

METIS nodes layout & specification

	Rack 1	Rack 2
42	48p 10 GbE	48p 1GbE
41		48p 1GbE
40		
39		
38		
37		
36	VM Node	Storage Node
35	DL 385 Gen10+	DL 385 Gen10+
34	Pre/Post Node	Service Node
33	DL 385 Gen10+	DL 385 Gen10+
32	Login Node	Large Mem Node
31	DL 385 Gen10+	DL 385 Gen10+
30	GPU Node	Large Mem Node
29	DL 385 Gen10+	DL 385 Gen10+
28	GPU Node	GPU Node
27	DL 385 Gen10+	DL 385 Gen10+
26	GPU Node	GPU Node
25	DL 385 Gen10+	DL 385 Gen10+
24	GPU Node	GPU Node
23	DL 385 Gen10+	DL 385 Gen10+
22	GPU Node	HDR Switch
21	DL 385 Gen10+	
20	GPU Node	GPU Node
19	DL 385 Gen10+	DL 385 Gen10+
18	GPU Node	GPU Node
17	DL 385 Gen10+	DL 385 Gen10+
16	GPU Node	GPU Node
15	DL 385 Gen10+	DL 385 Gen10+
14	GPU Node	GPU Node
13	DL 385 Gen10+	DL 385 Gen10+
12	GPU Node	GPU Node
11	DL 385 Gen10+	DL 385 Gen10+
10	GPU Node	GPU Node
9	DL 385 Gen10+	DL 385 Gen10+
8	GPU Node	GPU Node
7	DL 385 Gen10+	DL 385 Gen10+
6	GPU Node	GPU Node
5	DL 385 Gen10+	DL 385 Gen10+
4	GPU Node	GPU Node
3	DL 385 Gen10+	DL 385 Gen10+
2	GPU Node	GPU Node
1	DL 385 Gen10+	DL 385 Gen10+

Racks (2)

2x HPE 42U 600mmx1200mm
2x PDUs Per Rack 3Ph 17.3kVA/60309

Login Node (1)

HPE DL 385 Gen 10+ V2 Servers each with configured with:
2x AMD EPYC 7713 CPUs (64 Cores, 2.0 GHz)
256GB RAM (16 x 16 GB Dual Rank DDR4-3200 DIMMS)
2x HPE 480GB SATA 6G Read Intensive SFF SSD
1x HPE 1TB SATA 6G SFF SSD
1x HPE 1GbE 4P BaseT I350-T4 OCP3 Adptr
1x Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28
1x HPE IB HDR100/EN 100Gb 1p QSFP56 Adptr
1x NVIDIA A100 40 GB PCIe
1x 1600W Power Supplies

GPU Nodes (28)

HPE DL 385 Gen 10+ V2 Servers each with configured with:
2x AMD EPYC 7713 CPUs (64 Cores, 2.0 GHz)
256 GB RAM (16 x 32 GB Dual Rank DDR4-3200 DIMMS)
1x HPE 240GB SATA 6G Read Intensive SFF SSD
1x HPE 960 GBB SATA 6G SFF SSD
1x HPE IB HDR100/EN 100Gb 1p QSFP56 Adptr
1x NVIDIA A100 40 GB PCIe
1x HPE 1GbE 4P BaseT I350-T4 OCP3 Adptr
1x 1600W Power Supplies

Large Mem Nodes (2)

HPE DL 385 Gen 10+ V2 Servers each with configured with:
2x AMD EPYC 7713 CPUs (64 Cores, 2.0 GHz)
1024 GB RAM (16 x 32 GB Dual Rank DDR4-3200 DIMMS)
1x HPE 240GB SATA 6G Read Intensive SFF SSD
1x HPE 960 GBB SATA 6G SFF SSD
1x HPE IB HDR100/EN 100Gb 1p QSFP56 Adptr
1x NVIDIA A100 40 GB PCIe
1x HPE 1GbE 4P BaseT I350-T4 OCP3 Adptr
1x 1600W Power Supplies

Service Node (1)

HPE DL 385 Gen 10+ V2 Servers each with configured with:
2x AMD EPYC 7713 CPUs (64 Cores, 2.0 GHz)
256GB RAM (16 x 16 GB Dual Rank DDR4-3200 DIMMS)
2x HPE 480GB SATA 6G Read Intensive SFF SSD
1x HPE 1TB SATA 6G SFF SSD
1x HPE 1GbE 4P BaseT I350-T4 OCP3 Adptr
1x Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28
1x HPE IB HDR100/EN 100Gb 1p QSFP56 Adptr

VM Node (1)

HPE DL 385 Gen 10+ V2 Servers each with configured with:
2x AMD EPYC 7713 CPUs (64 Cores, 2.0 GHz)
1024GB RAM (16 x 64 GB Dual Rank DDR4-3200 DIMMS)
2x HPE 240GB SATA 6G Read Intensive SFF SSD
6x HPE 3.84TB SATA 6G Mixed Use SFF
1x HPE 1GbE 4P BaseT I350-T4 OCP3 Adptr
1x HPE IB HDR100/EN 100Gb 1p QSFP56 Adptr
1x NVIDIA A100 40 GB PCIe
1x 1600W Power Supplies

Home File System

HPE DL 385 Gen 10+ V2 Servers each with configured with:
2x AMD EPYC 7713 CPUs (64 Cores, 2.0 GHz)
256GB RAM (16 x 16 GB Dual Rank DDR4-3200 DIMMS)
16x HPE 16 TB SAS 7200 RPM HDD LFF
1x HPE NS204i-p x2 Lanes NVMe PCIe3 x8 OS Boot Device
1x HPE 1GbE 4P BaseT I350-T4 OCP3 Adptr
1x Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28
1x HPE IB HDR100/EN 100Gb 1p QSFP56 Adptr
2x Slots for GPUs
2x 1600W Power Supplies

Fabric

Mellanox InfiniBand HDR 100 High Speed Low Latency
GigE for Management

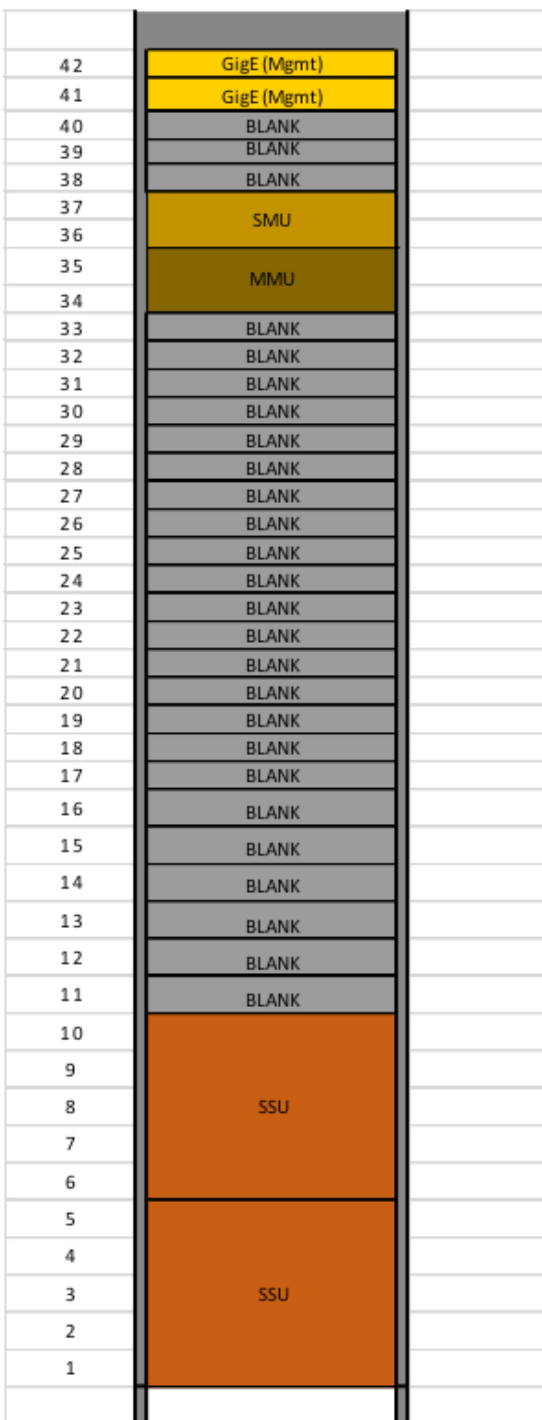
Software

HPE High Performance Cluster Manager
CentOS

Services

HPE Americas Integration Center Services
Hardware Installation Services on-site
HPE 5Y Foundation Care NBD Service

METIS disk system layout & specification



Racks (1)

1x 42U 600mmx1300mm
2x PDUs Per Rack 48A 208V

SMU (1)

ClusterStor System Management Unit (Management and Admin Services)
5x 1.6TB NVMe SFF SSD

MDU (1)

ClusterStor Metadada Management Unit
24x 1.92TB NVMe SFF SSD

SSU (2)

ClusterStor Scalable Storage Unit (Cluster Management and Admin)
2x 1.6TB NVMe SFF SSD
108 x 6TB 7200 SAS DRIVES

Management Network

2x 48 Port GigE Switches
High Speed Fabric
HDR Cables to the HDR Cluster Switch

Services

Hardware Installation Services on-site
5Y NBD Support Service

Total Usable Space

1 Petabyte

Performance

25 Gigabytes/second