

Kohinoor3 cluster Specification

Specification:

In KOHINOOR3 cluster, there is a single master node, 64 compute nodes. 4 gpu nodes and 200TB Lustre storage.

Hardware

Master Node:1

- Hardware Details: Supermicro
- Processor: 2 x E5-2630 V4 @2.20 GHz
- RAM: 16X4 GB DDR4 2400 ECC REG
- HDD: 4x600 GB SAS 10k 2.5"-12G
- Ports: Ethernet 2 port,Management Port 1 port, Infiniband 1 port
- Optical Drive: DVD Drive,
- OS Details: CentOS 7.2,Kernel 3.10.0-327.el7.x86_64

Compute Nodes without GPU:64

- Hardware Details: Supermicro
- Processor: 2 x E5-2630 V4 @2.20 GHz
- RAM: 16x4 GB DDR4 2400 ECC REG
- HDD : 1 TB SATA Ent-3.5"
- Ports: Ethernet 2 port,Management Port 1 port ,Infiniband 1 port
- OS Details: CentOS 7.2,Kernel 3.10.0-327.el7.x86_64

Compute Nodes with GPU:4

- Hardware Details: Supermicro
- Processor: E5-2630 V4 @2.20 GHz
- RAM: 16x4 GB DDR4 2400 ECC REG
- HDD: 1 TB SATA Ent-3.5'
- Ports: Ethernet 2 port,Management Port 1 Infiniband port 1
- GPU :4 X NvidiaTesla K40 C
- OS Details: CentOS 7.2,Kernel 3.10.0-327.el7.x86_64

Storage Nodes:2

- Hardware Details: Supermicro
- Processor 2 x E5-1650 V3 @3.50GHz
- RAM 16 X8 GB DDR4 2400 ECC REG
- HDD 2 x 80GB intel SSD
- Ethernet 2 port ,Management Port 1,Infiniband 1 port
- OS Details CentOS 7.2,Kernel 3.10.0-327.el7.x86_64

Storage:Lustre 200 TB

- Hardware Details: Supermicro
- HDD: 7X900 GB SAS 10K 2.5"
- HDD: 70 X 4TB SAS 7.2K 3.5"
- Capacity : 200TB

Network Switches

Ethernet Switch:(2Nos) SSE-G2252 48 Port Gigabit Switch

In Kohinoor3 implementation, 48 Port Gigabit supermicro Switch has been used to configure the private network.

Infiniband Switch:(4 Nos) MSX6025F-1SFS 36 port Infiniband Switch

(2 Nos) MSX6036F-1SFS 36 port Infiniband Switch

In Kohinoor3 one Infiniband switch with 36 ports for HPCApplication/MPI communication. All the nodes including master have been IBSwitch.

Operating Environment

OS

- OS: Centos 7.2
- Kernel: Kernel 3.10.0-327.el7.x86_64

JOB Scheduling

- SLURM <Version>

MPI

- MVAPICH-2-2.1