

CPU	64-bit AMD Opteron series processors; up to 96 per cabinet
Cache	64K L1 instruction cache, 64K L1 data cache, 1 MB L2 cache per processor
FLOPS	1 Teraflop per cabinet
Main Memory	1-8 GB Unbuffered ECC DDR2 SDRAM per AMD Opteron
Memory Bandwidth	10.6 to 12.8 GB/sec per AMD Opteron
Interconnect	1 Cray SeaStar2 routing and communications ASIC per Opteron processor 6 switch ports per Cray SeaStar chip, 7.6 GB/s each (45.6 GB/s switching capacity per Cray SeaStar chip) 3 dimensional torus interconnect
External I/O Interface	Gigabit Ethernet 10 Gigabit Ethernet Fibre Channel (FC) Infiniband (future)
Disk Storage	Full line of FC-attached disk arrays with support for FC and SATA disk drives
File System	Lustre File System
System Administration	Cray System Management Workstation (SMW) Graphical and command line system administration Single system view for system administration PBS Pro job management system System software rollback capability
Reliability Features (Hardware)	Cray RAS and Management Subsystem (CRMS) with independent 100Mbps/s management fabric between all system blades and cabinet level controllers. Over 50 measurement points monitored per Cray XT4 system blade Full ECC memory protection from memory to system registers. Full ECC protection in the Cray SeaStar chip Redundant power supplies Redundant voltage regulator modules (VRMs) Redundant paths to all system RAID Variable speed blowers with integrated pressure and temperature sensors
Reliability Features (software)	Simple, microkernel-based software design CRMS system monitors operation of all operating system kernels Lustre file system object storage target failover; Lustre metadata server failover Software failover for critical system services including system database, system logger, and batch subsystems
Operating System	UNICOS/lc—Components include SUSE Linux™, Cray Catamount Microkernel, CRMS and SMW software
Message Passing Libraries	MPI 2.0, SHMEM
Compilers	Fortran 77, 90, 95; C/C++
Power	15 - 22.5 kW (15.3 - 22.9 kVA) per cabinet, depending on configuration. Circuit Requirement: 80 AMP at 200/208 VAC (3 Phase & Ground), 63 AMP at 400 VAC (3 Phase, Neutral & Ground)
Cooling Requirement	Air Cooled, Air Flow: 3000 cfm (1.41 m3/s), Intake: bottom, Exhaust: top.)
Dimensions (cabinet)	H 80.50 in. (2045 mm) x W 22.50 in. (572 mm) x D 56.75 in. (1441 mm)
Weight (maximum)	1529 lbs per cabinet (694 kg)
Acoustical Noise Level	75 dba at 3.3 ft (1.0 m)
Regulatory Compliance	UL 60950-1, CAN/CSA – C 22.2 No 60950–1, CB Scheme Investigation to IEC/EN 60950-1
Safety	FCC Class A, DOC Class A, VCCI Class, CISPR 22, EN 50022 Class A, AS/NZS 3548, EN 50082-1, EN 61000-3-2, EN 61000-3-3, Statskontoret 26.2 Category 1

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