Fully ensure the safety, reliability, and security of software written in C and C++

The SEI CERT C and C++ Coding Standards are lists of rules for writing secure code in the C and C++ programming languages. They represent an important milestone in introducing best practices for ensuring the safety, reliability, security, and integrity of software written in C/C++. Notably, the standards are designed to be enforceable by software code analyzers using static analysis techniques. This greatly reduces the cost of compliance by way of automation.

Adhering to coding standards is a crucial step in establishing best coding practices. Standards adherence is particularly important in safety-critical, high-impact industries, such as automotive, medical, and networking. Software defects in products coming from these industries manifest themselves physically and tangibly—often with life-threatening consequences.

Synopsys provides a comprehensive solution for the SEI CERT C/C++ Coding Standards. Coverity Static Analysis implements the Rules category within the CERT C/ C++ standards, as well as methods for managing violations and reporting on them.

SEI CERT C Coding Standard (2016 Edition)

The SEI CERT C Coding Standard was developed specifically for the following versions of the C language:

- ISO/IEC 9899:2011/Cor 1:2012: Information Technology—Programming Languages—C Technical Corrigendum 1

These versions are commonly referred to as the C11 standard. The CERT C rules may also be applied to earlier versions of the C language, such as C99.

The 2016 edition of the CERT C standard contains 99 coding rules and reflects the C rules available on the CERT Secure Coding wiki as of March 30, 2016. The CERT Secure Coding wiki for C is here:

https://www.securecoding.cert.org/confluence/display/c/

The SEI CERT C Coding Standard (2016 Edition) is here:

https://www.cert.org/secure-coding/products-services/secure-coding-download.cfm

The CERT C wiki also documents 185 recommendations and two platform-specific annexes (POSIX and Windows). The recommendations and annexes are not part of the core secure coding standard.