

FOE 2.1 Release Notes

CERT Failure Observation Engine (FOE) Significant changes

- [FOE 2.1 \(September 23, 2013\)](#)
 - [Environment changes](#)
 - [Code changes](#)
- [FOE 2.0.1 \(October 19, 2012\)](#)
 - [Code changes](#)
- [FOE 2.0 \(July 20, 2012\)](#)
 - [Environment changes](#)
 - [Code changes](#)
- [FOE 1.0 \(April 20, 2012\)](#)

FOE 2.1 (September 23, 2013)

Environment changes

- Upgraded to MSEC !exploitable 1.6

Code changes

- Crash uniqueness determined by exception chains - Improved exploitability bucketing of exception chains
- Dynamic timeouts (CPU-usage-driven) for GUI applications
- Zip seed file awareness (fuzz contents, not container)
- New and improved scripts in the tools directory
- Simplified usage
- Optional feature to recycle crashing test cases as seed files
- Minimization to string defaults to Metasploit string
- Various bug fixes and improved error handling

FOE 2.0.1 (October 19, 2012)

Code changes

- BFF 2.6 and FOE 2.0.1 use the same certfuzz package
- Fixed a bug in minimizer crash recycling
- Various bug fixes and improved error handling

FOE 2.0 (July 20, 2012)

Environment changes

- Upgraded to python 2.7

Code changes

- Improved support for multiple seed files
- Crashes found during minimization get analyzed as well
- Improved machine learning implementation applied to both seed file selection and rangefinder
- Minimizer tuned for performance
- Optional minimization-to-string feature
- Continues handled exceptions
- Button clicker included
- New drillresults.py script for picking out interesting crashes
- Added new fuzzers: drop, insert, truncate, verify
- Refactored into object-oriented code
- Merged in many other features from CERT's Basic Fuzzing Framework (BFF) for Linux v2.5

FOE 1.0 (April 20, 2012)

- Initial Release