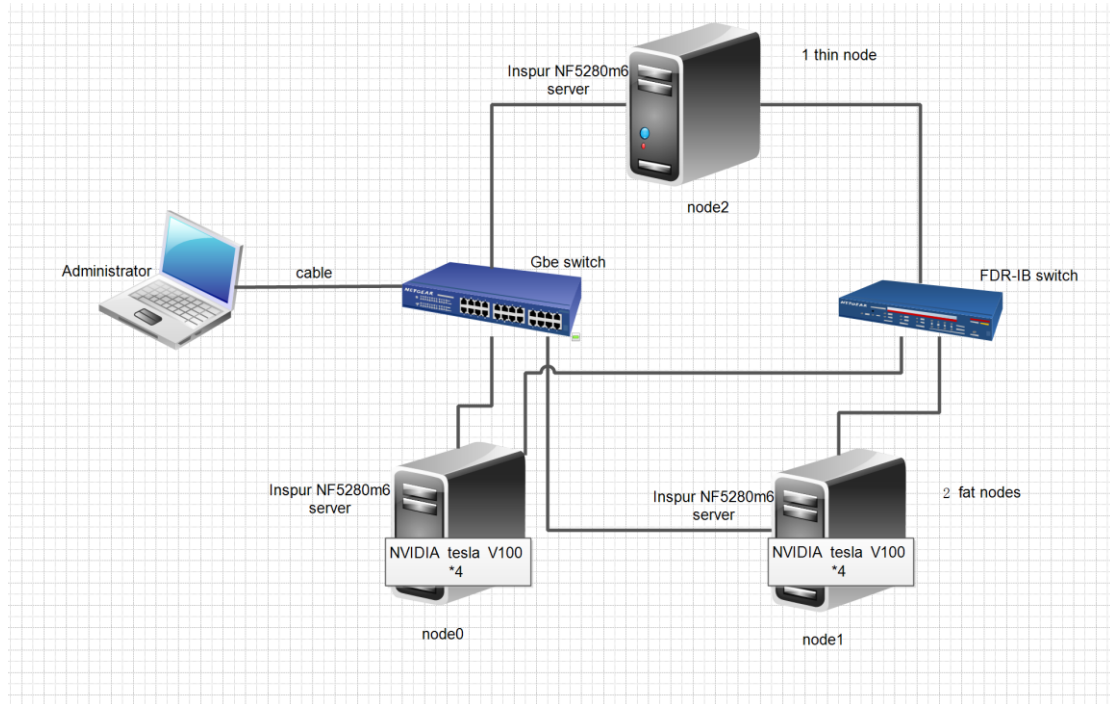


## HPC System

Item	Name	Configuration
server	IEIT NF5280M6	CPU: Intel® Xeon® Gold 6444 Processor * 2 Memory: 32G x 16, DDR5, $\geq 4400$ MT/s Hard disk: 480G SSD SATA x 1
HCA card	FDR	InfiniBand Mellanox ConnectX®-3FDR
Switch	GbE switch FDR-IB switch	1000Mb/s, 24 ports Ethernet switch
Cable	Gigabit CAT6 cables  InfiniBand cable	CAT6 copper cable, blue, 3m InfiniBand HDR copper cable, QSFP port, compatible with the InfiniBand switch in use.
GPU	INVIDIA tesla v100	16G, 7 tflops



Hardware resources:

Item	Name	Quantity
Server	Inspur NF5280M6	3
GPU	INVIDIA tesla v100	8
Switch	GbE switch	2
	FDR-IB switch	
HCA card	FDR	3
Cable	InfiniBand cable	3

Software resources:

Item	Name	Version
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Operating system	CentOS7	CentOS7_86_Everything_17.08
translator	Intel translator	12.10
	GNU translator	4.4.4
MPI	Intel MPI	4.1.3.409
	Open MPI	3.0.0
	MPI CH2	2-1.5
Math library	Intel MKL	11.1.0.080

Power description:

Name	Power consumption
Inspur NF5280M6	270w×3
FDR	9w×3
FDR-IB switch	130w
GbE switch	30w
NCIDIA TESLA V100	250w×8
total	2997w

Performance Evaluation:

CPU:  $2 * 16 * 3.6\text{GHZ} * 32 * 3 = 11.059 \text{ Tflops}$

GPU:  $7 * 8 = 56 \text{ Tflops}$

Total:  $11.059 + 56 = 67.059 \text{ Tflops}$