Mpich

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Contents

1   Raspberri Pi MPICH 4.1a1

Building and installing `mpich-4.1a1` on a Raspberry Pi 4.   The build is done in
`/opt/hpc/rpi/mpi/mpich/4.1a1/bld` and the install location is `/opt/hpc/rpi/mpi/mpich/4.1a1`
to control the version usage of `mpich` .

As root

```
aptitude install gfortran automake g++ make
mkdir -p /opt/hpc/src
chown -R $USER.$USER /opt/hpc
```

As user

```
export VER=4.1a1
cd /opt/hpc/src
wget https://www.mpich.org/static/downloads/$VER/mpich-$VER.tar.gz
export PFX=/opt/hpc/rpi/mpi/mpich/$VER
mkdir -p $PFX/bld
cd $PFX/bld
tar xvzf /opt/hpc/src/mpich-$VER.tar.gz --strip-components=1
```

On traditional HPC systems the device must match the network. Without specification it might look like this:

```
./configure --prefix=$PFX
...
****************************************************
***
*** device      : ch4:ofi (embedded libfabric)
*** shm feature : auto
*** gpu support : disabled
***
  MPICH is configured with device ch4:ofi, which should work
  for TCP networks and any high-bandwidth interconnect
  supported by libfabric. MPICH can also be configured with
  "--with-device=ch4:ucx", which should work for TCP networks
  and any high-bandwidth interconnect supported by the UCX
  library. In addition, the legacy device ch3 (--with-device=ch3)
  is also available.
****************************************************
Configuration completed.
```

With using the legacy `ch3:sock` device it looks like this:

```
./configure  --prefix=$PFX --with-device=ch3:sock
...
****************************************************
***
*** device configuration: ch3:sock
***
****************************************************
Configuration completed.
```

If you are following these various `configure` experiments, make sure you run `configure` from a clean archive before compiling.

```
make -j 4
make install
```

2 History

Version	Date	Notes
0.1.2	2023-01-26	Improve writing
0.1.1	2022-06-20	Change dir structure
0.1.0	2022-06-18	Initial release

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