

Advanced Warfare Environment (AWarE)

A BMC4I/SR Productivity Suite for Today's Warfighter

The U.S. Army Space and Missile Defense Command's Future Operational Capability Tactical Operations Center serves as a mobile testbed for Command, Control, Communications, Computers and Intelligence (C4I) hardware and software technologies. The testbed's mission is to allow software and hardware technologies to be evaluated in a warfighter environment. AWarE provides the means to evaluate new and innovative software C4I technologies through an open software architecture. The Advanced Warfare Environment (AWarE) allows today's warfighter to increase his operational tempo, enhance productivity, collaborate more effectively, and flexibly integrate Battle Management C4I Surveillance and Reconnaissance (BMC4ISR) requirements.

AWarE is a suite of configurable capabilities that supports the needs of today's Warfighter. These capabilities range from basic administrative functions using Microsoft Office tools to intelligence preparation of the battlefield (IPB). Some of the AWarE applications include: Force Operations, Situational Awareness, Time Sensitive Targeting, Missile Warning, IPB, C4ISR Management and Engagement Operations.

AWarE supports mission planning and provides unprecedented situational awareness that is achieved through the combination of stove piped data streams into an integrated three dimensional display. This state-of-the-art 3D situational awareness improves decision making within a TOC, significantly reduces multiple data entry and in-theater footprint by merging capabilities into a multifunctional "plug and play" architecture. The following editions of AWarE are currently available from the Space and Missile Defense Command Battle Lab (SMDDBL).

- **The Silver Edition** is the most cost effective way to apply the many benefits of AWarE. The SMDDBL developed free extensions to ArcView, a Geographic Information System created by ESRI. In addition to these extensions, the SMDDBL also developed components, referred to as AWarE Core Elements (ACE), which are also free to qualifying government, or government support agencies. The ArcView extensions require ArcView 3.X, Tracking Analyst, and Spatial Analyst. The ACE requires BattleScape NT (BSNT), a state-of-the-art 3D visualization capability, as well as commercial packages to fully use all capabilities:

- **AWarE Message Processor (AMP)**. An executable program used to manage the processing of data feeds into the system. The AMP is a multi-thread application that takes in raw data from various types of sources and converts the raw data into an internal format known as AWarE strings and then broadcasts these AWarE strings on the LAN or a serial port as desired.
- **AWarE Track Manager (ATM)**. A Component Object Model layer used to display tracks on the BSNT globe. BSNT is an Edge Developer's Option that provides the main user interface for the client.

- **AWarE Playback Tool (APT)**. Used to play back data archived by the AMP and is useful for testing, analysis, and demonstrations.
- **AWarE Graphics Tools (AGT)**. This product provides users the ability to create and edit sensor icons and annotate the BSNT globe with primitive graphics such as points, lines, and polygons. It also provides the ability to import ESRI Shape files and provides coordinate conversation and distance tools.

- **The Gold Edition** of AWarE combines the extensive functionality of the Silver Edition with GOTS and COTS products. GOTS packages include Extended Air Defense Simulation (EADSIM) and (HPAC). COTS packages include MAK technologies for DIS and Information WorkSpace, ArcView, Spatial Analyst, Tracking Analyst, MAK VR Link Run time License, Norton AntiVirus, Microsoft Office Professional and CU-SeeMe for Distributive Collaborative Planning functionality.

- **The Platinum Edition** of AWarE provides the full suite of currently available capabilities in addition to those included in the Gold Edition. This complete edition is combined with user selected COTS hardware and software packages.

AWarE has played a significant role in numerous events, exercises, deployments, and demonstrations such as NOBLE EAGLE 01, NORTHERN EDGE 01-02, JOINT COMBAT IDENTIFICATION EVALUATION TEAM 02 and MILLENNIUM CHALLENGE 02. All events were very successful in helping the warfighter train, observe DTLOMS and requirements in various environments.

The Space and Missile Defense Command accomplished a major milestone in September 2002 by successfully transitioning the AWarE code to Program Manager, Air and Missile Defense Command and Control Systems. Plans are being devised to use the code for a future foundation Army Battle Command System. This transition supports the Battle Lab's mission of developing, demonstrating, and transferring technologies to an acquisition program that benefits the modern warfighter.

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