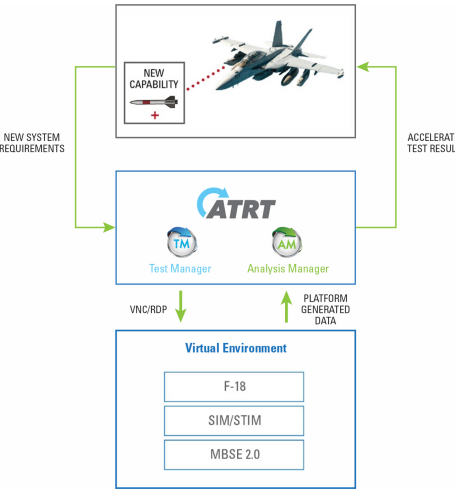


WHO

SYSCOM: NAVAIR
Sponsoring Program: PMA-201
Transition Target: F/A-18E/F
TPOC: (760) 939-1712

Other Transition Opportunities: Universal Armament Interface (UAI)-compliant systems and future weapons. Examples include Long Range Anti-Ship Missile (LRASM), Hypersonic Air-Launched Offensive Anti-Surface Warfare Missile (HALO)

Notes: IDT's Automated Test and Re-Test (ATRT) is an automated test and analysis product rated at TRL 9 and is currently used by DoD and commercial company personnel and has been applied to the following weapon systems: AEGIS, F-16, Minuteman III, F-35, AN/USQ.225, FA-18, E-2D, SM-6, SM-2, MQ-25, Tomahawk Land Attack Missile (TLAM), Joint Mission Planning System (JMPS), Tactical Tomahawk Weapons Control System (TTWCS), SQQ-89, Ship Self-Defense System (SSDS), Terminal High Altitude Defense (THAAD), SLQ-32, and Link-16.



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WHAT

Operational Need and Improvement: Automated test execution and analysis enables the Navy to verify weapon system performance accurately and expeditiously against warfighter mission requirements in the realistic volatility of an operational environment. An end-state vision of a fully implemented Test Modernization Strategy should include a Software Integration Lab with fully virtualized representations of F/A-18 Operational Flight Program (OFP) and weapon software wrapped with automated test and automated analysis capability to exercise complete mission threads.

Specifications Required: Identify and define the process by which updated weapon capability could be integrated, tested and deployed within 6 months. Recommend an Automated Test Strategy and Path Forward for the Advanced Weapons Laboratory (AWL).

Technology Developed: Automated analysis of UAI system threads as applied to an F/A-18 weapon store. SysML behavioral model of the UAI Platform/Store Interface Control Document (ICD) system threads. Automated test execution with the Desktop Test Environment (DTE). IDT's technology integrates cloud virtualization with separate test execution & analysis processes to deliver dramatic speed & reliability for tests, verification, & certification for the greatest ROI.

Warfighter Value: IDT's automated software test and analysis tools will provide the ability to upgrade software systems, and test, certify, and deploy new capability in months or weeks, not years.

WHEN

Contract Number: N68335-21-C-0246 **Ending on:** Apr 30, 2022

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Automated Analysis for Initiated Built-in Test (IBIT)	N/A	SysML behavioral model of IBIT, requirement verification for >10 IBIT actions	5	4th QTR FY21
Automated Test Executed Using DTE	N/A	Demo of automated execution of IBIT procedure within the DTE	5	4th QTR FY21
Automated Analysis for Mass Data Transfer (MDT)	N/A	SysML behavioral model of MDT, requirement verification for >10 MDT actions	5	1st QTR FY22
Automated Analysis for Launch Acceptability Region	N/A	SysML behavioral model of MDT, requirement verification for >5 LAR actions	5	3rd QTR FY22
Automated Test Strategy and Path Forward Recommendation Document	N/A	Summary of delivered technology, recommended path forward for AWL, PMA, PEO & SYSCOM	5	TBD

HOW

Projected Business Model: Model-based Systems Engineering (MBSE) across the aerospace industry typically applies to design, development, supply management, or interface management using a system model's physical and functional views. Alternatively, IDT's unique, patented methodology builds SysML models of the system's behavior and generates automated analysis for evaluation in an operational, mission-based context (i.e., close air support or long-range strike). This technology is applicable for all complex systems and IDT plans to extend the ATRT suite of tools to additional DoD and commercial programs.

Company Objectives: IDT is interested in adapting the automated test and analysis suite of tools to additional large, complex real-time defense systems. The UAI ATRT product is immediately applicable to any organization developing UAI-compliant weapons, and the behavioral model, automated analysis, and reports can be tailored to suit needs beyond the interfaces defined by a UAI ICD.

Potential Commercial Applications: IDT's ATRT product is extensible to commercial systems with mission critical requirements such as commercial aircraft, Oil & Gas infrastructure, autonomous vehicles, space launch systems, as well as power generation & distribution.