The Eclipse C/C++ IDE
Projects and Ecosystem

EclipseCon 2011

Doug Schaefer, Wind River Systems
CDT Project Lead
Where did the CDT come from?

- Started as a fork of JDT but for C/C++
- QNX contributed initial code and started community in 2002
- Focus on enabling integration with external tools
  - Compilers and debuggers
- JDT set the bar for functionality and usability
- Java Native debugging the holy grail
What is CDT? - C and C++ Projects
What is CDT? Editor

- Keyword highlighting, bracket matching
- Outline View, Content assist
What is CDT? Source Navigation

- Open Declaration, C/C++ Search
- Call hierarchy, Type Hierarchy, Includes browser
What is CDT? Build
What is CDT? Debug
GNU Tools as Exemplary Integration

- Available for almost all platforms
- Show the proper way to do tool integrations
- Many ecosystem companies leverage this integration
  - Especially in embedded world
- As CDT evolved, so did GNU tools
  - Now a world class combination with gcc and gdb
  - A first class IDE for Linux
  - But can also be used with Windows (MinGW or Cygwin)
  - Apple (more on that later)
Eclipse C/C++ IDE

Eclipse IDE for C/C++ Developers

Package Details

An IDE for C/C++ developers with Mylyn integration.

Feature List

- org.eclipse.cdt
- org.eclipse.cdt.debug.ui.memory
- org.eclipse.cdt.mylyn
- org.eclipse.cdt.p2
- org.eclipse.cdt.platform
- org.eclipse.cvs
- org.eclipse.epp.package.common.feature
- org.eclipse.equinox.p2.user.ui
- org.eclipse.help
- org.eclipse.mylyn.bugzilla_feature
- org.eclipse.mylyn.context_feature
- org.eclipse.mylyn.ide_feature
- org.eclipse.mylyn.team_feature
- org.eclipse.mylyn.wikitext_feature
- org.eclipse.mylyn.feature
- org.eclipse.platform
- org.eclipse.rcp

7.0.0
1.1.0
1.1.0
1.1.0
1.1.0
7.0.0
3.6.0
3.6.0

Download Links

- Windows 32-bit
- Windows 64-bit
- Mac OS X (Cocoa 32)
- Mac OS X (Cocoa 64)
- Linux 32-bit
- Linux 64-bit

Downloaded 609,340 Times

- Checksums...

Bugzilla

- Open Bugs: 17
- Resolved Bugs: 15

File a Bug on this Package

New and Noteworthy

- Eclipse CDT
- Eclipse Platform
- Eclipse Mylyn
Eclipse C/C++ IDE

- C/C++ IDE for Linux Developers also available
  - Adds autoconf, Linux profiling tools

- Indigo additions for C/C++ IDE Package
  - Microsoft Visual C++ toolchain support
  - Embedded development support
    - including RSE, TCF, cross gnu tools integration
C/C++ Family at Eclipse

- Linux Tools Project
  - Tools for Linux Developers

- Target Communication Framework
  - Protocol and Service Framework for Targets

- Target Management
  - Terminal View, Remote Systems Explorer

- Parallel Tools Project
  - Tools for High Performance computing

- Sequoyah Tools for Mobile Project
  - Native tools for mobile platforms
The Greater Ecosystem

- Embedded Platform Vendors
  - Wind River Workbench
  - QNX Momentics
  - Texas Instruments Code Composer
  - Nokia Carbide
  - Montavista Dev Rocket
  - and many, many more

- Open Source Platforms
  - Linux Distros
  - Yocto Embedded Linux
  - Android
And the Ecosystem keeps Growing!

IAR Systems addresses growing user community with Eclipse integration

Embedded World 2011, Nuremberg, Germany, March 1st – 3rd – Hall 10.209
The Rise of the User

- User contributions to CDT on the rise
  - Ericsson
  - Google
  - Broadcom
  - A handful of small independents

- Focused mainly on improving quality
  - Make sure CDT works for their users

- Hugely important to the Eclipse ecosystem
What’s happening in CDT today?

- Codan static analysis
- Multi-core Debug
  - Pin and clone views to debug contexts
  - Debug element grouping
  - Gdb multi-context support
- General quality improvements
  - Scanner Discovery clean-up
  - Build scalability
  - Platform build configurations
  - Refactoring improvements
What cool things could we do?

- Java native debugging still holy grail
  - Should be important for Android, Eclipse
- Apple platform support
  - As alternative to Xcode
  - Support for Objective-C
- Windows Platform
  - Debugging to go along with Visual C++ build support
  - C#?
- External builders support
  - CMake, SCons, Jam
Areas that need work

- Build UI and Workflows
- Refactoring coverage and quality
- Codan code checkers and quick fix
- Scalability to massive projects
To the 25+ committers and countless contributors who bring the C/C++ IDE to you.

Thank you!