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# Using Intel(R) Compilers for Linux under Fedora

#### Using Intel Compilers for Linux with Fedora

## Introduction:

Using Intel® Compilers under Fedora (11, 12) by Ron W. Green. For older FC distributions, skip below to information on those older distros.

In order to use Intel(R) Compilers (C++ or Fortran) under Fedora 12, you will need the latest 11.1 version of the Intel compiler(s). Do NOT try to install older Intel Compiler such as 11.0, 10.x, 9.x or 8.x under Fedora Core 12: they will not install easily and probably will not work - and they are NOT supported. If you need an older Intel Compiler version, please read their ReleaseNotes and obtain an older, supported distribution.

If you have active support for your compiler, you can download the latest Intel compiler version from the Intel Registration Center at:

### https://registrationcenter.intel.com

BEFORE YOU INSTALL the Intel(R) C++ Compiler for Linux or the Intel(R) Fortran Compiler for Linux, on your fresh Fedora installation you will need to disable SELinux OR set SELinux to "Permissive". As root, edit /etc/sysconfig/selinux and etither disable SELinux or set it "Permissive" - then reboot.

Hopefully, during the installation of Fedora Core 12 you selected a profile for a "Software Development" configuration. This installs the proper gc/g+t+binutils and other necessary development packages. If not, set itup as a development platform. You will first need to install several packages that are prerequisites to preparingthe system to serve as a development platform:

1. Check that GNU gcc and g++ are installed on the system. By default you can simply check by executing the command:

gcc --version

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By default, Fedora 12 uses and ships gec 4.4. If for some reason, you do not have gcc installed, then go ahead and install gcc and g++ on your system. You can use the software package manager "yum" to do the install. Refer to http://fcdoraproject.org/wiki/Tools/yum learn more on yum.

As root user, in a terminal window: yum install gcc yum install gcc-c++

 Next, you will need to ensure that the 32-bit version of the standard C++ library, libstdc++.so.5 (typically found in /usr/lib/ directory) is installed on the system. The Intel® C++ and Fortran compilers for Linux installation require

the linkage to the 32-bit version of libstdc++.so.5 library on all Linux distributions. Failure to do so will result in installation failure on library dependencies not met. For more details, refer to the article at:

http://software.intel.com/en-us/articles/performance-tools-for-software-developers-intel-compiler-10xinstallation-failure-libstdc-failed-dependencies/

as root user, in a terminal window, install the compatibility library libstdc++.so.5 for 32bit AND the 32bit glibcdevel libraries yum install compat-libstdc++-.33.i686 yum install glibc-devel.i686

if you have a 64bit x86\_64 FC12 system, you also need to install the 64 bit version of compat-libstdc++ yum install compat-libstdc++-33.x86\_64

4. Finally, there is an optional package to consider: The 11.x version of the Intel Compiler for Linux has a graphical debugger, a new graphical interface for the IDB debugger. If you want to use this debugger, please make sure to install the JAVA JRE version 1.5 or higher.

check that java JRE is installed: java -version or java --version

(note: compilers older than 11.1.064 had issues finding installed java JREs. Please upgrade to new compiler OR ignore the 'missing java' prerequisite check)

If java is missing, you may get the latest JRE from:

http://java.com/en/download/manual.jsp

Once installation of above prerequisites is complete, you are ready to start the Intel compiler(s) installation!

If you have problem even after following this guide, DO NOT leave comments - instead, go to our User Forum and submit a problem report: <u>http://software.intel.com/en-us/forums/intel-fortran-compiler-for-linux-and-mac-os-</u>

# **OLDER FC distributions**

Using Intel® Compilers under Fedora (7, 8, 9, 10)

In order to use Intel(R) Compilers (C++ or Fortran) under Fedora 9, you will need the latest 11.0 version of the Intel compiler(s). The upcoming compiler version 11.1 (presently in Beta) works properly with Fedora 10. The 10.1 version should work fine with Fedora 8, Fedora 7, and Fedora 6, while much older versions 9.1 or 9.0 may not.

If you have active support for your compiler, you can download the latest Intel compiler version from the Intel Registration Center at:

## https://registrationcenter.intel.com

BEFORE YOU INSTALL the Intel(R) C++ Compiler for Linux or the Intel(R) Fortran Compiler for Linux, on your fresh Fedora installation, you will first need to install several packages that are prerequisites to preparing the system to serve as a development platform:

 Check that GNU gcc and g++ are installed on the system. By default you can simply check by executing the command:

gcc --version

By default, Fedora 9 uses and ships gcc 4.3. If for some reason, you do not have gcc installed, then go ahead and install gcc and g++ on your system. You can use the software package manager "yum" to do the install. Refer to http://fcdoraproject.org/wiki/Tools/yum to learn more on yum.

yum install gcc yum install gcc-c++

 Next, you will need to ensure that the 32-bit version of the standard C++ library, libstdc++.so.5 (typically found in /usr/lib/ directory) is installed on the system. The Intel® C++ and Fortran compilers for Linux installation require

the linkage to the 32-bit version of libstdc++.so.5 library on all Linux distributions. Failure to do so will result in installation failure on library dependencies not met. For more details, refer to the article at:

http://software.intel.com/en-us/articles/performance-tools-for-software-developers-intel-compiler-10xinstallation-failure-libstdc-failed-dependencies/

For Fedora 9, libstdc++.so.5 comes from the RPM package compat-libstdc++.33.3.2.463.i386. Please refer to your Linux distributor's installation materials for installation procedure, and details thereof on the specific compatibility stundard C++ library package that provides the required libstdc++.so.5 library.

3. For building a 32-bit application on 64-bit Fedora system, also ensure that the GNU C library glibc is installed. For

Fedora 9, glibc-2.8-3.i686 has to be installed. Refer to http://fedoraproject.org/ for more details.

4. Finally, there is an optional package to consider: The 11.0 version of the Intel Compiler for Linux has a graphical

debugger, a new graphical interface for the IDB debugger. If you want to use this debugger, please make sure to install the JAVA JRE version 1.5 or higher. This can be done at anytime after the installation of the compiler. However, you will get a warning message about 'missing prerequisite' for the JRE - simply ignore that message and proceed with the installation. OR to avoid that message and enable the graphical IDE, get the latest JRE from:

# http://java.com/en/download/manual.jsp

Once installation of above prerequisites is complete, you are ready to start the Intel compiler(s) installation!

Notes:

1. To purchase/evaluate: http://software.intel.com/en-us/intel-compilers/

2. To get older compiler versions: http://software.intel.com/en-us/articles/older-version-product/

This article applies to: Intel® C++ Compiler for Linux\* Knowledge Base, Intel® Compilers, Intel® Fortran Compiler for Linux\* Knowledge Base