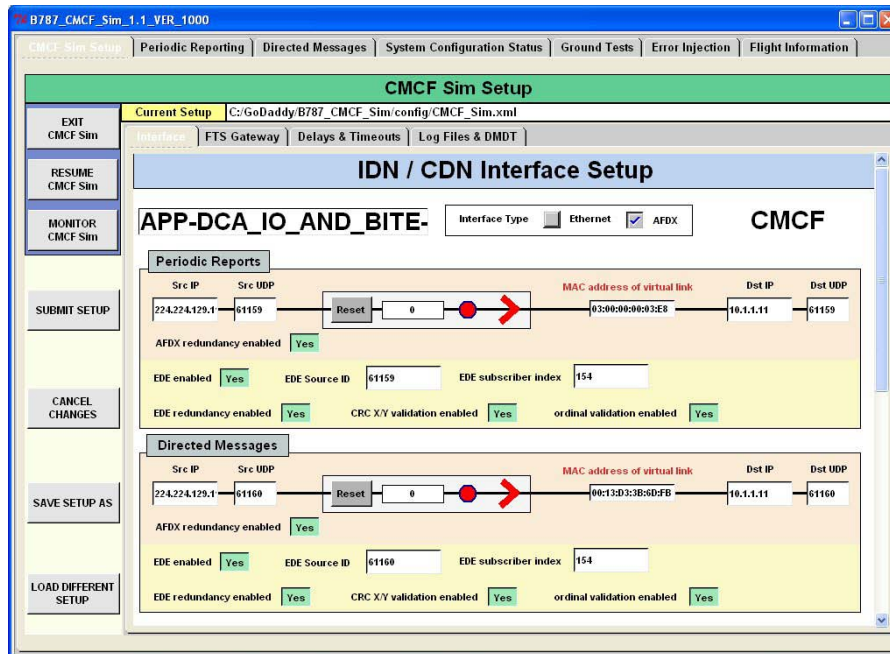




# CMCF/SIM

## 787 Central Maintenance Computing Function Simulation



- Full simulation of 787 Central Maintenance Computing Function
- Developed of the TechSAT NetGate product series for next generation avionics architectures
- Easy to use Graphical User Interface (GUI)
- ARINC 664 (AFDX®), Ethernet, ARINC 429 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
- Stand-alone or NetGate-hosted versions available
- Optional data analyzer for AFDX and CAN Bus
- Developed as a 787 Reference Product for 787 avionic developers



## CMCF/SIM 787 Central Maintenance Computing Function Simulation

### 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 (on request or automatically) the following OMS messages:

- > 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 (ADS2) just like other TechSAT simulation and NetGate products. When the full ADS2 option is taken, the NetGate-hosted CMCF/SIM can act as a programmable simulation/stimulation source for LRUs up or down stream of the NetGate 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 ARINC 429/CAN Bus or proprietary gateway accessible networks.

### CMCF/SIM Versions

HMPTT (Health Management Test Tool)

- > Basic Version

CMCF/SIM-ARINC 664

- > ARINC 664 (AFDX) Version

CMCF/SIM-Avionics Ethernet

- > Ethernet Version

CMCF/SIM-CAN Bus

- > CAN Bus Version

CMCF/SIM-ARINC 429

- > ARINC 429 Version

CMCF/SIM-Multiple Target Version

- > Supports multiple LRU/LRM targets of all network protocol types (Rover/MST hosted)

### Options

- > Stand Alone (on UHP-6/UHP-14)
- > Hosted (on a NetGate product)
- > Embedded (on OALT & Rover/MST)

### Discrete and Analog Options

- > Full discrete support catalog
- > Support catalog for most avionics analog signal devices

### Available Host Platforms for CMCF/SIM

- > UHP-6 (Universal Host Platform, 6 PCI slots)
- > UHP-14 (Universal Host Platform, 14 PCI slots)