

Asynchrony Solutions leads team to create collaborative system merging operations, support and training

PROJECT SUPPORTS JOINT EXPLOSIVE ORDNANCE DISPOSAL (JEOD)

BACKGROUND

The history of Explosive Ordnance Disposal (EOD) dates back to World War II when scores of unexploded bombs from the Nazi blitz of English cities needed to be neutralized. Today's threat has expanded to include devices with nuclear, biological and chemical payloads. Access to the right tools, information, training and support can be the difference between a small headline in the news and a cataclysmic disaster that levels a city.

The critical role of EOD personnel prompted a 1999 study by the Institute for Defense Analysis. The resulting report identified a critical need for improvements in training, systems and joint interoperability between the services. It made specific recommendations that in tandem would have a substantial, positive impact on the mission-effectiveness of the Joint Explosive Ordnance Disposal (JEOD) community.

The Department of Defense (DoD) initiated the Advanced Concept Technology Demonstration (ACTD) program in 1994 as a vehicle to rapidly create and evaluate new technologies that meet critical military needs. Since new technologies often impact operating procedures, tactics and doctrines, it was essential to provide the means to develop, refine and optimize such potentially disruptive initiatives while evaluating them for potential rollout for general use. Based upon its performance, at its conclusion, an ACTD may either be extended, terminated or fielded.

THE JEOD ACTD

The JEOD ACTD was initiated to address the challenges brought to light in the institute's report and act on its recommendations.

The JEOD Decision Support System (DSS) is the cornerstone of the ACTD. Based upon Network-Centric Warfare principles, the DSS was designed from the ground up for interoperability and provides the ability to

access data and collaborate from anywhere in the world. It consists of three integrated systems: JEODNET, the JEOD Portal and the Mobile Field Kit.

JEODNET is an integrated and interoperable network

providing secure transport for EOD data, whether across a bombed-out street over a mesh network or around the world through satellite links. It is designed for compliance with the DoD architecture framework, Joint Technical Architecture and the Global Information Grid.

The JEOD Portal consists of software applications that enable rapid and free exchange of critical information throughout the JEOD community. It is designed to provide users with access to the Joint Digital Information Gathering System (JDIGS), the Advanced EOD Publication System (AEODPS), training content through its learning-management services and a range of other timely and relevant information and tools.

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The Mobile Field Kit is a combination of software and services that provide EOD field technicians with on-demand access to the pertinent and accurate information they need to formulate the best response to any situation. It is a tactical mission-based system combining advanced collaboration, situational awareness, alerts, notifications, decision analysis and decision-aid capabilities.

The JEOD DSS merges operational, support and training elements into a common knowledge-management system that provides access to the complete spectrum of EOD information. It is a comprehensive platform that helps JEOD technicians identify, neutralize, track and report devices encountered in the field.

By creating a feedback loop that continuously updates Techniques, Tactics and Procedures (TTP), the JEOD DSS helps ensure that JEOD forces will have the most current information to meet the challenges of their missions. New data is seamlessly transferred from the field to analysts. The revised TTP, based upon analysis of the latest field data, is then used to update training and support materials.

ASYNCHRONY'S ROLE

Asynchrony was initially engaged to provide general engineering and architecture support. By the final Military Utility Assessment (MUA), Asynchrony was Lead System Engineer for the entire project, including the management of ten subcontractors developing various components of the solution and/or performing services in support of JEOD's Milestone B deliverable.

Asynchrony developed the core services-oriented architecture capabilities that form the foundation of the portal service. Asynchrony also developed the framework for the Mobile Field Kit and key plugins, including video integration, alerting, white boarding and communications-syncing capabilities. Enhancement to the JEODNET enterprise portal

consisted of multiple tools and capabilities, including an Oracle database with 2- and 3-D visualization tools to provide multiple custom views, GIS overlays, mission-planning capabilities, mission-tracking capabilities and post-mission review and assessment.

PROJECT OUTCOME

In August of 2005, the JEOD ACTD had its final MUA, held in and around Oahu, Hawaii. Build 3.0 of DSS was tested in realistic operational scenarios under a range of conditions by the warfighters who will be using the technology when it is fielded. It is expected that the program will graduate from the ACTD program and commence operational development in 2006.

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