilities and data management requirements defined in this directive.

b. Designate a COP Functional Manager to oversee COP operational requirements within the component's AOR and to act as the primary POC for coordination of COP related issues with USEUCOM and other pertinent organizations.

c. Establish a COP operator and system administration personnel structure sufficient to meet component and USEUCOM requirements and provide relevant POC information to the USEUCOM COP Functional Manager (DSN 430-8330).

d. Report system outages that adversely affect COP reporting requirements, estimated time of restoral (ETR) and other pertinent COP related issues via the USEUCOM COP newsgroup (gccs.COP.eucom).

## **3. CTF/JTF CCSs.**

a. Maintain a local COP/CTP for the JOA in accordance with reporting responsibilities and data management requirements defined in this directive.

b. Designate a COP/CTP Functional Manager to oversee COP operational requirements within the JOA and to act as the primary POC for coordination of COP related issues with USEUCOM and other pertinent organizations.

c. Establish a track management and system administration personnel structure sufficient to meet CTF/JTF and USEUCOM requirements and provide relevant POC information to the USEUCOM COP Functional Manager (DSN 430-8330).

d. Identify outstanding support requirements for establishment of a CCS to ECJ3/J6 (DSN 430-8330/5715).

e. Report system outages that adversely affect COP reporting requirements, ETR and other pertinent COP related issues via the EUCOM COP newsgroup (gccs.COP.eucom).

## ANNEX G

REFERENCES

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- a. CJCSI 3151.01A (In Coordination), 1 March 2002, "Global Command and Control System Common Operational Picture Reporting Requirements"
- b. USEUCOM Directive (ED) 55-11 (Coordinated working copy), July 2001, "Joint Task Force Headquarters Policy, Procedures and Organization"
- c. CJCSM 3150.01, 30 June 1999, "Joint Reporting Structure General Instructions"
- d. DISA publication, 22 August 1996, "Department of Defense Joint Technical Architecture" Version 1.0
- e. Joint Pub 6-0, 30 May 1995, "Doctrine for Command, Control, Communications and Computer (C4) Systems Support to Joint Operations"
- f. CJCSM 6120.01B, 01 March 2000, "Joint Multi-TADIL Digital Information Link (TADIL) Operating Procedures"
- g. CJCSM 3115.01, 1 October 2000, "Joint Data Network Operations"
- h. Joint Pub 1-02, 12 April 2000, "Department of Defense Dictionary of Military and Associated Terms"

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## ANNEX H

GLOSSARY

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Air Tasking Order (ATO). Used to task and disseminate to components, subordinate units, and command and control agencies those projected sorties, capabilities forces to targets, and specific missions. Normally provides specific instructions to include call signs, targets, controlling agencies, etc., as well as general instructions.

Area of Responsibility (AOR). A defined area in which responsibility is specifically assigned to the commander of the area for the development and maintenance of installations, control of movement, and the conduct of tactical operations involving organizations under the commander's control, along with parallel authority to exercise these functions.

Coalition. A coalition is an ad hoc arrangement between two or more nations for common action; for instance, the coalition used in the Gulf War. Coalitions are typically formed on short notice and can include forces not accustomed to working together.

Combined. Operations conducted between two or more forces or agencies of two or more allies. When all allies or Services are not involved, the participating nations and Services shall be identified; e.g., Combined Navies. Note: combined forces consist of allies and not coalition members.

Common Operating Environment (COE). DOD standards-based C2 software policy developed in order to support applications services, applications platform services, and applications platform cross-area services among joint and service/agency automated systems. The COE is identified in volume II of the Tactical Architecture for Information Management (TAFIM). [DII Master Plan].

Common Operational Picture. The COP is the integrated capability to receive, correlate, and display a Common Tactical Picture (CTP), including planning applications and theater-generated overlays/projections (i.e., Meteorological and Oceanographic (METOC), battle plans, force position projections). Overlays and projections may include location of friendly, hostile, and neutral units, assets, and reference points. The COP may include information relevant to the tactical through strategic level of command. This includes, but is not limited to, any geographically oriented data, planning data from JOPES, readiness data from GSORTS, intelligence (including imagery overlays), reconnaissance data from the Global Reconnaissance Information System (GRIS), weather from METOC, predictions of nuclear, biological, and chemical (NBC) fallout, and Air Tasking Order (ATO) data.

Common Tactical Picture. The CTP is derived from sensor information and other sources and refers to the current depiction of the battlespace for a single operation within a combatant commander's AOR including current, anticipated or projected, and planned disposition of hostile, neutral, and friendly forces as they pertain to US and multinational operations ranging from peacetime through crisis and war. The CTP includes force location, real time and non-real-time sensor information, and amplifying information such as METOC, SORTS, and JOPES.

Command, Control, Communications, Computers, and Intelligence (C4I) Systems. Integrated systems of doctrine, procedures, organizational structures, personnel, equipment, facilities, and communications designed to support a commander's exercise of command and control across the range of military operations. The systems that are the information exchange and decision support subsystems within the total force command and control support system. The support systems include intelligence information gathering and analysis.

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Constant Source . A near real-time dissemination system of ELINT data to theater units. It is used to support all mission areas. Multi-source data is received from Tactical Digital Information Exchange System Broadcast/Tactical Receive Equipment (TADIXS B/TRE) as well as National and airborne ELINT broadcasts. Inputs and outputs are TACELINT. System supports intelligence analysis, indications and warning and targeting. Also interfaces with LOCE for transmission of TACELINTs for LOCE AOI.

COP Correlation Site (CCS). The CCS is the location where all data in the COP is received, correlated, managed, and disseminated. CCSs create the backbone of the COP architecture.

Correlation. Matching display information with the actual contact it represents. Example: Making the determination that an aircraft is the same as indicated on the visual display. There are two types of correlation, manual and automatic. Manual correlation is performed by COP operators when two tracks for the same object appear on the display. Automatic correlation is performed by the software when a track is reported from two different feeds (For example: A track reported on TIBS and TDDS simultaneously automatically correlated into one track).

Crisis situation. An incident or situation involving a threat to the United States, its territories, citizens, military forces, possessions, or vital interests that develops rapidly and creates a condition of such diplomatic, economic, political, or military importance that commitment of US military forces and resources is contemplated to achieve national objectives. A crisis situation will prompt the release of an alert order.

Fusion. The combining of automatically correlated information with data that refines the information or presents it in an intuitive format. Fused data in many cases will arrive later than real or near-real-time data.

GCCS I3 (Integrated Imagery and Intelligence). I3 consists of GCCS intelligence mission applications for processing national and tactical order of battle (OB), general military intelligence (GMI), intelligence finished imagery products, and intelligence, surveillance and reconnaissance (ISR) video. It is built upon the GCCS COP and utilizes the GCCS COP geographical display capabilities to link geographic points of reference to intelligence data. This data is synchronized throughout the theater GCCS COP sites via CST and data base replication.

High Interest Tracks. High Interest Tracks are designated by the JFC or above that carry significance for any reason; examples are use of a unique weapon system, VIP tracks, or special missions. Size of the track does not matter in determining interest value.

Joint Interface Control Officer (JICO). The JICO is the senior multitactical digital information link (TADIL) interface control officer (ICO) in support of JTF operations. The JICO is responsible for effecting planning and management of the joint multi-TADIL network within a theater of operations (reference g).

Joint Operations Area (JOA). That portion of an area of conflict in which a joint force commander conducts military operations pursuant to an assigned mission and the administration incident to such military operations.

Joint Technical Architecture (JTA). The JTA specifies a set of performance-based, primarily commercial, information processing, transfer, content, format, and security standards. These standards specify the logical interfaces in command, control, and intelligence systems and the communications and computers that directly support them.

Major Combat Element. Those organizations and units described in the Joint Strategic Capabilities Plan that directly produce combat capability. The size varies by Service, force capability, and total number of

such elements available. Examples are Army divisions and separate brigades, Air Force squadrons, Navy Task forces, and Marine expeditionary forces (reference h).

Officer in Tactical Command Information Exchange System (OTCIXS). OTCIXS is a 2.4 kbps UHF demand assigned multiple access (DAMA) multiuser command and control SATCOM data link circuit that provides the primary means of disseminating OTH-T information within Navy battle groups. It is also used to move OTH data between battle groups, or between battle groups and shore-based commands. OTCIXS was designed to operate as a network supporting up to 60 users. In practice, many more than 60 users are often on the net, resulting in severe netloading problems and delayed reporting.

Order of Battle (OB). The identification, strength, command structure, and disposition of the personnel, units, and equipment of any military force.

Organic. Assigned to and forming an essential part of a military organization. Organic parts of a unit are those listed in its table of organization for the Army, Air Force, and Marine Corps, and are assigned to the administrative organizations of the operating forces for the Navy.

Significant Track. A high-interest track that is behaving in an unusual manner, of major impact on the operation, warranting attention for any reason, or could pose a threat to a defended area. Tracks specified as special interest in the ALERT ORDER or WARNING ORDER. Applies to any air, ground, or maritime component.

Tactical Data Link (TDL). A Joint Staff approved, standardized communication link suitable for transmission of digital information. Current practice is to characterize a tactical data link (TDL) by its standardized message formats and transmission characteristics. TDLs interface two or more command and control or weapon systems via a single or multiple network architecture and multiple communication media for exchange of tactical information.

Tactical Information Broadcast System (TIBS). The Tactical Information Broadcast System (TIBS) is a multiuser command and control data link. It provides a full duplex binary data path from up to 10 producers to as many as 240 full duplex broadcast recipients with query capability, and an unlimited number of receive-only nodes. The primary source of information carried on TIBS is RIVET JOINT. This circuit provides data on air intercepts, ground control intercept radar sites, target acquisition radars, and early warning radars. The broadcast can be received via satellite or line of sight. Data rates can be selected from 2.4, 4.8, 9.6, or 19.2 kbps. TIBS can be received by TIBS Interface Units (TIU) (full duplex), TIBS Receive Units (TRU) (half duplex), Commander's Tactical Terminal Hybrid Receive (CTT H/R), and the MATT radio.

Tactical Reconnaissance Information and Exchange System (TRIXS). Tactical Reconnaissance Information Exchange System is a multiuser command and control data link. It is a UHF line-of-sight, time division multiple-access (TDMA) narrow band radio system that supports dissemination of Guardrail Common Sensor (GRCS) data from the Integrated Processing Facility (IPF), and up to four other producers, to as many as 100 battlefield users. Either the RC-12 or U-2/TR-1 can provide relay services for the system.

Timeliness. The acceptable age of the latest report of a track is determined based on the expected reporting frequency of the platform, unit, or facility. The following terms will be used to refer to the timeliness characteristics of COP tracks and not overlays.

Real Time. Timeliness of data or information delayed only by the time required for electronic communication from the sensor to the display platform (radar to scope on an AWACS). This implies that there are no noticeable delays. Data is real time when current active tracks show

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current location, updates occur within seconds, and the only delay is that of electronic communication between sensor and display platform.

Near-Real-Time. Data or information delayed by the time required for electronic communication and automatic data processing. Data is older than real time due to data processing, but does not impact the current planning cycle--no significant delays (sensor-communications network- display platform).

Non-Real-Time. Data older than near real time that may impact the planning cycle; tracks should not be considered actual locations but last reported and "in the general vicinity." The reason for delay may be technical or procedural. In general, non-real time data may be considered "static" data.

Track. The graphic or alphanumeric representation of an object or point whose position or characteristics are collated from sensors or other data sources; or, a collated set of data items associated for the purpose of representing the position or characteristics of a specific object or point.

Track Management. The act of entering, correlating, updating, fusing, deconflicting, and otherwise maintaining assigned tracks using existing automated tools or manual methods.

TRAP Data Dissemination System (TDDS). TDDS provides near-real-time contact data to a variety of Tactical Receive Equipment (TRE), Constant Source, and SUCCESS Radio users. TRAP receives input from local and remote collection systems, converts the data to a binary format, encrypts, encodes, and provides it for transmission to a UHF communications satellite on a 2400 bps circuit.

**ACRONYMS**

AOI	Area of Interest
AO	Area of Operations
AOR	Area of Responsibility
ASAS	All Source Analysis System
ATO	Air Tasking Order
AWACS	Airborne Warning and Control System
C2	Command and Control
C2PC	Command and Control for Personal Computer
C4	Command, Control, Communications, and Computers
C4I	Command, Control, Communications, Computers, and Intelligence
C4ISR	Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance
CCS	COP Correlation Site
CJCS	Chairman of the Joint Chiefs of Staff
CJTF	Commander of the Joint Task Force
CONOPS	Concept of Operations
COP	Common Operational Picture
CST	COP Synchronization Tool
CTP	Common Tactical Picture
DISA	Defense Information Systems Agency
DoD	Department of Defense
ELINT	Electronics Intelligence
ELVIS	Enhanced Link Virtual Information System
GCCS	Global Command and Control System
GMI	General Military Intelligence
GSORTS	Global Status of Resources and Training System

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I3	Integrated Imagery and Intelligence
IDB	Integrated Database
IPL	Imagery Products Library
JAC	Joint Analysis Center
JFACC	Joint Force Air Component Commander
JFC	Joint Force Commander
JFLCC	Joint Force Land Component Commander
JFMCC	Joint Force Maritime Component Commander
JFSOCC	Joint Force Special Operations Component Commander
JIC	Joint Intelligence Center
JICO	Joint Interface Control Officer
JIPB	Joint Intelligence Preparation of the Battlespace
JMCIS	Joint Maritime Command Information System
JOA	Joint Operations Area
JOPES	Joint Operations Planning and Execution System
JSTARS	Joint Surveillance and Target Acquisition Radar System
JTA	Joint Technical Architecture
JTF	Joint Task Force
JTIDS	Joint Tactical Information Distribution System
LAN	Local Area Network
LOS	Line of Sight
MDX	Message Data Exchange
MIDB	Modernized Integrated Database
MIDS-LVT	Multifunction Information Distribution System – Low Volume Terminal
MIL STD	Military Standard
MLS	Multiple Level Security
MOOTW	Military Operations Other Than War

MTT	Mobile Training Team
NBC	Nuclear, Biological, and Chemical
NEO	Non-combatant Evacuation Operation
NMCC	National Military Command Center
OBREP	Order of Battle Report
OJT	On the Job Training
OPREP	Operations Report
OTCIXS	Officer in Tactical Command Information Exchange System
OTH	Over the Horizon
PIM	Position of Intended Movement
SB BFT	Space-Based Blue Force Tracking
SecDef	Secretary of Defense
SIPRNET	Secret Internet Protocol Router Network
SITREP	Situation Report
SOF	Special Operations Forces
TAOC	Tactical Air Operations Center
TBM	Theater Ballistic Missile
TCP/IP	Transmission Control Protocol/Internet Protocol
TDDS	TRAP Data Dissemination System
TDL	Tactical Data Link
TIBS	Tactical Information Broadcast System
TMD	Theater Missile Defense
TRAP	Tactical Related Applications
TRE	Tactical Receive Equipment
USMTF	United States Message Text Format
WAN	Wide Area Network

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