

Topic: N121-106

Fuse Integration, Inc.

Technologies/Methods for enabling Transactional Interfaces

Tactical Troubleshooting Tool (T3) integrates Tactical Data Link configuration settings from multiple legacy systems onboard US Navy ships into a centralized browser-based interface and distributes them via a pub-sub framework to remote, authorized users. Developed by a team of experienced engineers with warfighter input, this project streamlines the process for troubleshooting multi-TDL network connectivity issues by providing a collaborative, real-time environment to view network status and configurations, and recommend corrective actions. T3 interfaces directly with the Common Data Link Management System (CDLMS) but can be configured to interface with other TDL systems. The initial transition target is Command and Control Program Office (PMW 150). Fuse is pursuing opportunities to apply this dynamic, flexible system to DoD and civilian applications that require a remote, global view of aggregated data.

Technology Category Alignment:

Information Collection/Management

Synthesis/Analytics/Decision Tools

Maintainability/Sustainability

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SYSCOM: NAVWAR

Contract: N68335-17-C-0449

 Corporate Brochure: https://navystp.com/vtm/open_file?type=brochure&id=N68335-17-C-0449

WHO

SYSCOM: SPAWAR

Sponsoring Program: Navy Command and Control Program Office, (PMW 150)

Transition Target: Command and Control Processor System

TPOC: (858)537-0652

Other transition opportunities: The Fuse T3 system can reach out anywhere and extract user-defined data from any source and display integrated data in one centralized user interface. This can be used for almost any tactical mission that requires remote access to real-time data such as law enforcement agencies, maritime industry, U.S. Coast Guard, and other DoD platforms such as the Automated Digital Network System, Maritime Patrol and Reconnaissance Aircraft, and unmanned aerial vehicle platforms.

Notes: Fuse understands the needs of tactical data link users, and develops systems that enables real time TDL data to be shared across Internet Protocol (IP) networks. Decoupling TDL information from rigid hardware architectures gives the DoD new ways to work with near real time tactical information coming from the tactical edge and provides visibility into real time network status.



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WHAT

Operational Need and Improvement: Navy Mission Commanders and decision-makers require insight into the status of critical tactical communications systems. These systems are very complex and therefore rely on proper configuration to remain operational. US Navy Joint Interface Control Officers (JICOs) and engineering subject matter experts (SMEs) require a system that enables a global view of network connectivity along with remote insight into individual ships' tactical data link (TDL) configuration settings to enable troubleshooting support.

Specifications Required: Requirements include: global view of ship's network status, user-tailorable displays, user-created groups to compare a specific set of ships' configurations, an overall indicator of system status for each link, provide for each link type a "status at a glance" of end-user identified Top Issues, "pop-up" link status and timestamp for last received data, proactive tools which allow the end-user to input specific parameters and have them cross-checked across a specified group with automatic alerts as to which settings are non-compliant, display Information Assurance (IA) patch status.

Technology Developed: T3 is a hardware agnostic software solution that is currently being updated to interface seamlessly with the C2P Tech Refresh System. T3 can easily be adapted to a virtual machine (VM). System components include a Bridge Tactical Router (BTR) that interfaces directly with the Command and Control Processor (C2P) and a T3 Web Server. The BTR will create a secure Internet Protocol (IP) network connection and enable a distribution framework sending data to the secure web server ashore.

Warfighter Value: T3 increases the availability of mission critical data links. The system provides an overall assessment of TDL network health to commanders and decision-makers. T3 also enables direct collaboration with the Engineering SMEs to solve configuration issues in real-time. Existing T3 capabilities such as group dashboards and the SITREP tool allow for pro-active adjustments to network settings and decision aids for network planning. T3 also translates to significant sustainment savings by reducing travel requirements and cost for Program Office Engineers, who can now remotely view system elements vice physically traveling to ships to perform diagnostics.

WHEN

Contract Number: N68335-17-C-0449

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Interface Design Document	Low	Completed IDD	TRL 6	TBD
Internal Acceptance Test	Low	Meet requirements outlined in Fuse internal Test Plan	TRL 7	TBD
Independent Validation and Verification as part of C2P 4.0	Low	Meet requirements outline in IV&V Test Plan	TRL 8	TBD
Deployment to the Fleet	Low	T3 in use in operational capacity	TRL 9	TBD

HOW

Projected Business Model: Fuse's balance of experience in operations and systems engineering, blended through our Fuse Process, helps to ensure that the solutions we develop meet the user needs for the environments in which they will be employed. Fuse has developed a software based solution that can be licensed to other commercial organizations to run on any system.

Company Objectives: Identify other potential DoD applications for this capability/technology. Explore opportunities with other agencies/commercial partners that have similar network monitoring and management needs.

Potential Commercial Applications: The Fuse T3 system can reach out anywhere and extract user-defined data from any source and display integrated data in one centralized user interface. This can be used for almost any tactical mission that requires remote access to real-time data such as law enforcement agencies, maritime industry, U.S. Coast Guard, and other DoD platforms such as the Automated Digital Network System, Maritime Patrol and Reconnaissance Aircraft, and Unmanned Aerial Vehicle (UAV) platforms.