

m68k-unknown-linux-gnu

Tier: 3

Motorola 680x0 Linux

Designated Developers

- @glaubitz
- @ricky26

Requirements

This target requires a Linux/m68k build environment for cross-compilation which is available on Debian and Debian-based systems, openSUSE and other distributions.

On Debian, it should be sufficient to install a g++ cross-compiler for the m68k architecture which will automatically pull in additional dependencies such as the glibc cross development package:

```
# apt install g++-m68k-linux-gnu
```

Binaries can be run using QEMU user emulation. On Debian-based systems, it should be sufficient to install the package `qemu-user-static` to be able to run simple static binaries:

```
# apt install qemu-user-static
```

To run more complex programs, it will be necessary to set up a Debian/m68k chroot with the help of the command `debootstrap`:

```
# apt install debootstrap debian-ports-archive-keyring
```

```
# debootstrap --keyring=/usr/share/keyrings/debian-ports-archive-keyring.gpg --arch=m68k uns
```

This chroot can then seamlessly entered using the normal `chroot` command thanks to QEMU user emulation:

```
# chroot /path/to/debian-68k
```

To get started with native builds, which are currently untested, a native Debian/m68k system can be installed either on real hardware such as 68k-based Commodore Amiga or Atari systems or emulated environments such as QEMU version 4.2 or newer or ARAnyM.

ISO images for installation are provided by the Debian Ports team and can be obtained from the Debian CD image server available at:

<https://cdimage.debian.org/cdimage/ports/current>

Documentation for Debian/m68k is available on the Debian Wiki at:

<https://wiki.debian.org/M68k>

Support is available either through the `debian-68k` mailing list:

<https://lists.debian.org/debian-68k/>

or the `#debian-68k` IRC channel on OFTC network.

Building

The codegen for this target should be built by default. However, `core` and `std` are currently missing but are being worked on and should become available in the near future.

Cross-compilation

This target can be cross-compiled from a standard Debian or Debian-based, openSUSE or any other distribution which has a basic m68k cross-toolchain available.

Testing

Currently there is no support to run the rustc test suite for this target.

Building Rust programs

Rust programs can be built for that target:

```
rustc --target m68k-unknown-linux-gnu your-code.rs
```

Very simple programs can be run using the `qemu-m68k-static` program:

```
$ qemu-m68k-static your-code
```

For more complex applications, a chroot or native (emulated) Debian/m68k system are required for testing.