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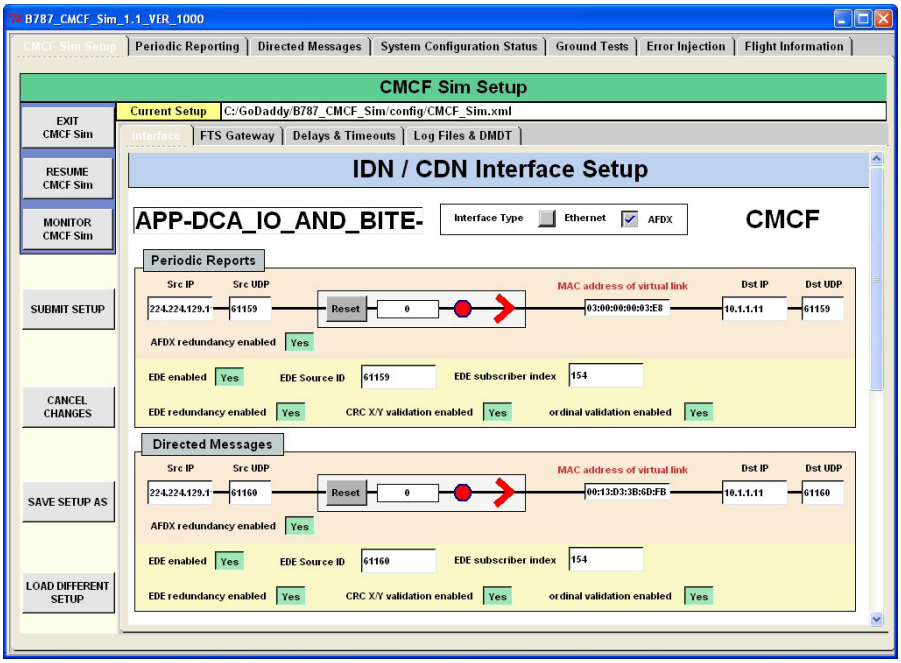
CMCF/SIM
787 Central Maintenance Computing Function Simulation



- Full simulation of 787 Central Maintenance Computing Function
- Easy-to-use graphical user interface
- ARINC 664 (AFDX®) and CAN bus protocol support
- Decodes fault reports from periodic LRUs and activity reports from aperiodic LRUs
- Supports CMCF messaging per required protocols
- Full event logging during message transfer and complete diagnostics
- Provides maintenance message information in clear English – code translation is not required
- Optional data analyzer for AFDX and CAN bus
- Developed as a 787 reference product for 787 avionics developers

Data Sheet

CMCF/SIM
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General

The Boeing 787 Central Maintenance Communication Function (CMCF) is a ground-based engineering tool designed to emulate certain features of the 787 Central Maintenance Computing Function (CMCF) and Crew Information Systems (CIS). **CMCF/SIM** is intended for use by 787 suppliers and system integrators to assist in their CMCF protocol development prior to full-up system integration.

CMCF/SIM fulfils these requirements by providing extensive monitoring, analysis, and error detection/injection functionalities. CMCF/SIM provides a sophisticated platform for integration and debugging purposes of OMS communication and protocol implementation of LRUs.

Test and Integration Support

TechSAT's CMCF/SIM provides an ideal tool for 787 avionics development, test, and integration applications. It provides a convention lab-based simulation with the key operational characteristics of the 787 CMCF/CIS system. Using the CMCF/SIM other TechSAT gateway products, a complete "table top" 787 Data Network can be constructed for lab and development purposes.

Protocol Communication Verification

The CMCF software is used to verify, visualize, and decode (in real-time) messages from member LRUs.

> Reports (including fault reports from LRUs/LRMs and activity reports from aperiodic LRUs)
> Directed messages (including fault events, fault status synchronization messages, fault monitoring messages, fail messages, and initiated tests command actions and responses)
> Support for system configuration and status messages

Full CMCF Support Functions

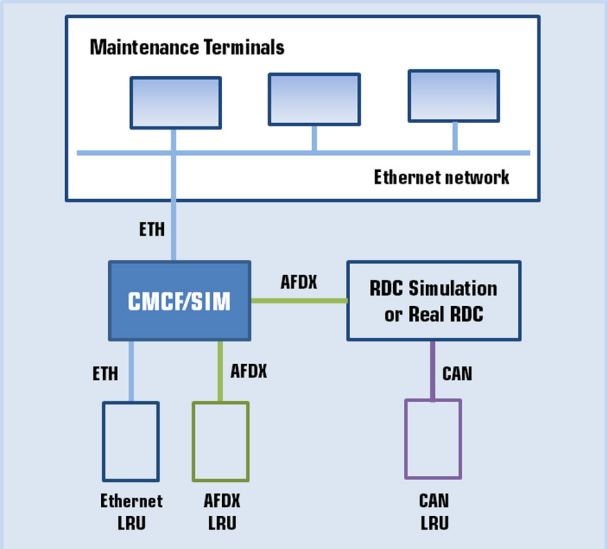
The CMCF software transmits the following OMS messages on request or automatically:

> Acknowledgements (both ACK, NAK)
> Flight information messages
> Directed messages (including fault status synchronization messages, fault monitoring messages, fail messages, and initiated tests commands)
> Requests to start a file transfer using special services

Simulation/Stimulation Support Options

CMCF/SIM runs as an application on the Avionics Development System 2G (ADS2R2) just like other TechSAT simulation and PortGate products. When the full ADS2 option is taken, the PortGate-hosted CMCF/SIM can act as a programmable simulation/stimulation source for LRUs upstream or downstream of the PortGate host. For example, development of upstream logic functions that may live in the ARINC 664 network can be developed and tested prior to the availability of sensors or downstream LRUs living in CAN bus or proprietary gateway accessible networks.

Basic Architecture of CFCS/SIM



Technical Data

Avionics I/O Support

- ARINC 664 / AFDX®
- CAN bus

Hardware Requirements

- AFDX-PMC - ARINC 664/AFDX® PMC interface (PN 702348-02)
- (Optional) CAN PMC interface (PN 702177-02)

Software Support Options

- 787 RDC - Remote Data Concentrator simulation for CAN bus support (PN 202040)
- ADS2R4 Avionics Development System 2G/Rev-4 (PN 202150)

Operating System Options

- Windows

Part Number

- 202068

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