**The Leading IDE for C/C++ Development Tooling**

The C/C++ Development Tooling (CDT) provides a fully open source commercial grade C/C++ IDE based on the Eclipse platform. It runs on all major OS’s and supports development for many target platforms. The CDT integrates with major compilers and debuggers including GCC, Clang, and GDB. It is the de facto standard used by the large majority of chipmakers and RTOS vendors to support their various tool chains.

CDT offers rich refactorings and an extensible static analyzer with customizable pre-defined rules and checkers. It leads innovation in multicore debugging as well as integrating with cutting-edge tracing tools.

**Modular and Extensible**

Being an Eclipse project itself, the CDT is in the best position to leverage the incredible wealth of functionality available through the Eclipse marketplace. Tap into the vast list of plugins available to extend your IDE and support your developers in tackling the wide variety of problems they may face. Or turn to commercial plugins to address specific issues pertinent to your situation - or even develop plugins inhouse to solve problems with a proprietary dimension.

### Benefits

- Highly-customizable industrial-strength C/C++ IDE
- Consolidates all development tasks into one tool
- Improves developers’ productivity
- Allows the creation of better code, faster bug fixing
- De-facto IDE for Embedded Systems companies
- High popularity with developers eases learning curve, supports quick ramp-up
- GNU Toolchain Integration as well as others
- Embedded Linux, RTOS, bare metal support
- Easily extensible through open source, home-grown, or commercial plugins
- Over 1800 plugins available in Eclipse Marketplace
- Debugging tools for highly complex problems
- Advanced Multicore Debugging tools
- As-you-type Static Code Analysis
- Allows the enforcement of project or company coding standards
- Extremely fast navigation and refactoring
- Highly integrated with source management software such as Git
- Advanced Integration with Trace Compass and Linux Tools projects
- Modeling Integration with Papyrus project
Static Analysis
CDT provides a customizable and extensible code analysis framework that includes out-of-the-box rules and checkers. It allows users to flag coding errors upon request, during compilation, or even as the user types. Results are integrated with compilation errors, highlighted in the editor and complemented with quick-fix support wherever available.

Debugger
The integration of GDB into CDT provides leading edge technologies including multicore support such as:
- All-stop and Non-stop execution modes
- Multi-process debug within a single session, multi-target with different sessions
- Pretty-printing of STL structures
- Enhanced-expressions using pattern matching and grouping
- Reverse debugging
- Project-less debugging
- Linux Kernel resource display
- Multicore Visualizer view to monitor and control target graphically
- Dynamic-printf technology allows adding printouts to processes with no recompilation or redeployment

Unit Testing
With the CDT, developers can perform their unit test activities directly in the IDE. The C/C++ unit test integrations provide the ability to develop, run and examine the results of tests. Full code navigation is provided, as well as time measurements, statistics, selective test execution, execution history, and more. The currently supported frameworks are Boost.Test, Qt Test, and Google Testing Framework, and more can be added.

PolarSys, A User Driven Community
PolarSys is an industrial working group dedicated to open source tools for embedded systems development. It addresses the full range of System Engineering activities including Modeling, Requirement Engineering, Simulation, Coding and Debugging, Testing and Verification.
It is led by large organizations such as Airbus, Atomic Energy and Alternative Energies Commission (CEA), Ericsson, and Thales. It is an ecosystem of tool users, vendors, service providers and researchers, which has several benefits.

Resources
PolarSys: http://www.polarsys.org
CDT Eclipse project: https://www.eclipse.org/cdt/
Multicore Debug WG: https://wiki.eclipse.org/CDT/MultiCoreDebugWorkingGroup
CDT Developers Summits: https://wiki.eclipse.org/CDT/summits

- Open innovation and advanced features
- No lock-in: you or third parties can add features
- Open source with commercial support
- No license fees
- Industrial user community driven
- World class intellectual property management for open source
- Very long term support
- Systematic maturity assessment
- Interoperability
- Accelerates product development
- Technology platform
- Designed for extensibility and adaptation to your context