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MEMORY MANAGEMENT BASED PATTERN-ORIENTED SOFTWARE BEHAVIOR TRACING

Abstract

In the safety verification field of aerospace software, the run-time behavior information is the foundation for software state research, which is critical to the safe operation of the software. Therefore, the technology of software behavior tracing is significant. In this paper, aiming at the problems of the software behavior identification, run-time information collection, a pattern-oriented software behavior tracing based on memory management is proposed. Depending on the technology of memory-resident program based on heap management and container management for stack balance, we can get the real-time state of run-time functions in libraries of the objective software. Experimental results show that the method can carry out a flexible way to manage nodes of target monitor software behavior and trace the software behavior effectively.