

1. Instalación de HPC toolkit intel oneapi

<https://software.intel.com/content/www/us/en/develop/tools/oneapi/hpc-toolkit.html>

- Intel® oneAPI DPC++/C++ Compiler
- Intel® oneAPI Fortran Compiler
- Intel® C++ Compiler Classic
- Intel® Cluster Checker
- Intel® Inspector
- Intel® MPI Library
- Intel® Trace Analyzer and Collector

instalación:

- a. mkdir /shared/apps/intel
- b. wget https://registrationcenter-download.intel.com/akdlm/irc_nas/17912/l_HPCKit_p_2021.3.0.3230_offline.sh
- c. sudo sh l_HPCKit_p_2021.3.0.3230_offline.sh -s -a --silent --eula accept --install-dir /shared/apps/intel
- d. ls -l /shared/apps/intel

2. Instalación de Base toolkit intel oneapi

- wget https://registrationcenter-download.intel.com/akdlm/irc_nas/17977/l_BaseKit_p_2021.3.0.3219.sh
- bash l_BaseKit_p_2021.3.0.3219.sh

3. Instalación OpenBLAS:

- a. mkdir /shared/apps/openblas
- b. dnf group install "Development Tools"
- c. wget <https://github.com/xianyi/OpenBLAS/releases/download/v0.3.17/OpenBLAS-0.3.17.tar.gz>
- d. tar xvf OpenBLAS-0.3.17.tar.gz
- e. cd OpenBLAS-0.3.17
- f. make
- g. make PREFIX=/shared/apps/openblas install

4. Instalación hpl benchmark

- a. wget <https://www.netlib.org/benchmark/hpl/hpl-2.3.tar.gz>
- b. tar xvf hpl-2.3.tar.gz
- c. cd hpl-2.3
- d. less INSTALL

5. Configuración base hpl

- a. source /shared/apps/intel/setvars.sh
- b. vi Make.Linux_openblas impi
- c. make arch=Linux_openblas impi

6. Infiniband

- `wget https://www.mellanox.com/downloads/ofed/MLNX_OFED-4.9-3.1.5.0/MLNX_OFED_LINUX-4.9-3.1.5.0-rhel8.2-x86_64.tgz`
- `tar xvf MLNX_OFED_LINUX-4.9-3.1.5.0-rhel8.2-x86_64.tgz`
- `mkdir firmware`
- `cd firmware/`
- `wget https://downloads.hpe.com/pub/softlib2/software1/pubsw-linux/p303928998/v153727/fw-ConnectX3-rel-2_42_5030-649282-B21_B2-CLP-8025-FlexBoot-3.4.753.tgz`
- `tar xvf fw-ConnectX3-rel-2_42_5030-649282-B21_B2-CLP-8025-FlexBoot-3.4.753.tgz`
- `rm 649282-B21_B2_ConnectX3-FW-2_42_5030-release_notes_for_HP.pdf`
- `cd MLNX_OFED_LINUX-4.9-3.1.5.0-rhel8.2-x86_64`
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- `./mlnxfedinstall --fw-image-dir /root/mellanox/firmware/`
- `wget`
`http://www.mellanox.com/downloads/firmware/mlxup/4.17.0/SFX/linux_x64/mlxup`
- `chmod +x mlxup`
- `./mlxup`
- `./mlxup -D /root/mellanox/firmware/`
- `/etc/init.d/openibd restart`
- `./mlxup`

Crear una conexion de infiniband mlx4_ib1

- `nmtui`
- Edit a connection
- Infiniband <System ib0><add>
- Infiniband
- <Profile name>
- Creamos una conexion infiniband automatica

Create an infiniband connection named mlx4_ib1

- `nmcli connection show`
- `nmcli connection modify mlx4_ib1 ipv4.addresses 10.150.7.106/24`
- `nmcli connection modify mlx4_ib1 ipv4.method static`
- `nmcli connection down mlx4_ib1`
- `nmcli connection up mlx4_ib1`

Pruebas RDMA Infiniband

- `yum install iperf3`

servidor

- `qperf3 -c 10.150.7.107 -P 8`

cliente

- `qperf3 -s`

Verificación de tráfico de paquetes por Infiniband

- `ibdump -d mlx4_0 -i 2 --a0-mode`

6. Configuración de NFS

Server:

- `yum install nfs-utils`
- `systemctl enable --now nfs-server`
- `mkdir /shared`
- `vi /etc/exports`
- `exportfs -ra`
- `exportfs -v`
- `systemctl restart nfs-server`

Client:

- `mkdir /shared`
- `mount -t nfs comput e-1-12:/shared /shared`