



Application: Software Testing

Industry: Avionics/ Military

Business Challenges

- Lack of available hardware development platforms
- Fast software development
- Enhanced productivity

Design Challenges

- Software development, debug and test
- New and existing design applications

Results

- Access to development platforms for the entire team
- More comprehensive testing
- Enhanced team productivity

Customer Challenge

The US Air Force (USAF) found Imperas virtual platforms were life-savers when hardware platforms were scarce. Their ongoing avionics programs spanned both developing new avionics applications and supporting existing applications.

For software development and testing, there was a bottleneck, since the organization currently had a limited number of hardware-based development platforms available, not enough to meet software team needs.

Imperas Solution

USAF had developed the processor for these avionics applications using the OVP APIs; this was the proprietary USAF legacy processor. The ability to build a model of a confidential, legacy processor was key. The hardware / software systems were modeled using Imperas M*SDK and OVP Fast Processor Models. And, like colleagues in the Marines, these virtual platforms were “Semper Fi” in terms of accurate, faithful modeling of the hardware components. This high-level simulation framework supported software development and test for a number of USAF teams, being easy and economical to replicate.

Benefits

The USAF concluded that Imperas virtual platforms provided much better access to development platforms for the entire team, compared to relying on their limited quantity of hardware prototypes. This translated into more comprehensive testing, and more productive use of engineering resources. Benefits accrued to both new application development for existing avionic systems, and to maintaining existing hardware/software systems.

“Virtual platforms are providing significant benefits to our software team, as they make it easier to maintain existing software and develop new applications for existing avionics systems.”

Dan Radke, 559th Software Maintenance Squadron, USAF