What’s new in CDT 4.0 and beyond

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The Eclipse Tools PMC is pleased to announce some exciting developments to the CDT project hosted on eclipse.org. First, QNX will be contributing some C/C++ core technology from their recently announced product to eclipse.org. We believe that this will enhance the value of the technology hosted on eclipse.org and bring some industrial strength technology into the CDT project.
What is the CDT?

- Eclipse IDE for C/C++ Development
  - Creating and managing source code
  - Building executables
  - Debugging to understand problems

- A Platform for C/C++ Tools Integrations
  - Compilation Tools and Debuggers
  - Code Analysis and Modelling
  - Code Generation Tools
What are the major components of the CDT

- **Editor**
  - Syntax highlighting, bracket matching, formatting, content assist

- **Resource Management**
  - Understanding C/C++ Artifacts (CModel, CDOM)

- **Source Index**
  - C/C++ Search, Open Declaration, Open Type, Call Hierarchy View

- **Build System**
  - Managed build with UI for setting up build options
  - Roll your own, provide your own build files and builder

- **Debug Integration**
  - Visualization of debug session
What is the CDT used for?

- **Embedded Device Development**
  - Becoming the standard platform for embedded tools integrations

- **Linux Development**
  - Available in almost all Linux distributions
  - Natural integration with Linux’s gnu tools

- **High Performance Computing**
  - Targeting super-computers and mainframes
Active CDT Committers

- Doug (QNX)
- Mikhail S and Oleg (Intel)
- Markus and Toni (Wind River)
- Mikhail K (ARM)
- Ken (Nokia)
- Chris, Vivian, Jason, Mike (IBM)
- Andrew (Symbian)
- John (Freescale)
CDT Releases

- CDT 1.0 – Nov 5, 2002
- CDT 1.1 – May 16, 2003
- CDT 1.2 – October 16, 2003
- CDT 2.0 – July 2, 2004
- CDT 2.1 – Dec 22, 2004
- CDT 3.0 – Aug 16, 2005
- CDT 3.1 – June 26, 2006
- CDT 4.0 – June 29, 2007
- CDT 5.0 – June 27, 2008
Where are we today?

- CDT 4.0 out the door
  - 370 bugs fixed
    - Compared to 224 for 3.1
  - 380,000+ downloads of Eclipse C/C++ IDE
    - 75% Windows, 21.5% Linux, 3.5% Mac

- CDT 4.0.1 released two weeks ago
  - 206 bugs fixed!
    - Compared to 68 for 3.1.1
  - CDT 4.0.2 end of November
What’s new in CDT 4?

- New New Project Wizard
  - Able to specify project types and manage configurations
- Project Templates
  - Able to customize projects and generate code
- New Source Navigation Views
  - Call Hierarchy, Include Browser, Type Hierarchy
- Faster Content Assist, Open Declaration
  - Now uses the index instead of full parsing
- Semantic identifier highlighting in editor
  - Based on role of identifier
What’s new in CDT 4?

- Support for Unified Parallel C (UPC)
  - Start of new parser extensibility framework

- Contextual Launching
  - Simplified launching based on current selection

- GDB Hardware Debugging Integration
  - Simplified launch configuration for using gdb enabled devices

- Separation of Cygwin and MinGW integrations
  - Better support for MinGW
What is Wascana?
What is Wascana Desktop Developer?

- An open source IDE for Windows desktop development
  - [http://wascana.sourceforge.net](http://wascana.sourceforge.net)
- Includes:
  - Java Run-time Environment
  - Eclipse Platform and CVS integration
  - CDT, of course
  - MinGW toolchain
  - MSYS command line build environment
  - wxWidgets and SDL libraries
  - boost and other libraries and plug-ins in future versions
Demo
CDT 5.0 (Ganymede)

- Release Date: June 2008
  - On Eclipse Simultaneous Release Trains
- Step up effort to manage APIs
  - Document and manage change
- Support for Visual Studio-like Add/Exclude Files and Directories
  - Simplify experience for those migrating
- Remote Development Support
  - Reviewing proposal from IBM
- C/C++ Refactoring Support
  - Reviewing HSR proposal
CDT 5.0 (Ganymede)

- Continued work on configurable parsers
  - Based on LPG parser generator

- Improved Disassembly View
  - Scroll through disassembly of entire program
  - Move to Editor pane

- Integration of Debug Services Framework
  - Ability to use DSF or CDI as debug framework
  - Will consider DSF’s GDB/MI integration for default CDT package

- General improvements throughout the CDT
  - Focus on quality over architectural changes
Where can I get more Information?

- CDT Website and Wiki
  - http://www.eclipse.org/cdt

- CDT On-line Help

- CDT Newsgroup for end users
  - http://www.eclipse.org/newsgroups group eclipse.tools.cdt

- CDT Mailing List for ISVs
  - cdt-dev@eclipse.org