



SEI BULLETIN - JANUARY 25, 2017

## Automated Code Repair in the C Programming Language

Finding violations of secure coding guidelines in source code is daunting, but fixing them is an even greater challenge. We are creating automated tools for source code transformation. Experience in examining software bugs reveals that many security-relevant bugs follow common patterns (which can be automatically detected) and that there are corresponding patterns for repair (which can be performed by automatic program transformation). While static analysis tools can help, they typically produce an enormous number of warnings, and teams are able to eliminate only a small percentage of the vulnerabilities identified.

In this SEI Blog post, Will Klieber and Will Snavey describe their research in automated code repair, which can eliminate security vulnerabilities much faster than the existing manual process and at a much lower cost. While this research focuses on the C programming language, it applies to other languages as well.

[Read the post.](#)

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