

Department of the Navy SBIR/STTR Transition Program

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NAVSEA #16-583

Topic # N141-046

DDS Enabled Mission Data Recording and Reconstruction for Surface Combatants
Real-Time Innovations

WHO

SYSCOM: NAVSEA

Sponsoring Program: PEO LCS

Transition Target: Littoral Combat Ship (LCS) Common Software Architecture (CSA)

TPOC:

(619)553-5937

Other transition opportunities:

Aegis Combat System
Ship Self-Defense System (SSDS)
USS Zumwalt Class (DDG-1000)
San Antonio Class Landing Platform/Dock (LPD)

RTI Connex is the World's Leading Implementation of the Data Distribution Service (DDS) Standard Mandated for use by DoD



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WHAT

Operational Need and Improvement: The Navy needs an ability to record and and reconstruct transmitted mission data on the Littoral Combat Ship (LCS) Common Software Architecture (CSA).

Specifications Required: Like many Navy systems, LCS CSA has a requirement for data logging and replay. However, LCS CSA must handle large volumes of real-time data and the recorder must be able to handle this without interfering with the system performance requirements. To date, every customer creates their own one-off custom implementation. RTI will create a general COTS product usable by the majority of DDS customers, freeing them from the task of supporting and maintaining their own tool.

Technology Developed: RTI is developing a software platform for recording and reconstructing operational data in Navy surface combatant ships. This unified, open, and modular recording product is capable of capturing quantitative and qualitative data in a distributed system along with tools for real-time data analysis, transformation, storage and reconstruction/replay. It incorporates the Data Distribution Service (DDS) messaging technology widely used on Navy networks.

Warfighter Value: The primary use of mission data recording and reconstruction is for support tasks such as testing, integration, troubleshooting, training, and forensic analysis.

WHEN

Contract Number: N00024-16-C-4030 **Ending on:** January 29, 2018

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Complete Reqs Elicitation and Detailed Design	Low	LCS CSA stakeholder consensus	4	December 2016
Complete LCS SETR Tech Review	Low	LCS CSA compliance	5	March 2017
Pursue Standardization	Med	RFP issued by OMG C4I DTF	6	June 2017
Early Access Release (EAR)	Low	EAR product release to customers	7	November 2017

HOW

Projected Business Model: RTI plans to add the data recording and reconstruction to its existing RTI Connex DDS product suite. RTI has used this model many times in the past to provide additional capabilities to its customers.

Company Objectives: RTI intends to add a next generation DDS recording and replay capability to its RTI Connex DDS Professional standard product suite offering, which will increase the value of the product for existing users, and make it more appealing to new prospective customers.

Potential Commercial Applications: RTI anticipates that the new DDS record and replay product will be appealing to the entire RTI customer base which spans many industries including medical devices, autonomous vehicles, flight simulators, air traffic control systems, clean energy production, and many others.

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