Uni.lu (Belval)
Gaia cluster

Kirchberg (chaos cluster)

Uni.lu

10 GbE

1 GbE

Gaia cluster characteristics

Computing: 271 nodes, 3312 cores; $R_{peak} \approx 64.176$ TFlops

Storage: 960 TB (GPFS) + 660 TB (Lustre) + 1944TB (Isilon) + 1336TB (backup)

Gaia cluster access
Bull R423 (2U)
(2*4c Intel Xeon E5630 @ 2,53 GHz), RAM: 24GB

10 GbE

Adminfront
Bull R423 (2U)
(2*6c Intel Xeon L5640 @ 2,27 GHz), RAM: 48GB

Cisco Nexus C5010
10GbE

Infiniband QDR 40 Gb/s

IB   IB   IB

10 GbE

Lustre Storage

MDS1
Bull R423 (2U)
(2*4c Intel Xeon L5630@2,13 GHz), RAM: 96GB

FC8   FC8

Nexsan E60 (4U, 12 TB)
20 disks (600 GB SAS 15krpm)
Multipathing over 2 controllers
(Cache mirroring)
2 **RAID1** LUNs (10 disks)
6 TB (lvm + lustre)

FC8   FC8

Bull R423 (2U)
(2*4c Intel Xeon L5630@2,13 GHz), RAM: 96GB

MDS2

2*Nexsan E60 (2*4U, 2*120 TB)
2*60 disks (2 TB SATA 7.2krpm) = 240 TB (raw)
2*Multipathing over 2 controllers (Cache mirroring)
2*6 **RAID6** LUNs (8+2 disks) = 2*96 TB (lvm + lustre)

OSS1
Bull R423 (2U)
(2*4c Intel Xeon L5630@2,13 GHz), RAM: 48GB

FC8

OSS2
Bull R423 (2U)
(2*4c Intel Xeon L5630@2,13 GHz), RAM: 48GB

FC8   FC8

OSS3 & 4
2x Bull R423 (2U)
(2*6c Intel Xeon E5-2620@2,2 GHz), RAM: 128GB

FC8   FC8

OSS5 & 6
2x Bull R423 (2U)
(2*6c Intel Xeon E5-2620@2,2 GHz), RAM: 128GB

FC8   FC8

2*Netapp E5400 (2*4U, 2*180 TB)
2*60 disks (3 TB SAS 7.2krpm) = 360 TB (raw)
2*Multipathing over 2 controllers
2*6 **RAID6** LUNs (8+2 disks) = 2*144 TB (lvm+lustre)

10 GbE

GPFS Storage

GPFS 1 & 2
2x Bull R423 (2U)
(2*6c Intel Xeon E5-2620@2,2 GHz), RAM: 128GB

FC8   FC8

GPFS 3 & 4
2x Bull R423 (2U)
(2*6c Intel Xeon E5-2620@2,2 GHz), RAM: 128GB

FC8   FC8

GPFS 5 & 6
2x Bull R423 (2U)
2*6c Intel Xeon E5-2620@2,2 GHz), RAM: 128GB

FC8   FC8

GPFS 7 & 8
2x Bull R423 (2U)
(2*6c Intel Xeon E5-2620@2,2 GHz), RAM: 128GB

FC8   FC8

4*Netapp E5400 (4*4U, 4*240 TB)
4*60 disks (4 TB SAS 7.2krpm) = 960 TB (raw)
Multipathing over 2 controllers
4*6 **RAID6** LUNs (8+2 disks) = 768 TB

debian POWERED

CentOS

Xen

Puppet

fai Fully Automatic Installation

EMC ISILON Storage
16 * Isilon nodes (X410, NL400)
16 enclosures (768 disks) 1944TB (raw)

9x Bullx B enclosure (63U)
132 BullX B500 **[1584 cores]**

60 (2*6c Intel Xeon L5640@2.26GHz)
40 (2*6c Intel Xeon X5670@2.93GHz)
32 (2*6c Intel Xeon X5675@3.07GHz)
RAM: 48GB

12 BullX B505 **[144 cores]**
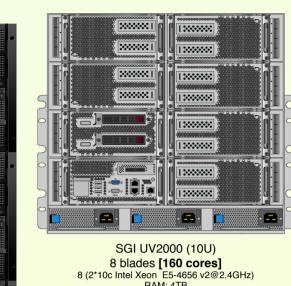12 (2*6c Intel Xeon L5640@2.26GHz), RAM: 96GB

24 GPGPU Accelerator **[12032 GPU cores]**
4 Nvidia Tesla M2070 [448c]
20 Nvidia Tesla M2090 [512c]

SGI UV2000 (10U)
8 blades **[160 cores]**
8 (2*10c Intel Xeon E5-4656 v2@2.4GHz)
RAM: 4TB

Delta D88x-M8-BI (10U) [120 cores]
(8*15c Intel Xeon E7-8880 v2@2.5GHz)
RAM: 3TB

3x Dell FX2 enclosures (6U)
24 Dell FC430 **[576 cores]**
(2 *12c Intel Xeon E5-2680 v3@2.5GHz)
RAM: 128GB

1x BullX BCS enclosure (6U)
4 BullX S6030 **[160 cores]**
(16*10c Intel Xeon E7-4850@2GHz), RAM: 1TB

4x Dell C4130 (4U) **[96 cores]**
(2 *12c Intel Xeon E5-2680 v3@2.5GHz)
RAM: 128GB

16x GPGPU Accelerators **[79872 cores]**
16 Nvidia K80 [4992c]

2x HP Moonshot enclosures (10U)
90 Proliant **[360 cores]**
90 (1*4c Intel Xeon E3-1284L v3@1.8GHz)
RAM: 32GB

5x Dell R720 (10U) **[80 cores]**
(2*8c Intel Xeon E5-2660@2.2GHz), RAM: 64 GB

10x GPGPU Accelerators **[13440 GPU cores]**
10 Nvidia K40m [2880c]

1x Dell R820 (4U) **[32 cores]**
(4*8c Intel Xeon E5-4640@2.4GHz), RAM: 1TB