

Network

All compute and login nodes of Anselm are interconnected by Infiniband QDR network and by Gigabit Ethernet network. Both networks may be used to transfer user data.

Infiniband Network

All compute and login nodes of Anselm are interconnected by a high-bandwidth, low-latency Infiniband QDR network (IB 4x QDR, 40 Gbps). The network topology is a fully non-blocking fat-tree.

The compute nodes may be accessed via the Infiniband network using ib0 network interface, in address range 10.2.1.1-209. The MPI may be used to establish native Infiniband connection among the nodes.

The network provides **2170MB/s** transfer rates via the TCP connection (single stream) and up to **3600MB/s** via native Infiniband protocol.

The Fat tree topology ensures that peak transfer rates are achieved between any two nodes, independent of network traffic exchanged among other nodes concurrently.

Ethernet Network

The compute nodes may be accessed via the regular Gigabit Ethernet network interface eth0, in address range 10.1.1.1-209, or by using aliases cn1-cn209. The network provides **114MB/s** transfer rates via the TCP connection.

Example

```
' $ qsub -q qexp -l select=4:ncpus=16 -N Name0 ./myjob $ qstat -n -u
username Req'd Req'd Elap Job ID Username Queue Jobname SessID NDS
TSK Memory Time S Time ----- - -|---|---| ----- - - -
----- - --- 15209.srv11 username qexp Name0 5530 4 64 - 01:00 R 00:00
cn17/016+cn108/016+cn109/016+cn110/016

$ ssh 10.2.1.110 $ ssh 10.1.1.108 '
```

In this example, we access the node cn110 by Infiniband network via the ib0 interface, then from cn110 to cn108 by Ethernet network.