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.

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
- Intel DX2™/66MHz or Pentium™
- 66MHz w/256 KBytes SLC, or Pentium 100MHz w/512KBytes SLC

Main Memory Subsystem
- 64 MBytes to 1.0 GByte

Intelligent Storage Subsystem
- I/O Type: Four channel
- I/Os: 1 to 6
- Internal Fast SCSI Devices: Half 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
- VGA Card and Keyboard: Standard
- Half-height Peripheral Slots: 3
- 3.5" or 5.25" Floppy Drive: Standard

Intelligent Management Subsystem
- Optional

Power and Cooling Subsystem
- Main Cabinet Power Supplies: 500W to 1000W redundant
- PowerFile Power Supplies: 500W redundant

ES4000 Architecture

- PowerBus: 64-Bit, 267 MBytes/sec

Specifications

Base Cabinet Dimensions
- Height: 37 in (97 cm)
- Width: 22 in (56 cm)
- Depth: 34 in (86 cm)
- Weight: 290 lbs (132 kg) w/o SCSI devices

Environmental Specifications
- Temperature: Operating: 50°F (10°C) to 95°F (35°C)
  Non-Operating: -40°F (-40°C) to 140°F (60°C)
- Humidity: Operating: 20% to 80%
  Non-Operating: 8% to 90%

Power
- Input Requirements: UL: 110-120 VAC, 10 A, 60 Hz
- CSA: 110-120 VAC, 10 A, 60 Hz
- TUV: 220-240 VAC, 5 A, 50 Hz
- Power Level: 100-120 VAC (U.S.)
  220-240 VAC (International)
  NEMA L5-20R
  NEMA L6-30R
  NEMA L6-15R
  IEC 309
- Maximum Power: 1200 W
- Heat Generated: 4065 BTU/hr

Operating Systems
- The PowerFrame ES Series is fully certified with the following environments and their multiprocessor versions where applicable:
  - SCO UNIX Operating System
  - Solaris 2.x
  - Novell NetWare 3.x and NetWare 4.x
  - Novell NetWare 3.x/32
  - IBM O/S/2 2.x
  - Microsoft Windows NT
  - IBM RISC System/6000

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 Intel DX2™/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

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