PowerFrame ES4000

ENTERPRISE SERVER

The PowerFrame ES Series of Enterprise Servers provides unmatched performance, availability and scalability in a range of models that meet the demanding requirements of today's computing enterprises. The PowerFrame ES4000 combines high-speed symmetrical multiprocessing, a dedicated intelligent disk I/O subsystem with RAID capabilities, and a dedicated industry-standard bus for networking and communications processing for high-performance application serving.

With the ability to scale from small to very-large configurations and optional high-availability features, the ES4000 is packaged and priced for division-based networks and medium- to large-scale enterprise networks employing client/server technology.

Designed to be highly scalable, the PowerFrame ES4000 performs well into the future. Its compact cabinet supports up to nine half-height SCSI drives internally, and with the addition of PowerFile expansion cabinets, the ES4000 supports up to 168 SCSI devices using the four-channel Intelligent Storage Subsystem. It is scalable up to six IntelDX2™/66MHz or Pentium™ processors and from 64 MBytes to 1.0 GByte of system memory, providing high performance for compute-intensive environments.

Highly scalable application server architected and priced for distributed application services support, while providing seamless access to the enterprise-wide client/server hierarchy

To optimize the system price, the PowerFrame ES4000 includes a foundation of high-availability features, and it has the flexibility of adding others according to specific needs. The base system includes RAID 0, 1, 4, 5 and 10, disk hot sparing, disk hot replacement, disk duplexing and controller duplexing. Optional redundant power supplies, live CPU fault recovery and the Intelligent Management Subsystem allow the system availability features to be tailored for particular environments. Since the optional features can be installed in the field, the ES4000 can be easily upgraded as requirements change.

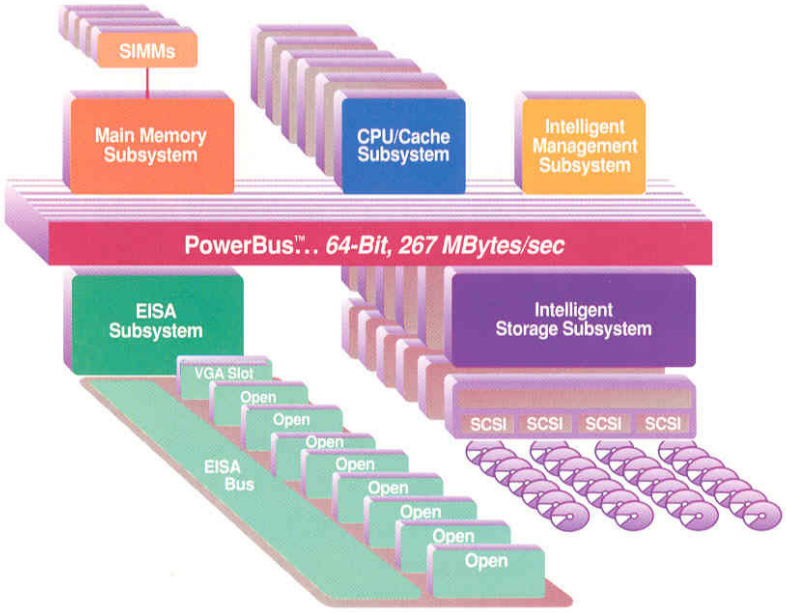
With a balanced architecture designed to perform in intense application serving environments, the PowerFrame ES4000 provides the scalability and flexibility to meet the enterprise serving requirements of distributed enterprise networks today and in the future.

ES4000 Series Features

CPU/Cache Subsystem	
IntelDX2™/66MHz or Pentium™ 66MHz w/256 KBytes SLC, or Pentium 100MHz w/512KBytes SLC	1 to 6[1]
Main Memory Subsystem	
Memory, ECC	64 MBytes to 1.0 GByte
Intelligent Storage Subsystem	
ISS Type	Four channel
ISSs	1 to 6[1]
Internal Fast SCSI Devices	4 full height or 9 half height
PowerFile Disk Expansion Cabinets	0 to 14
Fast SCSI Devices with PowerFile	Up to 168
EISA Bridge Subsystem	
EISA Bridge Subsystem with 9 Slots	Standard[2]
VGA Card and Keyboard	Standard
Half-height Peripheral Slots	3
3.5" or 5.25" Floppy Drive	Standard[3]
Intelligent Management Subsystem	
IMS	Optional
Power and Cooling Subsystem	
Main Cabinet Power Supplies	500W to 1000W redundant
PowerFile Power Supplies	500W redundant

[1] Up to a combined total of 7 CPU Cache Subsystems and Intelligent Storage Subsystems. [2] VGA card uses 1 of the 9 EISA slots. [3] Floppy drive uses 1 of the peripheral slots.

ES4000 Architecture



Specifications

Base Cabinet Dimensions

Height: 37 in (70 cm)
Width: 22 in (56 cm)
Depth: 34 in (86 cm)
Weight: 250 lbs (113 kg) w/o SCSI devices

Environmental Specifications

Temperature:
- Operating: 50 F (10 C) to 93 F (34 C)
- Non-Operating: -40 F (-40 C) to 140 F (60 C)

Humidity:
- Operating: 20% to 80% (non-condensing)
- Non-Operating: 8% to 90% (non-condensing)

Power

Power Input Requirements:
- UL: • 100-120 VAC, 10 A, 60 Hz
  • 220-240 VAC, 5 A, 60 Hz
- CSA: • 100-120 VAC, 10 A, 60 Hz
  • 220-240 VAC, 5 A, 60 Hz
- TUV: • 220-240 VAC, 5 A, 50 Hz

Power Outlet Type:
- 100-120 VAC (U.S.) NEMA L5-20R
- 220-240 VAC (U.S.) NEMA L6-20R
- 220-240 VAC International IEC 309

Maximum Power 1200W

Heat Generated 4096 BTU/hr

Operating Systems

The PowerFrame ES Series is fully certified with the following environments and their multiprocessor versions where applicable:
- SCO UNIX OpenServer
- SunSoft Solaris 2.x
- Novell NetWare 3.x and NetWare 4.x
- Novell NetWare SFT III
- Novell UnixWare
- IBM OS/2 2.x
- Microsoft Windows NTAS
- Banyan ENS for SCO UNIX

Agency Certifications

- FCC
- TUV
- UL
- CSA
- CE Mark

Benefits

- Four-channel Intelligent Storage Subsystem offloads CPU by 90 percent, enabling high-performance file and application serving.
- Scalable design supports up to 1.0 GByte of system memory and up to 168 SCSI devices for resource-intensive environments.
- Up to six IntelDX2™/66MHz or Pentium™ CPUs tightly coupled on the high-speed PowerBus provide high performance for multiprocessing operating systems and CPU-intensive applications.
- Network Interface Card (NIC) load balancing and redundancy for Novell NetWare eliminates network I/O bottlenecks from saturated single NICs and ensures continued network operation, even if a NIC fails.
- Open system design lets you take advantage of new technologies without time-to-market delay.
- High-availability features include RAID 0, 1, 4, 5 and 10, disk hot sparing, disk hot replacement, disk duplexing and controller duplexing, with optional live CPU fault recovery, redundant power supplies and the Intelligent Management Subsystem.

Microsoft®

Working with BANYAN

OS/2 Available and Ready!

yes It runs with NetWare

SCO OK

intel inside

LAN Magazine of the Year 1994 Products

TRICORD

Tricord Systems, Inc.
3750 Annapolis Lane
Plymouth, MN 55447
612△557-9005
612△557-8403 Fax
800△TRICORD

070110-01 6/94