

Stratus ftServer Family of Systems 2600, 4500, 6310 Models



Round-the-clock
uptime assurance
for mission-critical
applications

Fifth-generation Stratus® ftServer® systems, deliver affordable continuous availability, comprehensive data protection and up to 4 times the performance of previous ftServer generations. Powered by multi-core Intel® Xeon® processors and Intel QuickPath Architecture, the ftServer 2600, 4500, and 6310 models feature Microsoft® Windows Server®, Red Hat® Enterprise Linux, and VMware® vSphere™ operating environments. These industry-standard, fault-tolerant servers eliminate the operational complexity and high costs inherent in other solutions.

Priced below comparable cluster solutions, the entry-level 2600 model features a compact design that combines economic value with lights-out management. It's an ideal choice for volume deployment at remote locations — or as a fault-tolerant replacement for ordinary, standalone servers.

The ftServer 4500 brings businesses a powerful, flexible solution for dedicated business processing. The system leverages Intel® QuickPath technology with integrated high-speed memory controllers and interconnects that boost system performance, bandwidth, and reliability. These design enhancements are complemented by the availability, performance, and security features offered by the operating systems.

The top-of-the-line 6310 system is powered by two high-performance, hex-core Intel Xeon processors for outstanding levels of processing power. No-compromise features like hyper-threading technology, integrated memory controllers, and high-speed interconnects make this system right for enterprise-class applications or transaction-intensive data center solutions. Such environments include server virtualization, database engine, electronic funds transfer, online banking, supply chain, and cloud computing.

Whichever ftServer model you choose, you're sure to benefit from business continuity, data integrity, customer satisfaction, and the highest levels of uptime in the industry.

Uptime assurance features

Stratus builds uptime assurance technologies into every ftServer system. Every aspect of the server — hardware, software, and service — is designed to prevent unplanned downtime. Your enterprise gains superior uptime protection without the need for failover scripting, repeated test procedures, or any extra effort to make applications cluster-aware.

Uptime. **All the time.**



Fault-tolerant ftServer systems protect mission-critical applications against downtime and data loss.

Lockstep hardware technology

Replicated, fault-tolerant hardware components process the same instructions at the same time. In the event of a component malfunction, processing doesn't miss a beat. The redundant component acts as an active spare that continues normal operations without system downtime or data loss. But that's just one of the major difference between ftServer systems and conventional servers.

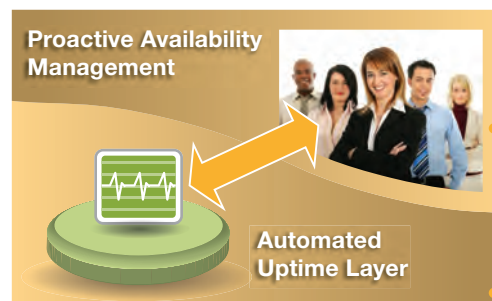
The ftServer architecture separates PCI I/O from the rest of the motherboard and adds hardware logic in the form of custom Stratus chipsets. These chipsets provide the essential foundation for lockstep processing and the ability to detect, isolate, and withstand faults. Lockstep operation allows the ftServer system to isolate any hardware failure without any degradation in performance.

Automated Uptime layer

The Automated Uptime® Layer presents and manages the replicated ftServer components as a single system. This dramatically reduces complexity and operator error. Conventional technologies like clusters require you to synchronize state information between the nodes and between all the layers of multi-tiered applications such as the Web layer, middleware, and back-end database.

Working in concert with lockstep technology, the Automated Uptime Layer prevents many errors from escalating into outages. Even in-memory data is constantly protected and maintained. Other issues are captured, analyzed, and reported to Stratus. This allows support personnel to take a proactive approach to correcting software problems before they recur.

Stratus uptime assurance keeps critical operations available all the time.



**24/7 monitoring:
people / practices**

**Detects, isolates,
and handles faults
before they
cause downtime**

**Lockstep hardware
withstands faults that
would cause other
servers to crash**

ftServer systems combine purpose-built fault-tolerant hardware, Automated Uptime Layer software, and proactive availability management services for complete uptime assurance.



Uptime. **All the time.**

Stratus uptime assurance. Automatic availability that exceeds 99.999%.



Stratus provides a single source of accountability for complex inter-related platform, system software, and operating system support issues.

If needed, the ftServer system automatically orders the *correct* customer-replaceable part and resynchronizes upon installation. Stratus device driver hardening adds yet another level of reliability to the operating environment.

Proactive availability management

Stratus support technicians monitor your system over our secure global ActiveService™ Network (ASN). Leveraging information provided by the automated uptime layer, these experts are at the ready 24/7 to remotely diagnose and remediate more complex issues.

The Automated Uptime Layer reports a depth and frequency of diagnostic information that is unmatched in the industry. Authorized Stratus support engineers use this data to determine the root cause of issues related to the hardware or operating environment.

Remote support capabilities — made possible by the global Stratus ActiveService Network — enable our service engineers to diagnose, troubleshoot, and resolve problems online as if they were onsite.

Stratus' extensive online knowledgebase is a repository that tracks events across the entire installed base of systems. This enables us to identify and take remedial action on trends and defects before they pose problems. We also use this data to improve future product and service capabilities.

Stratus' uptime assurance features translate into tangible financial advantages that any business can appreciate: industry-leading uptime, plug-and-play deployment and simplified management and support.

Fault-tolerant ftScalable™ storage enables common storage management.

The ftScalable storage solution from Stratus packs innovative availability into an economical, scalable, 2U powerhouse. This high-performance, modular array addresses dedicated, shared and networked storage environments — allowing your to dynamically configure and grow your system as quickly as the needs of your business dictate.

Like other members of our ftServer product family, the fault-tolerant ftScalable solution is designed for continuous availability. Redundant

components, integrated automatic controller failover, and hot standby features combine with multi-path IO support to ensure maximum data integrity and protection.



Stratus ftScalable storage offers dynamic capacity expansion of up to three shelves.

Uptime. **All the time.**

ftServer System Specifications

2600



4500



6310



PROCESSORS

Logical processors Processor	1 socket (per CRU*) Intel Xeon processor E5504, 2.0 GHz	2 sockets (per CRU*) Intel Xeon processor E5504, 2.0 GHz	2 sockets (per CRU*) Intel Xeon processor X5670, 2.93 GHz
Cores	4 (per processor)	4 (per processor)	6 (per processor)
L2 Cache	4 MB	4 MB	12 MB (per processor)
Intel QPI speed	4.8 GT/s	4.8 GT/s	6.4 GT/s
Maximum memory bandwidth	19.2 GB/s	38.4 GB/s	64 GB/s
MEMORY			
Min/max memory	4 GB/16 GB DDR3	4 GB/48 GB or 8 GB/96 GB DDR3	8 GB/96 GB DDR3
DIMM Slots	12 (6 per CRU)	12 (6 per CRU) or 24 (12 per CRU)	24 (12 per CRU)
I/O SUBSYSTEM			
Integrated PCI adapter slots	4 PCI-Express (2 per CRU)	4 PCI-Express (2 per CRU)	4 PCI-Express (2 per CRU)
Optional PCI adapter slots	N/A	4 PCI-Express (Gen 2)	4 PCI-Express (Gen 2)
STORAGE SUBSYSTEM			
Internal system drive bays	16 SAS 2.5" (8 per CRU)	16 SAS 2.5" (8 per CRU)	16 SAS 2.5" (8 per CRU)
Internal SAS disk drives supported	15 K (146 GB, 300 GB); 7.2 K (1 TB)	15 K (146 GB, 300 GB); 7.2 K (1 TB)	15 K (146 GB, 300 GB); 7.2 K (1 TB)
FTSCALABLE STORAGE			
Expansion drive slots (RAID)	up to 72	up to 72	up to 72
RAID levels	0, 1, 3, 5, 6, 10, 50	0, 1, 3, 5, 6, 10, 50	0, 1, 3, 5, 6, 10, 50
EMBEDDED I/O			
10/100/1000 Ethernet ports	4 (2 per CRU)	4 (2 per CRU)	4 (2 per CRU)
10/100 management Ethernet	2 (1 per CRU)	2 (1 per CRU)	2 (1 per CRU)
DVD-R/W	1	1	1
Serial (com) ports	2 (9-pin ports per system)	2 (9-pin ports per system)	2 (9-pin ports per system)
USB ports	4 (3 on rear, 1 on front per system)	4 (3 on rear, 1 on front per system)	4 (3 on rear, 1 on front per system)
MANAGEABILITY			
Baseboard mgmt. controller	standard	standard	standard
Integrated VTM	standard	standard	standard
Graphics adapter	1 VGA port per system	1 VGA port per system	1 VGA port per system
PCI ADAPTERS			
1 Gigabit dual-port Ethernet	up to 4 optional (2 per CRU)	up to 8 optional (4 per CRU)	up to 8 optional (4 per CRU)
10 Gigabit Ethernet server adapter	N/A	up to 4 optional (2 per CRU)	up to 4 optional (2 per CRU)
SAS 8-port host bus adapter for tape	up to 1 optional (non-redundant)	up to 1 optional (non-redundant)	up to 1 optional (non-redundant)
Fibre channel for external storage	up to 4 optional (2 per CRU)	up to 4 optional (2 per CRU)	up to 4 optional (2 per CRU)
SERVICEABILITY			
Hot-swappable components	CPU / I/O module, disks	CPU / I/O module, disks	CPU / I/O module, disks
OPERATING SYSTEMS			
Microsoft	Windows Server® 2008 R2 with Hyper-V™ virtualization	Windows Server 2008 R2 with Hyper-V™ virtualization	Windows Server 2008 R2 with Hyper-V™ virtualization
Red Hat	Red Hat Enterprise Linux 5 and 6	Red Hat Enterprise Linux 5 and 6	Red Hat Enterprise Linux 5 and 6
VMware	vSphere 4 and 5	vSphere 4 and 5	vSphere 4 and 5
POWER AND PACKAGING			
Input voltage	100-127, 200-240 VAC; 50 Hz, 60 Hz	100 to 240 VAC; 50 Hz, 60 Hz	100 to 240 VAC; 50 Hz, 60 Hz
Rack dimension (H x W x D)	7.0" (4U) x 17.5" x 30.1"	7.0" (4U) x 17.5" x 30.1"	7.0" (4U) x 17.5" x 30.1"
Weight (fully loaded)	Rack: 54.43 kg (120 lbs.)	Rack: 54.43 kg (120 lbs.)	Rack: 54.43 kg (120 lbs.)

* Customer replaceable unit

Specifications and descriptions are summary in nature and subject to change without notice.

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