

PRESS RELEASE

Telephone: (732) 323-2811
(732) 323-1079
FAX: (732) 323-7676

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www.navair.navy.mil/lakehurst

Contact: Thomas Worsdale, Public Affairs Officer
Lawrence Lyford, Deputy Public Affairs Officer

IDATS Team Briefs OSD CBM+ Action Group on Improving Avionics Diagnostics in DoD

by Dr. Russell Shannon, Lead Systems Engineer, Integrated Diagnostics and Automated Test Systems (IDATS), NAVAIR 4.8.1.3, Avionics Support Equipment Projects Branch

February 10, 2011 – Lakehurst, NJ: Nearly three-quarters of all Navy and Marine Corps maintenance action items are related to one type of system: avionics.

Reflected in that statistic are a number of “false alarms” (unnecessary request for maintenance) and “cannot duplicate” conditions (also known as A-799s), which wastes a large number of maintenance man-hours, increases aircraft downtime, and inflates the life cycle costs associated with supporting the system. The lack of advanced diagnostics capabilities on some aircraft often negatively impacts Naval Aviation readiness.

A new capability expected to improve avionics diagnostics within the fleet was briefed to the Office of the Secretary of Defense (OSD) Condition-Based Maintenance Action Group (CBM+ AG) by members of the Naval Air Systems Command (NAVAIR) Integrated Diagnostics and Automated Test Systems (IDATS) team in November. The team also briefed some of their products currently under development.

IDATS, a NAVAIR Support Equipment & Aircraft Launch and Recovery Equipment Department (4.8) strategic initiative, focuses on modernizing the way business is conducted within Avionics Support Equipment and Automatic Test Equipment (ATE) engineering. It was formed to combat strains on time and valuable resources associated with avionics maintenance. The IDATS mission is to develop and implement advanced avionics diagnostics products that will be able to enhance airborne weapon systems' supportability and testability.

By identifying, repairing, or replacing failed components in a more efficient and accurate manner, aircraft downtime can be minimized, mission readiness can be increased and maintenance costs can be significantly reduced. With a capital investment from NAVAIR, the IDATS Team reinforced their commitment to the Fleet by opening a laboratory at Joint Base McGuire-Dix-Lakehurst (MLD) in April 2010. The lab will produce products which address today's Fleet avionics diagnostic deficiencies as well as research the next-generation of avionics diagnostics products.

One product which the IDATS Team discussed with the CBM+ AG is the MX-12345/USM Diagnostic Avionics Tester (DAT). The DAT is the replacement for the current electro-optic tester for the AN/ASD-12 Shared Reconnaissance Pod (SHARP) and the AN/ASQ-228 Advanced Targeting Forward Looking Infrared (ATFLIR) Pod. Currently in the production phase of its development and due to be fielded in fiscal year 2012/2013, the DAT is an excellent example of open hardware and software architectures. For several years, OSD has mandated the use of open architectures and standards in new designs. The DAT takes advantage of several industry standards in order to mitigate obsolescence and thus reduce total lifecycle support costs to the Navy.

The DAT is also the first piece of fully net-centric support equipment in the Navy. It relies on Net-centric Diagnostic Framework (NCDF) software to transmit, receive and synchronize test data with I-level automatic test equipment, over the F/A-18 Automated Logistics Environment (ALE). The test architecture it establishes provides maintainers with directed test, based on historical test data, at both organizational-level and I-level. It is also much smaller, lighter and less expensive than the current F/A-18 electro-optics tester. The directed test capability and other improvements to the tester are expected to realize a \$30 million per year cost avoidance for the F/A-18 Program Office.

Another product briefed to the CBM+ AG is known as the Smart Connector Tester. It is a test capability developed organically and patented at Joint Base MDL. The tester is able to be inserted between avionics boxes to break diagnostics ambiguities before any avionics boxes are removed or replaced from an aircraft. By providing a combination of bus monitoring and stimulus-and-response testing, it effectively brings I-level testing to the O-level to significantly reduce false removals of avionics boxes. By avoiding unnecessary repairs

and realizing the benefits of improved diagnostic capabilities, the Smart Connector Tester, in similar fashion to the DAT, conserves valuable resources.

The CBM+ AG were very receptive to these and other products and concepts presented by the IDATS team. Through their accomplishments, the team has stimulated a conversation that could positively impact NAE maintenance for years to come.

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