The JASSM-158 (Joint Air-to-Surface Standoff Missile) is a low-observable standoff cruise missile. A large, stealthy long-range weapon of the 2,000 pound (910 kg) class, it began development in 1995 and was deployed in 2009. The JASSM is now entering service in a number of foreign countries as well. An extended-range version of the missile, the AGM-158B JASSM-ER (Joint Air-to-Surface Standoff Missile-Extended Range), is currently under development.

The JASSM was tested with a wide range of aircraft that can carry the weapon, including the F-16, B-1B, B-2, and B-52. The testing occurred at numerous test range locations to encompass all possible operational scenarios.

An instrumentation data link allowed the missile to transmit its health, status, and other information in real time for verification and validation purposes.

**CHALLENGES**

The EMC® Federal Test Range Solutions Engineering Group (FTRSEG) in Irvine, California, was tasked to develop and support a mobile command facility that could manage data from the realtime telemetry link. This facility would need to process, record, and display data while keeping it secure. In addition, the facility needed to provide engineers with the capability to:

- Change locations and accommodate a demanding test schedule
- Verify the test item is working properly prior to flight
- Manage parameter information and configuration changes
- Define algorithms for converting the raw PCM data to data that an engineer could easily interpret
- Time-correlate parameter data with millisecond accuracy
- Provide methods to print and store classified data
- Define custom displays to present the mission-critical and test safety data
- Post-process data for future analysis and reports
- Have access to onsite support during critical tests
EMC SOLUTION MEETS ALL THE CHALLENGES

EMC FTRSEG partnered with a third party to construct a vehicle and install equipment to meet these challenges. FTRSEG also customized the Instrumentation, Loading, Integration, Analysis, and Display (ILIAD) software for unique realtime requirements.

A private network was needed for secure data processing. Six separate Acroamatics/Lumistar telemetry systems allowed the vehicle to receive and process pulse-code-modulated (PCM) signals from multiple sources. A directional antenna was used to receive data from the missile prior to flight. A six-foot tracking antenna received data from up to 80 miles away.

There were 10 different workstations available to visualize data and an additional four Astro-Med strip charts for hard-copy plotting. The raw PCM telemetry data could also be recorded in various customer-required formats. Engineers could communicate with others involved in the test via the onboard UHF radio system.

MTV HELPS VALIDATE CAPABILITIES OF JASSM

JASSM is an autonomous, air-to-ground, precision-guided standoff missile designed to meet the needs of United States war fighters. Its additional capabilities enable JASSM to be deployed against high-value, well-fortified, fixed and relocatable targets while remaining clear of highly defended airspace and long-range surface-to-air missiles. These powerful capabilities were challenging to test.

The Mobile Telemetry Vehicle (MTV) played an important role in helping test engineers validate these capabilities at the manufacturer’s factory and various test ranges within the continental United States. The ability to process desired data and allow users to define their own custom displays was essential. The ability to record data on different media, including paper, allowed information to be distributed easily for further analysis.

The MTV has proven to be a valuable asset to the Air Force by the data collected and the ability to be a mobile facility for more than 10 years of testing.

CONTACT US

To learn more about how EMC products, services, and solutions can help solve your business and IT challenges, contact your local representative or authorized reseller—or visit us at www.EMC.com.

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EMC® solution meets all the challenges.

“The MTV was essential in certifying the Flight Termination System (FTS) for the JASSM.”

MARK STATZ,
MTV OPERATOR, EMC CORPORATION