Wideband Networking Waveform (WNW) Host Simulator (WHS)

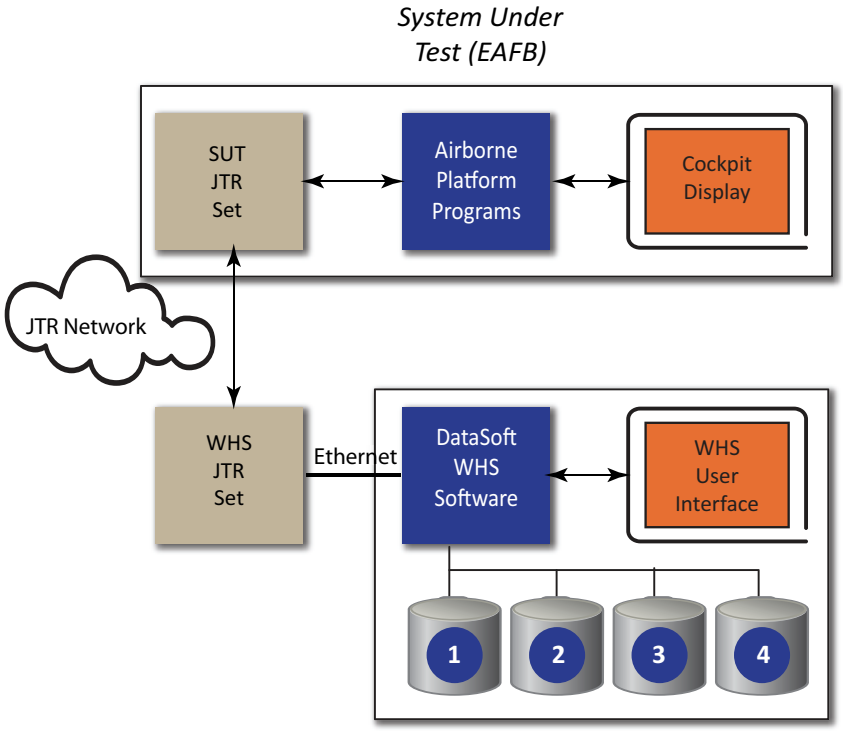
Comprehensive Scenario Testing for JTRS Networks

The WHS software suite supports the integration of various platforms that are incorporating JTRS radios by providing test and evaluation capabilities. WHS injects user-defined TADIL-J messages into the network to provide command and control (C2), situational awareness (SA), and other tactical data to any node on the network.

WHS simulates operational scenarios and generates tactical messages from the simulation. In addition to testing JTRS radios onboard aircraft, the WHS software system can be used to test any wireless network with radios that accepts TADIL-J messages. WHS complies with MIL-STD-6016C Link-16 and MIL-STD-3011 JREAP-C specifications.

The diagram to the right demonstrates how WHS works with the system under test (SUT). WHS includes four components.

1. Scenario Datastore - Contains the scripts, created in planning mode, that contain the messages to be sent to the SUT.
2. Terrain and Symbology Models - Standard maps and symbol sets used for visualization by WHS.
3. Communication Protocols and Message Libraries - Standard protocols used to communicate with the JTR network.
4. Scenario Execution Log - A complete list of messages sent and received by the WHS JTR radio.

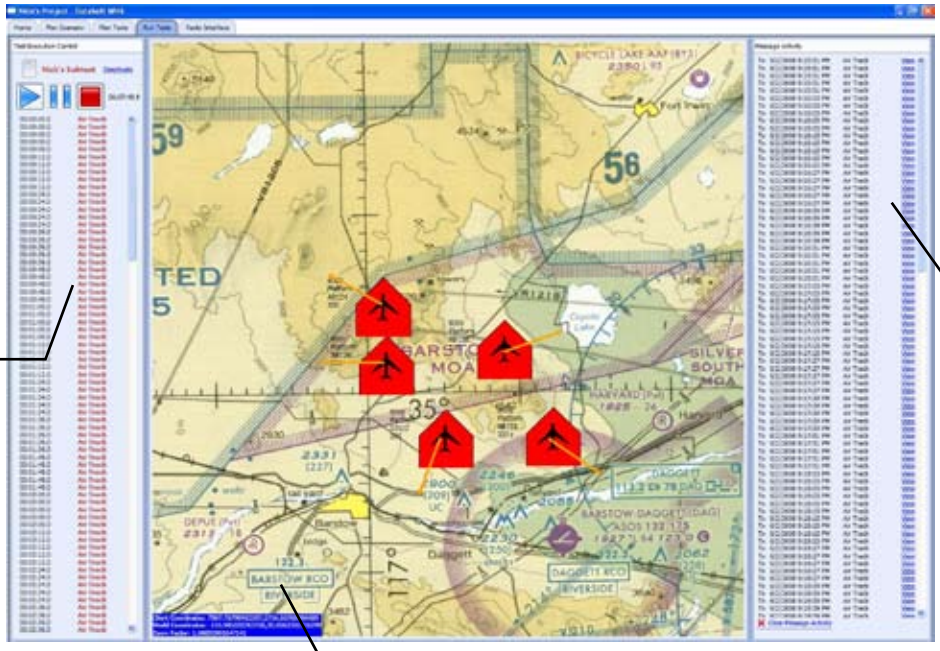


Highlights:

- IP-based
- Network characterization
- Platform integration
- Complements AADT software

WHS scenarios are executed and the incoming and outgoing messages generated by the SUT are logged and available for verification and validation of the JTR network. WHS can also be used in conjunction with DataSoft's Automated Analysis of Data Transmissions (AADT) software.

WHS - WNW Host Simulation



During testing execution, WHS tracks the current position in time of the planned test scenario.

J-series messages generated in response to the motion of simulated platforms.

Test execution is simultaneously displayed graphically, as a geo-spatial overlay on a configurable map.

Features

- Designed for IP-based waveforms
- Scenario-based TADIL-J message injection
- Map-based situational awareness
- Customizable to missions and platforms
- Ad hoc message capability
- Automated J-series message generation
- Test any node on a JTRS network
- Useful for both training and field operations
- Microsoft® based software and user interface

Benefits

- Verifies proper radio and host responses by injecting TADIL-J and ad hoc messages into the network
- Provides a users-friendly interface to create and manage missions, platforms, repeatable testing scenarios, and message analysis
- Integrates with other M&S tools via DIS/HLA/TENA interfaces
- Compatible with standard map types and symbologies
- Open architecture can be configured with new wireless protocols
- Extensive logging feature supports radio network verification and validation

About DataSoft

DataSoft specializes in software and hardware research, design, and engineering of customized components, products, middleware, and protocols for communication systems based on software-defined radio technologies.

As the recipient of multiple Department of Defense research grants (SBIR), DataSoft is actively working on projects for the Joint Tactical Radio System (JTRS) that enable superior wireless communications capabilities. Expertise includes SCA, MANET, tunable RF components, network protocols, advanced network management, modeling and simulation.

Headquartered in Scottsdale, Arizona, DataSoft has a successful history of high technology innovation for multiple markets covering both defense and commercial applications.

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