
AT&T StarServer FT Series: Product Profile

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System Overview

AT&T's StarServer FT is the first UNIX system V-based, RISC system to enter the fault-tolerant marketplace. The system is positioned as a fault-tolerant addition to AT&T's networked computing solutions and offers the reliability and data integrity essential for mission-critical applications.

Vendor

AT&T
1 Speedwell Avenue
Morristown, NJ 07960
1 (800) 247-1212

Price

Prices range from \$184,000 to \$259,500 for configured systems.

GSA Schedule

No.

Competition

There are no comparable systems at the present time.

Characteristics

A summary of system characteristics for the StarServer FT series appears in the following table.

Characteristics	Model 7342
Min./Max. Memory (bytes)	16M-40M per processor)
Expansion Increments (bytes)	8M/16M/ 32M
Min./Max. Storage (bytes)	600M-17G
Number of Processors	1-3 triplicated
Number of Terminals	96
Maximum Number of Users	96
Date First Installed	March 1990
Central Processor & Memory	
Computer Type	32-bit
Processor Model	MIPS
Memory Type	—
FP Co-Processor	MIPS 2010
Cache Memory (bytes)	64K inst./64K data
Performance Characteristics	
Multiprocessing Capability	
Master/Slave (Y/N)	No
Symmetrical (Y/N)	No
MIPS	12-15.6
Proc. Clock Speed	16.67MHz
I/O Transfer Rate (bytes/ sec.)	—
Purchase Price (basic config.)	\$184,000

Specifications

Triple Modular Redundancy (TMR) Processors

The StarServer FT fault-tolerant architecture is based on triple modular redundancy, in which

three processors act as one. After each RISC Processor independently executes the same instructions, the results are sent to a voter logic module in the replicated TMR controllers. If one processor deviates, it is automatically taken off-line before data integrity is jeopardized while the others continue to operate at 100 percent capacity.

Main Memory and Processing Components

Each CPU module contains a high-performance, 32-bit R2000 RISC-based microprocessor with a clock speed of 16.67 MHz; 64K-byte instruction cache and a 64K-byte data cache; and 8M bytes of write-protected memory. An optional floating-point co-processor can be installed on all three CPU modules. Each TMR controller module contains an additional 8M, 16M, or 32M bytes of global memory and self-checking logic. One TMR controller is designated as primary, the other as backup. All reads from global memory come from the primary TMR controller. All writes to memory are written to both controllers. The processor, memory, and controller are packaged in a separate systems cabinet.

Peripherals

Mass Storage

See Table 1 for specifications of mass storage devices.

Tape Drives

See Table 2 for specifications of tape devices.

Terminals/Workstations

The 7342 can be configured with up to 96 AT&T intelligent terminals or PCs.

Table 1. Mass Storage Devices

Model	73434	73435
Size	5¼	5¼
Formatted Capacity (bytes)	295M	650M
Interface/Controller	SCSI	SCSI
Average Access Time (ms.)	18	18
Data Transfer Rate (M bytes/second)	1.2	1.2
Price	—	—

Note: A dash (—) in a column indicates that the information is unavailable from the vendor.

Table 2. Magnetic Tape Equipment

Model	73437	73439
Type	SCSI	SCSI
Tape Size (in.)	¼ x 600 ft.	⅛ x 2,400 ft.
Capacity (M bytes)	150	180
Price	—	—

Note: A dash (—) in a column indicates that the information is unavailable from the vendor.

Printers

Printers ranging from dot matrix models to high-speed, high-volume laser and line printers are available for the StarServer FT Series.

Communications

Protocols Supported: TTY, NFS, X.25, TCP/IP.

Network Applications Supported: SNA/LU6.2, SNA 2780/3780.

LANS Supported: 802.3 Ethernet.

Operating Environment

The system cabinet has a power distribution unit (PDU), twin bulk power supply modules, and three to four pairs of DC converters. Each bulk power supply module can support a fully functional system cabinet. Each battery module can run a fully configured StatServer FT system long enough for a graceful shutdown.

Physical Specifications

Model	Height	Width	Depth	Weight
7342	29.5"	16.5"	18.5"	240 lb.

Software

Operating System

The StarServer FT's operating system is UNIX System V Release 3.1.1 MIPS AT&T Fault Tolerant Version. This port of UNIX System V Release 3.1 contains enhancements (including many features from Berkeley Software Distribution 4.2 and 4.3) that support the fault-tolerant hardware of the StarServer FT. It is fully compliant with the UNIX System V Interface Definition (SVID) so that conforming UNIX system applications may be easily

ported. Data integrity features in the system include disk mirroring, end-to-end verification of disk data and a sophisticated power failure detection/automatic restart capability. This version of the operation system can detect a hardware failure in the I/O subsystem, instantly switch access to a redundant module, and automatically take the failed component off-line.

Sample Configuration Pricing

Sample configurations and prices are outlined below. These configurations do not include workstation or printer prices as both quantity and price can vary depending on the specific configuration.

Entry-Level System: Model 7342-21A

Description	Product ID	Price (\$)
CPU	3 Triplicated	—
Main Memory	16MB Duplexed	—
Console	—	—
I/O Ports	16 Async.	—
Disk Controller	2 SCSI	—
Disk Drive	2 600MB	—
Tape Controller	2 SCSI	—
Tape Drive	1 QIC	—
Workstation Controller	—	—
Printer	—	—
Workstation Display	—	—
Total Hardware	—	\$172,000
Monthly Maintenance	One year warranty incl.	—
Operating System	UNIX System V R3.14	\$12,000
Languages	C Prog. Lang. Util. 5/4, Cobol/2, C++, LPI Fortran, ADW Cobol 1.1	—
DBMS	—	—
Total		\$184,000

Intermediate-Level System: Model 7342-21B

Description	Product ID	Price (\$)
CPU	3 Triplicated	—
Main Memory	24MB Duplexed	—
Console	—	—
I/O Ports	16 Async.	—
Disk Controller	2 SCSI	—
Disk Drive	2 600MB	—
Tape Controller	2 SCSI	—
Tape Drive	1 QIC	—
Workstation Controller	—	—
Printer	—	—
Workstation Display	—	—
Total Hardware	—	\$198,000
Monthly Maintenance	One year warranty incl.	—
Operating System	UNIX System V R3.14	\$12,000
Languages	C Prog. Lang. Util. 5/4, Cobol/2, C++, LPI Fortran, ADW Cobol 1.1	—
DBMS	—	—
Total		\$210,000

Intermediate-Level System: Model 7342-21C

Description	Product ID	Price (\$)
CPU	3 Triplicated	—
Main Memory	24MB Duplexed	—
Console	—	—
I/O Ports	16 Async.	—
Disk Controller	2 SCSI	—
Disk Drive	2 1200MB	—
Tape Controller	42 SCSI	—
Tape Drive	1 QIC	—
Workstation Controller	—	—
Printer	—	—
Workstation Display	—	—
Total Hardware	—	\$247,500
Monthly Maintenance	One year warranty incl.	—
Operating System	UNIX System V R3.14	\$12,000
Languages	C Prog. Lang. Util. 5/4, Cobol/2, C++, LPI Fortran, ADW Cobol 1.1	—
DBMS	—	—
Total		\$259,500