

# MALPAS

## ADVANCED SOFTWARE ANALYSIS AND VERIFICATION TOOLSET

**MALPAS** offers one of the most rigorous, advanced software analysis and verification toolsets on the market today. Using Static Analysis techniques, which test code without executing it, a full analysis of program correctness, including problems that only occur at run-time, compliance with the software specification and functional integrity, can be performed.

**MALPAS** is of particular use for supporting software safety cases that require strong analytical evidence at a high integrity level.

### **MALPAS** capabilities:

- Not language specific – can be applied to most programming languages
- Support for analysis and verification of COTS and legacy software
- Supports checking functional correctness of code and detecting run-time errors
- Provides complete path coverage
- Provides proof of correctness for all possible inputs
- Depth and range of analysis can be tailored to meet assessment/verification requirements
- Data Use analysis – checks for uninitialized variables etc.
- Control Flow analysis – checks for dead code, unsafe jumps etc.
- Information Flow analysis – reveals or checks dependence of procedure outputs on inputs
- Semantic Analysis – reveals semantics of code in terms of conditional parallel assignments
- Compliance Analysis – confirms that a program meets its formal specification, and code properties are satisfied

**MALPAS** has been applied to safety, security, mission, and business critical applications including:

- Sizewell B Nuclear Power Station Reactor Protection Systems
- Lockheed Martin C130J
- Swordfish Torpedo Arming System
- Merlin Helicopter Stores Management System
- Merlin Pitch control
- BAe Hawk Fly-by-Wire Control System
- Gas Distribution Network Control System
- Tornado Covert Radio Altimeter

Various training courses in the technique of Static Code Analysis and the use of **MALPAS** are available through Atkins. Courses can be held at Atkins offices or at a customer's premises, and can be tailored to suit the level of management and technical detail required.

**MALPAS** is fully supported by Atkins under an annual support agreement – this includes regular product upgrades, and help with technical queries.

For further information and advice on **MALPAS**, to arrange demonstrations and presentations of the tool, or for any other queries, please contact the **MALPAS** Product Manager.

**MALPAS** is compatible with MS Windows 95/98/2000/XP/Vista/2007



### **MALPAS** Product Manager

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