VECTOR

Software Testing

PC-lint Plus

Static Code Analysis for C and C++

What is PC-lint Plus?

PC-lint Plus is a static analysis tool that finds defects, vulnerabilities, and guideline violations in software projects by analyzing C and C++ source code.

Like a compiler, PC-lint Plus parses your source code files, performs semantic analysis, and builds an abstract syntax tree to represent your program.

PC-lint Plus uses advanced analysis techniques, including:
Data flow analysis, abstract interpretation, value tracking, read/write tracking, strong type checking, and function semantics—delivering comprehensive diagnostics across your entire codebase.

PC-lint Plus delivers its findings through clear, concise, and actionable diagnostics, with fully customizable message formats that include precise location information and rich context to quickly address defects.

Results can be integrated seamlessly into your development workflow:

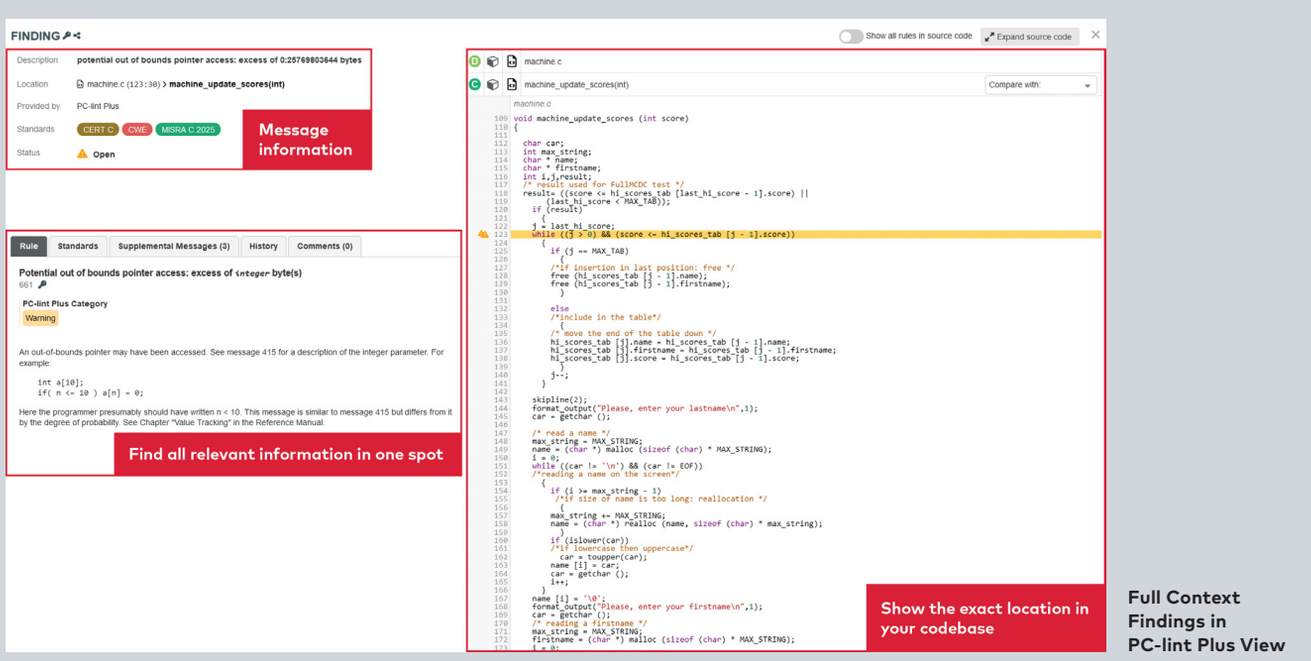
- PC-lint Plus runs from the command line, integrates with your build process, CI/CD pipelines, and IDEs, and supports flexible output formats.
- The **NEW** PC-lint Plus View offers a modern graphical interface to filter, review, track, and report diagnostics. Making analysis results easier to explore and manage across your project.

Highlights of Version PC-lint Plus 2025

- Support for MISRA C 2025, MISRA C 2023, MISRA C 2012
- Support for MISRA C++:2023
- Certified for IEC 62304 for medical device software
- Advanced diagnostic accounting and suppression auditability
- Enhanced built-in metrics with customizable thresholds and improved queries for user-defined checks
- **PC-lint Plus View**, a graphical interface for filtering, reviewing, reporting

Overview of Advantages

- Identify a wide range of defects and vulnerabilities.
- Perform in-depth analysis to uncover potential bugs and suspicious code, reducing the risk of future issues.
- Quickly pinpoint the root cause of problems and provide actionable fixes.
- Support for Coding Standards such as MISRA, AUTOSAR, and CERT C.
- Certified for ISO 26262, IEC 62304, and IEC 61508 critical safety standards.
- Secure, on-premises operation, no network connection or code upload required.



Full Context Findings in PC-lint Plus View

Widely Compatible

PC-lint Plus runs natively on Windows, Linux, and macOS, enabling the analysis of source code for virtually any target platform.

It offers comprehensive support for a wide variety of compilers and modern C/C++ language standards, including:

- C11 / C17 / C23
- C++17 / C++20 / C++23

PC-lint Plus integrates seamlessly with your IDE, build process, or continuous integration system.

Outputs are available in plain text, HTML, XML, and SARIF — supporting flexible reporting and toolchain integration.

A Smarter Way To Work With Diagnostics

New in PC-lint Plus 2025, Diagnostic Accounting brings full traceability and transparency to your static analysis results. It captures comprehensive data about every diagnostic encounter, including suppressed messages, and explains why each message was emitted or hidden. This feature is essential for safety-critical teams seeking to justify suppressions, detect unused options, and build detailed audit trails.

- Track suppressed diagnostics and suppression reasons
- Identify unused or unnecessary suppressions
- Justify deviations from coding standards
- Export detailed JSON data for compliance reporting and audits

This diagnostic insight is the backbone of our new graphical interface: **PC-lint Plus View.**

PC-lint Plus View – Graphical Analysis

PC-lint Plus View provides a powerful graphical interface for working with analysis results. It enables developers and testers to:

- Filter and explore findings interactively
- Track findings over time
- Create and customize reports
- Visualize diagnostic trends and suppression status
- Export results in SARIF and other formats

PC-lint Plus View helps teams triage and manage analysis results more effectively: supporting faster feedback, improved auditing, and better collaboration across large projects.

Comply with Safety Standards

Enforce compliance with industry coding standards including MISRA C and C++, AUTOSAR, and CERT C. Customize detection of individual guidelines and easily support guideline deviations with precise diagnostic suppressions.

The PC-lint Plus Reference Manual includes a detailed coding guideline support matrix and a more detailed version breakdown for MISRA C 2004, MISRA C++ 2008, MISRA C 2012, MISRA C 2023, MISRA C 2025, MISRA C++ 2023, CERT C, AUTOSAR17, and AUTOSAR 19.

CWE Support

The Common Weakness Enumeration (CWE) is a community-maintained list that identifies and categorizes typical security weaknesses in software and hardware. A "weakness" refers to any software, firmware, hardware, or services issue that might lead to vulnerabilities.

PC-lint Plus is certified for CWE compatibility and can detect and reference these common weaknesses using the provided configuration file.

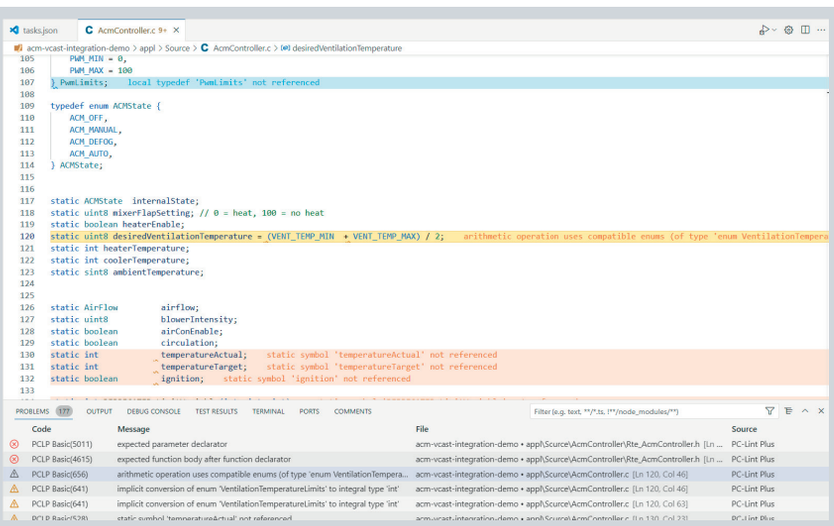
Secure On-site Analysis

PC-lint Plus runs locally on developer workstations, build servers, or continuous integration servers. It does not use an internet connection and will never collect nor submit data, code, statistics, analytics, or any other information from your system over any channel.

Certified for ISO 26262, IEC 62304, and IEC 61508

PC-lint Plus has received certification from exida® for ISO 26262:2018 (ASIL D qualified), IEC 62304, and IEC 61508:2010 (SIL 4 qualified), with certification documents available for review. You can confidently use PC-lint Plus for safety-critical projects, assured by its recognized compliance with these standards.

More information: www.vector.com/pclintplus



PC-lint Plus analysis results as shown in Visual Studio Code