Department of the Navy SBIR/STTR Transition Program

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NAVAIR 2017-839

Topic # N04-069

Analytical tool sets with models, metrics, and measurement techniques for System Architecture development.

ASSETT, Incorporated

WHO

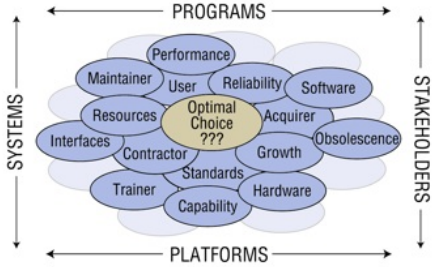
SYSCOM: NAVAIR

Sponsoring Program: PMA-281 Strike Planning and Executions Systems

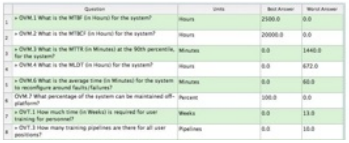
Transition Target: Common Control System (CCS)

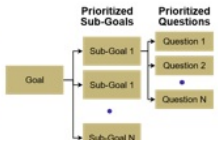
TPOC:
(301)757-1884

Other transition opportunities: ASSETT's Architecture Assessment Tool (AAAT) has direct applicability to the Office of the Secretary of Defense (OSD), the Navy, NAVSEA, and NAVAIR, in building a capability to successfully support Lead System Integrators (LSI) across program life-cycles.



AAAT PROVIDES A SOLUTION





WHAT

Operational Need and Improvement: Open architectures that enable the integration of commercial-off-the-shelf (COTS) products have the potential to reduce development times, and costs. Project engineers need evaluation methodologies and tools to support a structured decision-making approach to evaluate proposed architectures for major engineering development efforts. No currently available tools provide the structured view of customizable, weighted evaluation factors for each of four focus areas: Operational, System, Technical, and Business.

Specifications Required: The Department of Defense Architecture Framework (DoDAF), open system concepts, and the Submarine/Undersea Warfare Technology (SUBTECH) group's strategic goals are key concept drivers for an architecture evaluation framework. An assessment tool is desired that enables a user to answer a series of questions structured to compare, measure, and drive consistency across all inputs. Key innovations within this architectural assessment tool are its ability to (1) Incorporate the impacts of emerging technology and (2) Measure Human Systems Integration (HSI) factors to assist with reduced manning, operator workload, and automation related analysis.

Technology Developed: ASSETT's Architecture Assessment Tool (AAAT) provides a means to reduce overall project life-cycle costs and risks associated with architectural planning, development, and evaluation efforts. AAAT employs an analytic hierarchical process to structure architectural assessment that prioritizes views and attributes of the problem set, defining acceptable ranges of values for evaluation, and evaluating results against other priorities or candidate architectures. AAAT is derived from research completed by the Department of Defense (DoD) and commercial marketplace. AAAT's assessment processes are validated against unmanned aerial vehicle (UAV) and submarine combat systems, and commercial network architectures. AAAT, compliant with DODAF, employs a set of nine key attributes mapped to the four categories and 26 associated views.

Warfighter Value: AAAT enables quantified candidate comparisons against an established reference architecture. AAAT can used to evaluate any system, platform, or program to ensure all aspects of a system architecture have been considered.

WHEN

Contract Number: N68335-16-C-0405 **Ending on:** September 13, 2017

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Add functionality to the AAAT for adaptation to new programs	Low	Successful demonstration to new warfare command.	TRL-7	September 2017
Document and deliver the ASSETT Architecture Assessment Tool	Low	Delivery and use of AAAT by TPOC	TRL-9	March 2018

HOW

Projected Business Model: AAAT is currently targeted for use by NAVAIR to support engineering trade studies, technology impact assessments, and candidate architecture design reviews. ASSETT's projected business models leverages direct Phase III funding to provide direct support of NAVAIR and NAVSEA, large-scaled engineering design initiatives. Upon maturation of the proposed AAAT framework, ASSETT is targeting direct sales, licensing, and potentially open-source business models to DoD Program Office and Prime Contractors and commercial software systems engineering firms.

Company Objectives: ASSETT, Inc. founded by key leadership and talent from IBM's Federal Systems Division, provides advanced system design and life-cycle support for DoD and commercial clients with expertise spanning the spectrum from patent-level innovation development to managing large projects. ASSETT, Inc. is a versatile engineering firm that helps clients succeed with complex projects – whether for defense, business or government goals. ASSETT headquartered in Mananas, Virginia, offers end-to-end engineering and management support.

Potential Commercial Applications: AAAT is designed to support architectural assessments across DoD, Fed Gov, and commercial enterprises.

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