Department of the Navy SBIR/STTR Transition Program

DISTRIBUTION STATEMENT A. Approved for public release. Distribution is unlimited. NAVWAR HQCA-2023-A-148 N68335-22-C-0577 Model Based Systems Engineering for Tactical Data Link Systems

Topic # N202-135

Model Based Systems Engineering for Tactical Data Link Systems

Critical Frequency Design, LLC

WHO

SYSCOM: NAVWAR

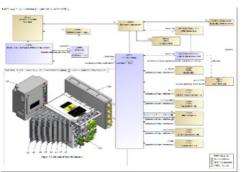
Sponsoring Program: Department of the Navy SBIR/STTR Transition Program

Transition Target: Create a Digital Systems Model of the MIDS/JTRS (Link 16) Terminal

TPOC: (619) 524-0568

Other Transition Opportunities: Develop Digital Systems Models for other communications links

Notes:



Model Block Diagram

WHAT

Operational Need and Improvement:

Specifications Required: •Interface & Operators Guide for the Multifunctional Information Distribution System Joint

Tactical Radio System (MIDS JTRS) Concurrent Multi-Netting-4 (CMN-4)

- Naval IME Desk Guide (April 2020)
- Naval Integrated Dictionary Cameo Systems Modeler Package V2.7
- Naval_Integrated_Dictionary_V2.7
- Naval_X-SYSCOM_Conceptual_Schema_v1_2_20190611
- Naval_X-SYSCOM_Schema_and_Example_Model_User_Guide_v1_2_20190611
- NAVWAR Requirements Framework
- SPAWAR EA ID Reference Model_v2.2_20181129_FOUO
- SPAWAR EA Profile Package 20180712
- SPAWAR MBSE Example Model (1)
- SPAWAR MBSE Example ModelUnderstanding LINK16_USN_USMC_Guidebook_09-04

Technology Developed: Digital Twin and Systems Model

Warfighter Value: Adds to the digital library of required models of key systems to support future development of systems, simulations, and requirements management.

WHEN Contract Number: N68335-22-C-0577 **Ending on:** Aug 09, 2023

Milest	tone	Risk Level	Measure of Success	Ending TRL	Date
Kick-C	Off	Low	Requirements Understood	1	3rd QTR FY23
Mid Te	erm	Low	Prototype Model Developed	6	4th QTR FY23
Final		Medium	Working Model Complete & Tested	8	TBD

HOW

Projected Business Model: The DoD is developing a Digital Development Environment which requires the development of a digital representation of future and current systems, a so-called "Digital Twin". CFD has the expertise, developmental software tools, and resources to continue developing digital twins or systems-based models for data links or other required systems.

Company Objectives: Continue to develop our expertise in MBSE and market other DoD customers needing MBSE or digital twins developed.

Potential Commercial Applications: The tools and expertise can be used to model any commercial or military systems.

Contact: Gary Tuttle, Business Development gtuttle@nstgrp.com (256) 509-5225