| | **Broadwell Nodes** | **Haswell Nodes** | |
|---|---|---|---|
| Number of Nodes | 2,016 | 2,052 | |
| Processors per Node | 2 fourteen-core processors per node | 2 twelve-core processors per node | |
| Node Types | Intel Xeon E5-2680v4 processors | Intel Xeon E5-2680v3 processors | |
| Processor Speed | 2.4 GHz | 2.5 GHz | |
| Cache | 35 MB for 14 cores | 30 MB for 12 cores | |
| Memory Type | DDR4 FB-DIMMs | DDR4 FB-DIMMs | |
| Memory Size | 4.6 GB per core, 128 GB per node | 5.3 GB per core, 128 GB per node | |
| Host Channel Adapter | InfiniBand FDR host channel adapter and switches | InfiniBand FDR host channel adapter and switches | |

# GPU-Enhanc

| | **Sandy Bridge + GPU Nodes** | |
|---|---|---|
| Number of Nodes | 64 | 1 |
| Processors per Node | Two 8-core host processors and one GPU coprocessor (2,880 CUDA cores) | T r |
| Node Types | Intel Xeon E5-2670 (host); NVIDIA Tesla K40 (GPU) | I |
| Processor Speed | 2.6 GHz (host); 745 MHz (GPU) | 3 |
| Cache | 20 MB for 8 cores (host) | 2 |
| Memory Type | DDR3 FB-DIMMS (host); GDDR5 (GPU) | I |
| | | |