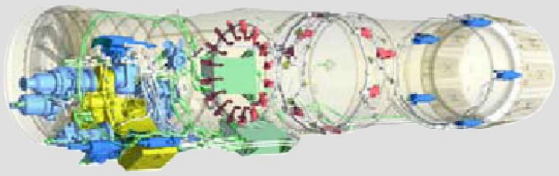


Case Study

Validation of data bus concepts for the “more electric aircraft” engine controller

Hispano-Suiza
SAFRAN Group

The Customer

Hispano-Suiza is a Centre of Excellence of the SAFRAN Group in the areas of engine control and monitoring systems, electrical and electronic equipment. Hispano-Suiza is the global market leader in power transmissions for commercial jets. FADEC International LLC, a joint-venture formed by BAE Systems and SAFRAN, is now global market leader in 100+ passenger civil aircraft engine controllers.

The Challenge

Integrated and optimized systems for tomorrow’s advanced design “more electric engine”

Requirements for the “more electric engine” controller needed to be analyzed with regard to the data bus properties. For evaluating CAN and FlexRay, a rapid prototyping and analysis tool chain should be implemented to provide information on timing, reliability, and bandwidth usage under varying conditions.

The Solution

Simulation, analysis and testing with one tool

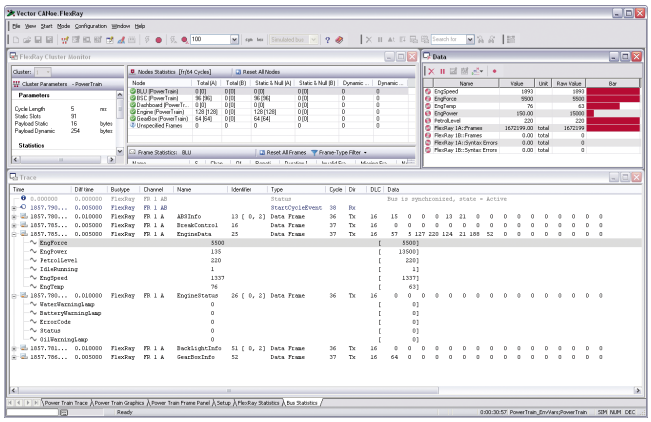
CANoe.FlexRay is used to design a CAN and FlexRay communication system and perform real-time simulations. Analysis with CANoe provides all the timing characteristics of the system. In final evaluation, the same analysis is applied to the real system.

The Advantages

Fast and reliable development and analysis of FlexRay-CAN systems

CANoe.FlexRay supports Hispano-Suiza engineers in developing the “more electric” engine controller:

- Simulation setup of several alternative communication designs and flexible parameterization facilitates simulation, testing, and analysis of FlexRay systems
- Functional and integration testing of electronic units
- Network integration testing
- CANoe.FlexRay in gateway operation: Simultaneous stimulation and analysis of CAN and FlexRay networks
- Cycle multiplexing, in-cycle multiplexing, signal groups, and sub-frames: well-organized display in analysis windows, flexible use in simulation



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