



F-15 Fully Automated Debrief System

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Providing the warfighter mission-ready F-15s

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FDO Case # WR-24-744-XX

FADS Overview – World Wide Review 2024

FADS's Fully Automated Debrief System is a web based accessible collection and dissemination point of critical unclassified maintenance data for repair and improvement of the weapons system and equipment.

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MISSION:

- 1. Troubleshoot and report Fault Codes to the maintainers for corrective maintenance actions
- 2. Provide the right data to the right users
- 3. Secure and standardize the debrief process

CAPABILITITES:

- 1. Record Pilot Debrief and ASIP data
- 2. Read DTM/DTC data
- 3. Report ASIP data
- 4. Submit data to IMDS/FMxC2
- 5. Provide data to mission partners



Controlled Unclassified Information (CUI) FADS Application and Hardware Setup

Application Context



TECHNOLOGY:

- .Net8
- Windows 10
- Microsoft Blazor Web supports both online and offline applications
- RESTful API allowing for establishing connections with additional applications

HOST ENVIRONMENTS:

- INTRAnet: Traditional Client / Server machines
- INTERnet: Cloud Bases Web app

DESIGN PRINCIPLES and CONSTRAINTS:

- Public standards (HTTPS, SOAP, XML, XML Schema, etc):
- DoD STIGs
- Architectural layering strategy.
- Use of interfaces.
- Dependency injection.
- High cohesion, low coupling.



FADS Application and Hardware Setup

Data Transfer Module / Readers

CURRENT:

- Supports DTM I SCSI (Adaptec 29320LPE / Win10 Compatible)
- Supports DTM II USB

New – DTM I Mod:

- A USB based DTM I reader: Tentative plan for FMS programs is to use the AFREP at Eglin. USAF plans on adding an additional CLIN that would allow FMS programs to participate in the retro fit. All of the boards and other supplies procured will be sent to AFREP who will perform the retrofits for USAF and FMS programs.
- Please let your country managers now ASAP if you are interested in participating.

Supporting Application and Tools

- DTM Utility: DTM Reader Tool
- DTM XML Fault Logic Editor: Manage Fault Logic / Used by OEMs, already in place and available



FADS and Zero Trust

The seven pillars and FADS

- 1. User
 - Continuous authentication and authorization implemented
 - Role based access/Least Privileged Access
- 2. Device
 - In work: attached DTM/DRMM is authorize/verified
- 3. Application & Workload
 - Secure software development and Integration
 - Most current .net platform, ensuring security patching and improvements
- 4. Data
 - Encrypted transactions and data
- ***** Future Planed Improvements *******
- 5. Network & Environment
- 6. Automation & Orchestration
- 7. Visibility & Analytics

Charlie Ciso We've implemented zero trust. I don't believe you.



FADS Maintenance Debrief CONOPS

Aircraft debrief technicians will not have to modify the way they access or use technical data to accomplish the mission regardless of location. During operational deployments, FADS will continue to utilize the current infrastructure in place. The current infrastructure includes: DTM, DTMR, interface connectivity (SCSI or USB), and internet. FADS operates transparent to the user regardless of network connectivity state.



OPS Online Mode (Internet connection)

- 1. Maintainers every morning will pull the daily flight schedule and update job status
- 2. Upon completion of a sortie, the pilot will complete the sortie debrief and report any found discrepancies
- 3. After a sortie is completed and all required information is provided the maintainers will schedule and submit the report discrepancies



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FADS Maintenance Debrief CONOPS



OPS Offline Mode (No immediate Internet connection)

- 1. Maintainers will setup the workstation and sync with the most current data available. Once all workstations are up to date the maintainer will select to go Offline and FADS will create an offline data file with the specified aircrew, aircraft, and maintenance history
- 2. The individuals that are supporting the offline event will continue to use FADS for entering and completing debriefs
- 3. When the contingent returns to a location that will support online activities the maintainers will connect the workstations to the network and select to go back online in FADS and sync the data collected will offline with FADS



FADS: What is needed to begin?

- Establish Funding
- Base line current hardware and any hardware upgrade requirement
- Standup Application and Project
- Establish Testing Environment
- Convert current Fault Logic to XML Fault Logic may require OEM support



