WinIDM™ Summary

Aeronix has developed the official F-35 Joint Strike Fighter (JSF) MIL-STD-188-220 D Change Notice 1 Protocol Stack. The same code that flies in the JSF is now available on Microsoft Windows platforms under the moniker WinIDM™. The WinIDM™ application provides a software-only implementation of the JSF CNR Waveform, as well as providing legacy support for MIL-STD-188-220 B/C, AFAPD, TACFIRE, and MTS data links. The Protocol Stack was tested against over 1200 requirements directly from the MIL-STD. Also included in WinIDM™ is the first fielded implementation of MIL-STD-2045-47001 D Change Notice 1 Segmentation / Reassembly Basic Protocol. This protocol works seamlessly with K04.17 as well as providing image transfer capability via raw binary messages.

WinIDM™ combines with a variety of commercially-available application and physical layer solutions to form a complete CNR solution available for your laptop or handheld computer. WinIDM can also be provided as an independent software stack that Aeronix can help adapt to your physical layer solution.

WinIDM: Tactical, Official, Standards-Compliant, Interoperable, and runs on a PC.

WinIDM Technical Notes

Protocols Supported:
- MIL-STD-188-220B/C/D Ch1
- MIL-STD-2045-47001D Ch1 S/R
- XNPv2
- MIL-STD-6017 (VMF) with VIP™
- AFAPD / TACFIRE / MTS

Windows Application:
- Can be run as a separate Windows application, or embedded into an existing application via ‘C’-style library
- Portable to any POSIX-compliant Operating system
- C/C++/C# Host APIs available for rapid programming

Uses:
- Digitally-Aided Close Air Support
- Standards-Compliant Digital Transmission Interoperability
- Situational Awareness, Tactical Internet
- TACP, JTAC
- Man-Pack communications
- Testing and Analysis
- CESMO

Interoperability:
- U.S. DACAS Coordinated Implementation (CI)
- Part of U.S. DACAS DVMT Test Tool

Physical Layer Flexibility

WinIDM is integrated with multiple physical layer solutions, including:
- Black Diamond Advanced Technology MTS/APEX
- Smartronix RDA Sync/Serial Cable
- Harris Remote KDU/Programming Cable (USB)
- Sealevel 9065QD Sync/Serial Radio Adapter
- Aeronix NetworkSim (software simulation)
- Aeronix CNRI and APIL adapter solutions

Related Technologies

NetworkSim™
The NetworkSim application provides a software simulation of a Combat Net Radio Network. Individual instances of WinIDM™ can be connected representing any number of platforms. Can simulate noisy networks, participant range and is easily extensible for modeling radio timing and automation of participant behavior.

IDM Workbench™
Turnkey control application of WinIDM. Start testing your TDL now with Built-In VMF Parsing! Contains powerful, native script language for complex testing scenarios.

Protocol Analyzer™
The Aeronix Protocol Analyzer™ application provides the capability to fully decode any captured MIL-STD-188-220 transmission unit (TU) traffic. The decoded data displays a summary of every over-the-air transmission as well as a detailed decoding of each layer of the protocol stack. The analyzer is extensible via script language so that traffic content and timing can be automatically verified.

Shown at left:
- Aeronix Protocol Analyzer
- WinIDM
- U-ROC
- PRC-117 Radio

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