

## EXECUTIVE SUMMARY

### THE LINKED OPERATIONS-INTELLIGENCE CENTERS EUROPE

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Linked Operations-Intelligence Centers Europe (LOCE) is a United States European Command (USEUCOM) system that provides U.S. forces, NATO forces, and other national allied military organizations with near-real-time, correlated situation and Order of Battle (OB) information for threat analysis, target recommendations, indications and warning, and cueing of collection assets. With its intelligence data exchange capabilities and secure voice communications, LOCE facilitates multi-national operations and integrated allied participation in the intelligence and operations planning cycles while operating at the U.S. SECRET - Releasable to NATO and the NATO SECRET classification level.

LOCE has demonstrated that integrating the capabilities of people, hardware, information processing, and communications can economically, swiftly, and effectively meet an extraordinary array of requirements. By developing a customer-culture rather than a producer-culture, LOCE has combined insight with reality to provide almost instant support to customer requirements.

The LOCE system brings a fused, all source intelligence focus to current crisis situations with the capacity to support future operations and exercises. The system is structured to present a complete picture of the threat environment with the ability to highlight specific critical nodes. Since it is a demand driven system, the operators determine the intelligence requirements and resulting databases. This strategy accommodates rapidly changing requirements in high tempo operational scenarios.

Basic LOCE functions include database and repository services, automatic sensor report correlation, electronic mail, imagery dissemination, graphical situation displays, and secure voice communications. Databases are maintained at the Correlation Center (CORCEN), located at the USEUCOM Joint Analysis Center (JAC), in the United Kingdom. The Intelligence Reports Database (IRDB) presents the results of near-real-time sensor reports and intelligence reports received from units "on the ground". The Combined Orders of Battle (COB) holds the results of OB analysis by the designated OB manager. The Imagery database consists of a storage and retrieval system to provide U.S. and allied imagery to consumers. This imagery forms the bases for operational planning, Battle Damage Assessment (BDA), and confirmation of OB analysis results. The LOCE Bulletin Board, and HTML servers at DIA, the JAC, and the United States Army Intelligence Readiness Facility (USAIRF) provides a database for unstructured text reporting for items of general interest. All together, these databases form the basis for a common and consistent view of the area of concern.

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Using a LOCE Workstation (LWS) an analyst can query against one of more system databases. Database records satisfying the query are displayed on both data records and as symbols on a map. This combination of a graphical display with the pertinent data results in a valuable situation display. The display can be used to support threat analysis, resulting in situation awareness and targeting recommendations for example. Once the information request has been fulfilled, the user can easily retrieve additional information on the requested entities. Each user can establish a set of parameters for future reporting by creating an event trap. This event trap runs at the CORCEN, waiting for reporting that meets the criteria requested. As new data arrive that matches the user's request, it is automatically sent to the LWS. This automatic function is extremely useful for Indications and Warning (I&W) automatically alerting the user to new, valuable intelligence. LWS customers can exchange electronic mail, or use the system's secure voice function to interact in either a textual environment, for example pass information requests, or interactive voice discussions ensuring complete coordination of actions. The electronic mail is multi-media, allowing the exchange of imagery, graphics, or text data. LOCE provides a "Sent Display" function that allows customers to share the graphic representations of the maps and data displays. This powerful capability includes the hyper-links to the actual data records so customers have exactly the same data in front of them at the same time, insuring a common picture of the battle space.

LOCE has evolved from an intelligence exchange mechanism and analyst's tool to a system that melds Intelligence with Operations: "Ops-Intel", common databases, master reconnaissance lists, artillery baselines, and situation displays that are easily exchanged between customers or commands, ashore or afloat. Military intelligence summaries, operational activity reporting, and baseline documentation are exchanged with all interested parties. Tactical reconnaissance (TAC RECCE) results, bomb damage assessments, and daily TAC

RECCE flight paths are posted and updated. LOCE is used to pass weather information, electronic and weapons threat rings, and other mission planning information. The latest addition to the operational capability of LOCE is Shared Early Warning (SEW) of hostile missile launches from outside NATO into a NATO nation.

The LOCE system architecture consists of an Automated Data Processing (ADP) component, a communications component, and interfaces with external systems. Primary ADP components include a fixed CORCEN, a mobile CORCEN, Web servers, and the LWS. Communications is implemented via integrated voice and data over dedicated and dial-up circuits. These circuits are generally carried over leased land lines, military communications and indigenous satellite communications. External system interfaces include near-real-time sensor reporting such as track updating, other intelligence products like the U.S. NATO Releasable Integrated Database (IDB), and input from foreign intelligence dissemination systems and sources.

LOCE is a successful front runner in meeting the goals of the U.S. Government in the areas of Coalition Warfare, streamlining and increasing the utility of intelligence, and responsiveness to customer needs. It's ability to integrate and correlate data, rapidly disseminate the data based on consumer demands (pull rather than push), and its flexibility in coalition warfare allow it to stand out among information management systems. LOCE Assists in maintaining the intelligence infrastructure by distributed database management, rationalized intelligence databases supporting multi-source Order of Battle, artificial intelligence applications in correlation, and enhanced targeting applications.

Major savings have been realized by the application of sound management practices in an environment characterized by a rapidly changing threat, expanding mission, and a rapidly expanding customer base. For example, the LOCE evolutionary acquisition process has included user feedback that is critical for defining requirements, early fielding of operational capabilities, formal documentation and configuration management as well as an open systems architecture. This approach is clearly demonstrated by the new requirement for Shared Early Warning. Relying on existing external interfaces such as Tactical Receive Equipment (TRE) and the Theater Intelligence Broadcast System (TIBS) with an existing display capabilities and minor modification to event trap processing enables LOCE to bring a unique new application to consumers quickly effectively and with minimum expense.

While the LOCE system is actively pursuing new technology and software we are acutely aware of our customer base. Our customers in many cases lack the resources and qualified personnel to adjust to rapid changes in either software or hardware. We have to weigh each change against a value added criteria. Keeping the system simple has enabled it to have great utility in a limited resource environment.

Future policy and doctrine for application of LOCE to coalition activities, operations other than war, global environmental monitoring and other future allied and friendly nation needs can be formulated and implemented through mechanisms such as established security assistance programs. LOCE provides a low-cost, available system for allied nations which will foster unifying efforts through the sharing of information and technology.

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