



Project Athena Multi-Domain Awareness System



Athena — Multi-Domain Situational Awareness

Benefits

- Provides seamless coverage across domains and operational commands
- Integrates multiple sensors and ISR data sources and supports rapid integration of new types
- Employs user-configurable tools for workload reduction
- Delivers shared knowledge, awareness, operational picture and actionable intelligence
- Employs standards-based service-oriented architecture using network centric communications
- Supports U.S. Partner Nation efforts
- Scalable from local to worldwide applications
- Distribution architecture supports unlimited scalability
- Supports high-availability implementations
- Easily extensible; compatible with service-oriented architecture-capable tools
- Plug-in architecture supports new capability integration

Athena is a network centric, multi-domain command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR) system for high performance situational awareness, fusion, analysis and knowledge management. By exploiting information from global sources — including sensors, databases and intelligence — Athena delivers persistent surveillance, situational awareness and anomaly detection aids to reduce operator workload.

Athena uses a modern, extendable and open C4ISR framework that works with a wide range of sensors and collaborates across command centers and enterprise systems. It employs user-friendly and role-based methods of managing correlated information and sharing across local, regional or global joint command

interests. Athena delivers fast and flexible multi-domain awareness for rapid operational deployments using proven components.

Proven Systems Architecture

Athena is based on a proven systems architecture used by NORAD. This robust system can process multiple inputs on many thousands of tracks. With a look and feel common to existing command and control centers, Athena is also user-friendly.

Athena's framework is based on a tiered, service-oriented architecture, uses off-the-shelf components and conforms to Department of Defense architecture framework standards. Athena adds value by providing rules-based anomaly analysis and software agent capabilities, along with network centric service capabilities.



Shared Awareness Across C4 Centers

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Operational Deployments and Evaluations

Raytheon operates the Project Athena Multi-Domain Awareness Testbed at its facility in Portsmouth, R.I. Here, Raytheon provides ongoing demonstrations of Athena's multi-domain capabilities, using live feeds and simulated threat scenarios, real-time display and analysis, and real-time re-planning for multiple event assessments.

Scenarios include global domain awareness across operational commands; surveillance across domains (land, air, sea); evaluation of operational concepts and technology; and border threats and interdiction. Operational deployments for border surveillance missions have demonstrated a robust, user-friendly and effective field C4ISR capability.



Raytheon Multi-Domain Awareness Fusion Center Testbed

Project Athena's Capabilities

Fused homeland defense intelligence, surveillance and reconnaissance (ISR) data integration

Rapid detection, tracking and identification of anomalies; delivers actionable intelligence to end users

Cooperative and non-cooperative tracking of maritime/air/land threats at long ranges

User-friendly common operating picture – common with existing C4 centers
Joint C4ISR framework for identification, detection, monitoring, battle management and interdiction

National-level maritime domain awareness integrates local, regional and long-range surveillance with high-performance correlation and tracking

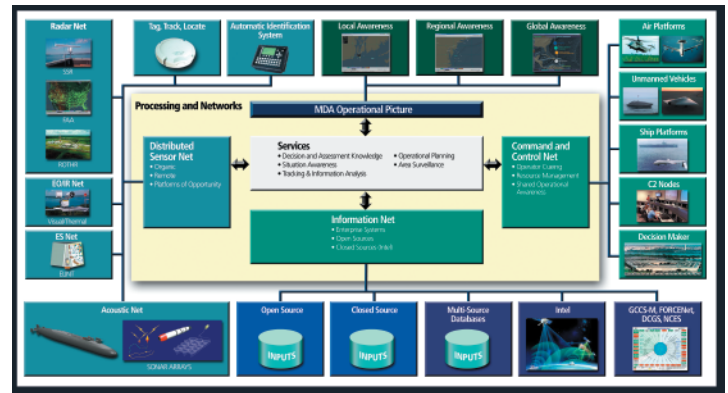
Scalable and flexible for rapid deployment and upgrade, due to robust open architecture

Enhanced scenario planning, simulation and scripting

Network centric information-sharing using Web services, supporting military formats

Analysis and anomaly detection alerts and collaborative control features between distributed nodes

Modeling and simulation tools for threat analysis and concept of operations assessment



MDA Fusion Center Architecture

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