



FLIGHT MANAGEMENT SYSTEM

Here we present components and functionalities of the demonstration featuring the Flight Management System (FMS) application, developed by Thales, operating seamlessly on top of PikeOS. The demo showcases the integration of Avionics applications within a certified environment, emphasizing Safety and reliability.

Application Overview

The focal point of this demo is the FMS application, developed to meet the rigorous demands of Aviation systems. It leverages the PikeOS RTOS, a robust platform known for its reliability and adherence to the highest Safety standards, ensuring optimal performance in critical environments.

Network Communication

The FMS communicates with external systems via network. Through this communication channel, real-time aircraft position data is transmitted, facilitating accurate tracking and monitoring.

Visualization Interface

A web-based Qt application running on an external computer provides a user-friendly interface for visualizing the aircraft's flight path. This interface enhances situational awareness by rendering the plane's movements in real-time, empowering operators with valuable insights.

ARINC 653 Compliance

The demo adheres to ARINC 653 standards, ensuring compatibility and interoperability within the Avionics ecosystem offering robust hardware support, meeting certification requirements, and providing efficient partitioning for critical tasks.

Certifiable PowerPC BSP and Kernel

The demo utilizes a certifiable PowerPC T2080 Board Support Package (BSP) and kernel, ensuring compatibility with Avionics hardware and meeting highest certification requirements up to DAL A. PikeOS 5.1.3 is certified according to Common Criteria EAL 5+.

Time and Space Partitioning

PikeOS's time and space partitioning capabilities enable efficient resource allocation, enhancing system robustness and reliability.

CUSTOMER BENEFITS

Safety & Security

- Ready for upcoming standards
- Certifiable up to DAL A (functional Safety)
- Certified to Common Criteria EAL5+ (Security)
- Secure consolidation of functionalities of different levels of Safety & Security

Real-Time and Hardware Virtualization

- Multi-level safe and secure separation of applications on multi-core
- Demonstration of PikeOS layered Security architecture

OUR DEMO PARTNERS



SYSGO is the leading European manufacturer of embedded software solutions with its real-time operating system and hypervisor PikeOS and the embedded industrial-grade Linux ELinOS. Since 1991, SYSGO has been supporting customers in the Aerospace, Automotive, Railway and IIoT industries in the development of Safety-critical applications on highest industry levels. For security certifications PikeOS also meets the Common Criteria EAL 5+ level. SYSGO is part of the European Thales Group.

www.sysgo.com



The people we all rely on to make the world go round – they rely on Thales. Our customers come to us with big ambitions: to make life better, to keep us safer. Combining a unique diversity of expertise, talents and cultures, our architects design and deliver extraordinary high technology solutions. Solutions that make tomorrow possible, today. From the bottom of the oceans to the depth of space and cyberspace, we help our customers think smarter and act faster - mastering ever greater complexity and every decisive moment along the way.

www.thalesgroup.com



NXP enables secure connections and infrastructure for a smarter world, advancing solutions that make lives easier, better and safer. As the world leader in secure connectivity solutions for embedded applications, NXP is driving innovation in the secure connected vehicle, end-to-end security & privacy and smart connected solutions markets. Built on more than 60 years of combined experience and expertise, the company has 45,000 employees in more than 35 countries.

SYSGO is Gold Partner of NXP.

www.nxp.com