DANLAW®
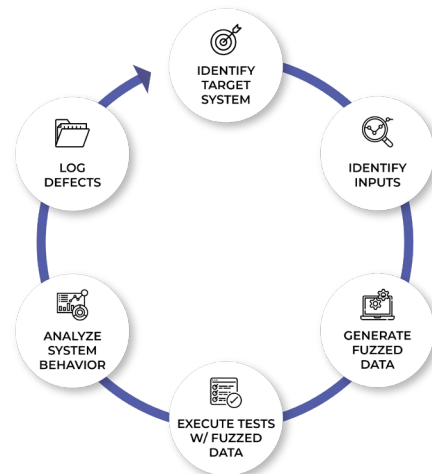
Testing Solutions

Fuzz Testing Services
Cybersecurity

Fuzz Testing (Fuzzing) Overview

Fuzz testing is a technique used to locate vulnerabilities in software by providing malformed inputs to the system. When a test causes a failure, it points to coding errors and/or security loopholes. Fuzz testing can be random, mutational (modifying packet length, flipping bits, etc.), or generational (deriving test cases from the protocol requirements).

> *Danlaw primarily uses the generation testing approach augmented by other types, including mutation and random.*

IDENTIFY TARGET SYSTEM → IDENTIFY INPUTS → GENERATE FUZZED DATA → EXECUTE TESTS W/ FUZZED DATA → ANALYZE SYSTEM BEHAVIOR → LOG DEFECTS

Automotive Embedded Software Requirements

Most Automotive OEMs mandate fuzz testing for all ECUs connected to vehicle buses like CAN and Ethernet. General Motors defines procedures in the *GMW17672 - Cybersecurity Component Validation Test Procedure* document.

> *Danlaw works closely with General Motors and fully support testing per the GM CG4579 Fuzz Testing Validation document.*

Limitations of Fuzzing

While it can track inputs that cause a program failure, fuzz testing does not provide a complete picture of overall security or bugs. It is recommended to be used in conjunction with other traditional techniques such as "black box testing, beta testing, and other proven debugging methods."

> *Danlaw has intimate knowledge of the vehicle network architecture from decades of automotive testing on-site and in-house. We use the latest commercially available fuzz testing tools to construct comprehensive testing models.*

Danlaw Deliverables

- Comprehensive fuzz test
- Complete reporting documentation based on OEM requirements
- Bulletins to the customer as soon as issues are discovered
- Support at the OEM site

Supported Protocols and Applications

· CAN · CAN-FD	· CAN-UDS · ARP	· Ethernet · UDP

Don't see your standard? Just contact us!

Contact Us

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