

OFED's rdma_core is based on 4.17. The Distro's rdma_core will not be newer since we use the latest upstream kernel/rdma_core as a base and add support to the existing Distros. OFED brings newer functionality to the existing Distros by removing the "in-box" user-space packages and installing newer rdma-core (user and kernel) and other OFED packages. compat-rdma brings the new kernel drivers installed under /lib/modules/^uname -r`/kernel/updates directory which precede in the search path the in-box drivers, so, OFED's drivers being loaded by the openibd service.

Vi Location of GIT Trees

Build system:

- Git URL: `git://git.openfabrics.org/~vlad/build.git`
- Branch: `master`
- `git clone git://git.openfabrics.org/~vlad/build.git -b master`

Compat-rdma git trees:

Linux:

- `linux_git_url="git://git.openfabrics.org/compat-rdma/linux-4.17.git"`
- `linux_git_branch="master"`
- `git clone git://git.openfabrics.org/compat-rdma/linux-4.17.git -b master`

compat:

- `compat_git_url="git://git.openfabrics.org/compat-rdma/compat.git"`
- `compat_git_branch="ofed"`
- `git clone git://git.openfabrics.org/compat-rdma/compat.git -b ofed`

compat-rdma:

- `git_url="git://git.openfabrics.org/compat-rdma/compat-rdma.git"`
- `git_branch="master"`
- `git clone git://git.openfabrics.org/compat-rdma/compat-rdma.git -b master`

OFED Build process

Clone the necessary git trees:

- `git clone git://git.openfabrics.org/~vlad/build.git -b master`
- `git clone git://git.openfabrics.org/compat-rdma/linux-4.17.git -b master`
- `git clone git://git.openfabrics.org/compat-rdma/compat.git -b ofed`
- `git clone git://git.openfabrics.org/compat-rdma/compat-rdma.git -b master`

Next Steps

Perform the following steps to compile the kernel part of OFED after cloning the compat/linux git trees.

Set environment variables

- cd compat-rdma
- export GIT_TREE=/home/username/linux-next/
 - export GIT_TREE=/home/rupertd/linux-4.17/
- export GIT_COMPAT_TREE=/home/username/compat
 - export GIT_COMPAT_TREE=/home/rupertd /compat

Prepare compilation environment

- cd compat-rdma
- ./scripts/admin_rdma.sh -n -p
 - This is what applies all the patches: backports from patches directory, the patches from linuxnext-cherry-picks directory and the patches on the linux-next-pending directory

Compilation procedure:

Note: Procedure to build/install OFED kernel modules on your local machine.

- ./configure --with-core-mod --with-user_mad-mod --with-user_access-mod --with-addr_trans-mod ---with-mthca-mod with-mlx4-mod --with-mlx4_en-mod --with-mlx5-mod --with-mlx5_en-mod --with-cxgb3-mod --with-cxgb4-mod --with-qib-mod --with-ipoib-mod --with-srp-mod --with-nfsrdma-mod
- make
- make install

Notes:

- All backport patches should go into “compat-rdma/patches/” directory
- You may have to add required functionality to the [git://git.openfabrics.org/compat-rdma/compat.git](https://git.openfabrics.org/compat-rdma/compat.git).
 - For example: missing defines and symbols.

Building OFED-4.17: examples

- ./build.pl --version 4.17 -r -p packages-ofed --skip-postbuild
- ./build.pl --version 4.17 rc1 -r -p packages-ofed --skip-postbuild

Daily build for OFED 4.17

- ./build.pl --version 4.17 --daily -d OFED -p packages-ofed/ --post-build /home/vlad/scripts/build/postbuild-ofed-4.17

Output: /tmp/username

General Notes:

- build/packages-ofed/ - location of the configuration files for each package
- compat-rdma/patches - location of the patches to be applied

Pre-build process

- Change directory to the location of the configuration files
 - **For example:** /home/rupertd/scm/build/packages-ofed
- Check the configuration files for each ofed package:
 - If the author creates a latest.txt file, the conf should specify use_latest=1. **For example:**
 - getMethod=tarball
 - URL="http://www.openfabrics.org/downloads/perftest"
 - use_latest=1
 - Otherwise the conf file should specify latest package supplied by the author. **For example:**
 - getMethod=tarball
 - URL= <https://www.openfabrics.org/downloads/cxgb4/libcxgb4-1.4.0.tar.gz>
- Change directory to the location of the patch files
 - **For example:** /home/rupertd/scm/compat-rdma/patches
- Verify and add new patches that have been approved:
 - If a new patch has been received, the file should be added in directory /compat-rdma/patches. **For example:**
 - 0001-BACKPORT-ib_core.patch
 - 0002-BACKPORT-mlx5-mlx5_core-mlx5_en-and-mlx5_ib.patch

Making your git tree publically available

- Create a directory called “scm” under your home directory and clone your git trees there.
 - **For example:** cd /home/rupertd/scm
 - git clone git://git.openfabrics.org/compat-rdma/linux-4.17.git -b master
- Edit the file .get/description for each tree that you clone
 - **For example:** /home/rupertd/scm/build/.git/description → Rupert’s Build Project
- Change to the /pub/scm directory
- Create a link to your home directory
 - **For example:** sudo ln -s /home/rupertd/scm ~/rupertd
- Go to the OpenFabrics git repository and you will see your directories.
 - <http://git.openfabrics.org/git/>

Committing your changes

- Add a line to your .bashrc file for editing comments
 - **For example:** export EDITOR=vim
- Review the files you changed
 - **For example:** git status
- Commit your changes
 - **For example:** git commit -a -s
 - Add a one line description of changes made
 - Delete the line “Signed off by”

- To exit and finalize the commit: in vim “:x” or “:wq”
- Notify Vlad and Rupert that you have made committed changes

Problems with the build

There are several options if you have problems compiling because of a failed kernel module or user space package. Disable failing component as follow:

- Use the new installation flag ‘--without-<package>’
 - /install.pl --all --without-iser --without-nfsrdma
- Edit ofed.conf.
 - nfsrdma=n
 - iser=n