

The CRAY T94 Supercomputer System

T94

Bringing the value of supercomputing straight to the bottom line

The CRAY T94 computer system from Cray Research is a powerful general purpose supercomputer that features high-speed processors, each with a peak performance of approximately 2 billion floating point operations per second (2 GFLOPS). As the entry-level system of the CRAY T90 series, the CRAY T94 system provides up to 4 processors, 1024 Mbytes of central memory, and a peak performance of approximately 8 GFLOPS.

Balanced architecture delivers the best overall performance

The CRAY T94 system incorporates custom-designed high-speed processors, high-speed static RAM memory, and a high-bandwidth I/O subsystem. This combination of fast processors, fast memory, and fast I/O delivers top performance on the most complex and varied workloads. For scalar, short vector, long vector, and parallel processing, in any combination, the CRAY T94 system provides superior overall performance.

The CRAY T94 system supports multiple ATM, FDDI, and HIPPI connections. Disk

drive technology support includes IPI drives and, in the near future, SCSI and fiber channel disks offering a maximum disk capacity of 64,000 Gbytes (64 Tbytes) of storage. Tape connectivity includes support for numerous tapes and tape silo products through BLOCK MUX and ESCON technology. The CRAY T94 also supports solid-state disk technology (SSD) allowing you to further improve system throughput.

MPP ready

The CRAY T94 system can be closely coupled to Cray Research MPP systems. For highly parallel applications, this heterogeneous architecture delivers an unprecedented level of performance to a wide spectrum of users.



CRAY T94 system highlights

- Full binary compatibility with CRAY C90 line
- 1 to 4 processors
- Approximately 8 GFLOPS peak performance
- MPP ready
- 512 to 1024 Mbytes of central memory
- Memory bandwidth of over 100 Gbytes/s
- Aggregate I/O bandwidth of over 8 Gbytes/s
- Optional SSD with 1024 or 4096 Mbytes
- UNICOS operating system based on UNIX System V

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Configuration flexibility offers superior scalability

To meet the demands of your growing business, the CRAY T94 system is extremely scalable: as you add more processors, your performance improves almost linearly. To provide an even more scalable parallel processing path, Cray Research SuperCluster software allows you to efficiently cluster Cray Research systems with equipment from other computer vendors. Acting as a node in a clustered environment, the CRAY T94 system can distribute applications and balance workloads across its internal processors, eliminating the network transfer delays (latencies) that typically compromise performance in clustered workstation environments.

Powerful UNIX software taps the speed of the hardware

To ensure that your applications take full advantage of the CRAY T94 system performance, Cray Research provides the UNICOS operating system and associated system software products. UNICOS is a standard UNIX environment that has been enhanced to provide efficient parallel processing, production

quality resource management, security, and network connectivity. With over twelve years of parallel UNIX experience, Cray Research provides the reliable operating system environment required for high performance simulation. User productivity is enhanced through the use of visual interfaces, advanced application-building tools, expert performance analysis tools, and automatic optimization tools.

Applications support delivers the best possible performance

Thanks to our standards-based implementations, our system software transparently delivers scalable application performance. Our industry-leading compilers automatically parallelize, vectorize, and scalar-optimize standard applications to deliver the best possible performance from your CRAY T94 system.

To provide more choices and to further enhance our standards in precision, we also offer IEEE floating point compatibility. IEEE compatibility enhances compatibility with workstations and makes it easier to port IEEE-based application codes to the CRAY T94 system.

CRAY T94 Product Specifications

Processor	
Technology	Custom silicon 50,000 gate array circuits
Number of processors	1 to 4
Vector pipes	2 per processor
Peak performance	Approximately 8 GFLOPS
Memory	
Technology	4 Mbit static RAM
Memory size	512 or 1024 Mbytes
Maximum memory bandwidth	Over 100 Gbytes/s
I/O	
Number of I/O clusters	1 to 8
I/O bandwidth	More than 8 Gbytes/s
Max. LOSP channels	8
Max. HISP channels	8
Max. VHISP channels	4
Optional SSD	
Capacity	1024 or 4096 Mbytes
Bandwidth	More than 7 Gbytes/s
Physical characteristics	
Mainframe cabinet footprint area	5' x 3' x 4' (1.5 m x 1 m x 1.2 m)
Cooling unit area	3.6' x 4.2' x 5.5' (1.1 m x 1.3 m x 1.7 m)