



NEWS RELEASE

Formal Verification Leader OneSpin Solutions Unveils its Comprehensive Safety Critical Solution for Automotive, Other Mission-Critical Applications *Random Fault Verification Supported by New Safety Critical Apps, Certification Kits*

SAN JOSE, CALIF. — May 31, 2017 — OneSpin® Solutions, provider of innovative formal verification solutions for highly reliable, digital integrated circuits (ICs), today unveiled its comprehensive safety critical analysis and diagnostic coverage solution for automotive and other mission-critical applications.

“While formal verification is invaluable for any hardware application, its ability to debug automotive and mission-critical applications may prove to be the most effective use of this technology,” says Dr. Raik Brinkmann, OneSpin’s chief executive officer. “OneSpin’s formal verification solutions ensure that suppliers of mission-critical applications, including multiple automotive semiconductor leaders, continue to meet rigorous international safety critical standards while advancing their technology.”

Two types of fault verification processes — systematic and random — are required for devices that adhere to the automotive ISO 26262 standard. OneSpin’s complete formal solution for systematic verification is used in a variety of automotive production environments worldwide. Its proven methodology for capturing specification elements in verification tests, and then accurately measuring and feeding back coverage to systematically close the verification process is a well-established, de facto methodology in multiple automotive companies.



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A published conference paper titled, “The Complete Formal Verification of a Family of Automotive DSPs,” by Rafal A. Baranowski and Marco Trunzer of Robert Bosch GmbH presented at DVCon Europe 2016 details the use of this methodology.

Support for Random Fault Verification and Analysis

OneSpin released today two new safety critical applications (“apps”) — the Fault Injection App (FIA™) and the Fault Detection App (FDA™) — and enhanced its third safety critical Fault Propagation App (FPA™) to significantly accelerate and improve the random fault verification process.

The FIA, included in OneSpin’s 360 DV-Verify™, provides an efficient and consistent way to ensure the thorough verification of hardware safety mechanisms. Engineers analyze their operation by injecting faults into verification scenarios without changing the design code. An interface enables the controlled injection of these faults and assertion mapping to associated fault scenarios, while new debugging features improve the visibility into corrupted design behavior and expedite the analysis of failing assertions.

OneSpin’s FPA reduces the effort required for fault classification, and streamlines fault debug and safety mechanism refinement. It increases the accuracy of diagnostic coverage, while saving engineering and simulation effort, and is integrated with leading fault simulation flows. Full support for SystemVerilog Assertions (SVA) as well as Property Specification Language (PSL) has been added to the app, along with a new state-of-the-art debugger to provide fast root cause analysis and fault traceability. An ISO 26262 Certification Kit can be provided with this app.



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The app operates in two modes. In the fast mode, it analyzes the fault population of large designs to extensively prune out safe faults prior to fault simulation, accelerating the diagnostic coverage process by orders of magnitude and reducing the fault simulation requirement. The FPA deep mode analyzes potentially propagatable faults left after fault simulation usually carried out by a standalone fault simulator, and detects the most difficult-to-find safe faults. Notably, it also provides traces of input stimuli required to demonstrate how specific faults propagate to safety critical logic.

FDA, a new app that provides fully automated fault metric, diagnostic coverage calculation, replaces part of the fault simulation function and allows the detection of dangerous random faults or faults not detected by the safety mechanism. The entire safety critical solution is based on OneSpin's formal verification platform that provides critical capabilities, including high-performance, automated proof engines and an integrated state-of-the-art debugger for safety. Supported design and verification languages include VHDL, SystemVerilog, SystemC, SVA and PSL, and gate-level EDIF and Liberty formats. An extensive TCL user interface for fault list management is included.

Availability and Pricing

OneSpin's safety critical solutions are shipping now. OneSpin has a direct sales channel in the United States, Europe and throughout Asia, backed by a variety of customer support and service options including on-site training, hotline support and consulting services.

Pricing is available upon request.



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OneSpin at Design Automation Conference

OneSpin will demonstrate its safety critical formal verification for automotive and mission-critical applications at the Design Automation Conference (DAC) in Booth #1547 June 19-21 from 10 a.m. until 6 p.m. at the Austin Convention Center in Austin, Texas.

Attendees can expect demonstrations of OneSpin's additional design verification solutions, Quantify™ Fault Observation Coverage, SystemC/C++ Formal Verification Environment and Equivalence Checking-Field Programmable Gate Array (EC-FPGA).

About OneSpin Solutions

OneSpin Solutions has established itself as a leader in formal verification through a range of advanced electronic design automation (EDA) solutions for digital integrated circuits. Headquartered in Munich, Germany, OneSpin is passionate about enabling users to address design challenges in areas where reliability really counts: safety critical verification, SystemC/C++ high-level synthesis (HLS) code analysis and FPGA equivalence checking. Its advanced formal verification platform and dedication to getting it right the first time have fueled dramatic growth over the past four years as it forges partnerships with leading electronics companies to pursue design perfection. OneSpin: Making Electronics Reliable.

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