ONR technology to aid in war on drugs

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A multi-agency task force charged with eliminating illegal drug trafficking is installing a new software technology developed by the Office of Naval Research (ONR), the command announced July 21.

Since July 1, the Joint Interagency Task Force (JIATF) South has been assembling the Command and Control Rapid Prototype Continuum (C2RPC) system, a software application designed to provide continuous rapid delivery of warfighter capability to support time-sensitive decision making.

The C2RPC prototype is being used by Pacific Command, and the 5th, 6th and 7th fleets have requested their own systems. For JIATF-South, ONR delivered a variant for intelligence, surveillance and reconnaissance (ISR) for evaluation, planning and execution in support of ISR operations. This will provide the foundation for accessing technique and strategies for integrating extremely large disparate data sets.

C2RPC is part of a broader ONR effort to combine independent systems to automate analysis of large amounts of data, reduce manpower requirements and provide technical solutions and direction to related acquisition programs.

ONR, the Navy's science and technology arm, wants to fuse combat systems, C2 and ISR data into a common information environment that is "plug-and-play," modular, and based on publicly available, or open, standards, said Dr. Bobby Junker, director of ONR's Command, Control,

Communications, Computers, Intelligence, Surveillance and Reconnaissance, or C4ISR, Department.

"Navy and defense department systems are often point solutions with serious data and system interoperability issues, Junker said. "They tend to be proprietary, closed systems, which are costly to maintain and upgrade."

However, over the past seven years in partnership with the Program Executive Office for C4I, ONR has developed an open, modular, Service Oriented Architecture (SOA) based on a set of design principles used during systems development and integration--as the foundation for next-generation C2 systems, Junker said.

The approach uses common commercial-off-the-shelf-solutions, open source, government developed solutions and industrial developed codes for which the government has unrestricted license. In this environment, the government can compete best-of-breed across multiple sources for upgrades and maintenance.

Initial operational use of this SOA system occurred in 2006 when a core component was installed aboard USS Ronald Reagan (CVN 76) to support the Maritime Domain Awareness system, Junker said.

SOA provided the infrastructure for C2RPC, a collaborative effort between ONR, PEO C4I and Commander Pacific Fleet (COMPACFLT). C2RPC was initially deployed for use in Maritime Operational Center readiness analysis.

Readiness analysis, which had previously taken days to accomplish, took just hours with C2RPC. This improvement allowed for the system to be used in operational planning even though it was only a science and technology prototype, Junker said.

Continued success of C2RPC led to the Air Force's Air Operations Center Weapons/Systems also evaluating the system.

Additionally, information services developed by the Air Force were directly integrated into the open, modular SOA framework–with both the Air Force and Navy benefiting from capabilities each has developed. This effort also transitioned to the Navy's Afloat Core Services program of record under the Consolidated Afloat Networks and Enterprise Services.

Provided by Office of Naval Research

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