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gcc, guide, compile

Difficulty

Hard

GCC 5.4.0

This guide assumes you are switched to su - . Please note that during the make step you may run into issues check the missing aclocal-1.15 section , this guide assumes you are using the eSG provided installation image.

Goal

Build GCC 5.4.0

Steps

Building Pre requisites

```
cd ~
mkdir buildgcc
cd ~/buildgcc
```

Library Prerequisites

```
yum groupinstall "Development tools"
yum install glibc-devel.i686 glibc.i686 texinfo
```

EXPORTS used to set versions

You can change the values here to change the compiled version.

```
MPC_VERSION=1.0.3
MPFR_VERSION=3.1.5
GMP_VERSION=6.1.2
ISL_VERSION=0.16.1
CLOOG_VERSION=0.18.1
```

```
GCC_VERSION=5.4.0
```

Fetch MPC

```
wget ftp://ftp.gnu.org/gnu/mpc/mpc-${MPC_VERSION}.tar.gz
tar zxfv mpc-${MPC_VERSION}.tar.gz
```

Fetch MPFR

```
wget http://www.mpfr.org/mpfr-current/mpfr-${MPFR_VERSION}.tar.bz2
tar jxfv mpfr-${MPFR_VERSION}.tar.bz2
```

Fetch GMP

```
wget https://gmplib.org/download/gmp/gmp-${GMP_VERSION}.tar.bz2
tar jxfv gmp-${GMP_VERSION}.tar.bz2
```

Fetch ISL

```
wget ftp://ftp.ntua.gr/pub/gnu/gcc/infrastructure/isl-${ISL_VERSION}.tar.bz2
tar jxfv isl-${ISL_VERSION}.tar.bz2
```

Fetch CLOOG

```
wget
ftp://ftp.ntua.gr/pub/gnu/gcc/infrastructure/cloog-${CLOOG_VERSION}.tar.gz
tar zxfv cloog-${CLOOG_VERSION}.tar.gz
```

Fetch GCC

```
wget
ftp://ftp.ntua.gr/pub/gnu/gcc/releases/gcc-${GCC_VERSION}/gcc-${GCC_VERSION}
.tar.bz2
tar jxfv gcc-${GCC_VERSION}.tar.bz2
```

Copy downloaded libraries in GCC directory

```
cd gcc-${GCC_VERSION}
cp -R ../mpc-${MPC_VERSION} mpc
cp -R ../mpfr-${MPFR_VERSION} mpfr
cp -R ../gmp-${GMP_VERSION} gmp
cp -R ../isl-${ISL_VERSION} isl
cp -R ../cloog-${CLOOG_VERSION} cloog
```

Hardcoded autoconf

Since autoconf is hardcoded you need to update to your own version Find your version using:

```
rpm -qa | grep autoconf
```

example: autoconf-2.69-11.el7.noarch, thus you have version 2.69 .

Find the following line in config/override.m4

```
m4_ifndef([_GCC_AUTOCONF_VERSION],
  [m4_define([_GCC_AUTOCONF_VERSION], [2.69])])
```

and change the version to your own

missing aclocal-1.15

Since your version of aclocal may be different you should autoreconf using:

```
autoreconf -ivf
autoreconf -ivf mpfr/
autoreconf -ivf isl/
autoreconf -ivf cloog/
```

Configure GCC

```
./configure --prefix=/opt/gcc-${GCC_VERSION} --enable-multilib --with-
system-zlib
```

Make GCC

Warning: This process will take quite a few hours, make sure the build is started in a multiplexer (eg tmux)

```
make
```

Install GCC

```
make install
```

This will install GCC in the path you set in configure with –prefix=

From:
https://esgr.in/wiki/ - **eSGR Documentation**

Permanent link:
https://esgr.in/wiki/software/gcc?rev=1504669317

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