

TECH TOOLS

LLVM 3.0 Released

Low Level Virtual Machine (LLVM) recently announced version 3.0 of its compiler infrastructure. Originally implemented for C/C++, the language-agnostic design of LLVM has spawned a wide variety of front ends, including Objective-C, Fortran, Ada, Haskell, Java bytecode, Python, Ruby, ActionScript, GLSL, Clang, and others.

The new release of LLVM represents six months of development over the previous version and includes several major changes, including discontinued support for `llvm-gcc`; the developers recommend switching to Clang or DragonEgg. Clang is aimed at

replacing the C/Objective-C compiler in the GCC system with a more easily integrated system and wider support for multithreading. Other features include a new register allocator (which can

provide substantial performance improvements in generated code), full support for atomic operations and the new C++ memory model, and major improvement in the MIPS back end.

All LLVM releases are available for immediate download from the LLVM releases web site at: <http://llvm.org/releases/>. For more information about LLVM, visit the main LLVM website at: <http://llvm.org/>.



YaCy Search Engine Online



The YaCy project has released version 1.0 of its peer-to-peer Free Software search engine. YaCy does not use a central server; instead, its search results come from a network of independent peers. According to the announcement, in this type of distributed network, no single entity decides which results get listed or in what order results appear.

YaCy (pronounced "Ya See") is supported by the Free Software Foundation Europe (FSFE), a non-profit organization that promotes free software. FSFE says that YaCy helps privacy by encrypting all queries and by letting peer owners build up and manage their own search profile.

According to the FSFE's news release, the YaCy search engine runs on the user's own computer. Search terms are encrypted before they leave the user's computer to protect the user's privacy. A user's computer creates individual search indexes and rankings, so that results better match what the user is looking for over time. YaCy also allows users to create a customized search portal.

The YaCy search page was made available to the public on November 28. The YaCy software is available for Windows, Linux, and Mac OS, and users are being encouraged to download and run it for themselves. A demo of the search portal is online, but according to the website, users must install their own peer of YaCy to get the full YaCy experience. The project is also looking for developers and other contributors.

You can read FSFE announcement at: <http://fsfe.org/news/2011/news-20111128-01.en.html>. You can access the demo and download the software from: <http://search.yacy.net/>.

Open64 5.0 Released

Open64, the open source (GPLv2-licensed) compiler for C/C++ and Fortran that's backed by AMD and has been developed by SGI, HP, and various universities and research organizations, recently released version 5.0.

The website describes the major changes in this new version as bug fixes, performance improvements, new optimizations, and infrastructure changes. Specifically, new features include improved debugging, intrinsic support for IA-64, improved -O3 floating point performance, improved vectorization, and comprehensive support and tuning for the "Bulldozer" processor. The following two features are now officially deprecated: GCC 3.x front-end support and IRIX support.

Open64 5.0 supports i386, x86_64 and IA-64. The compiler is available in both binary and source code form for different target machines. You can read the release notes at: <http://sourceforge.net/projects/open64/files/open64/Open64-5.0/RELEASE-5.0/view> and download it here: <http://sourceforge.net/projects/open64/files/open64/Open64-5.0/>.