

hp server rp2430

Table 2.1.5 HP Server rp2430 Specifications

| | |
|--|----------|
| Server model number | rp2430 |
| Server product number | A6889A |
| Number of Processors | 1 |
| Supported Processors | |
| PA-RISC PA-8700 Processor @ 650 MHz | |
| Cache-Instr/data/CPU (KB) | 750/1500 |
| Floating Point Coprocessor included | Yes |
| | |
| | |
| Memory | |
| Memory Slots | 8 |
| Min. memory | 128 MB |
| Max. memory capacity | 2 GB |
| | |
| Internal Disks | |
| Max. disk mechanisms | 2 |
| Max. disk capacity | 146 GB |
| | |
| Standard Integrated I/O | |
| Ultra2 SCSI-LVD | Yes |
| Ultra SCSI | Yes |
| 10/100Base-T (RJ-45 connector) | Yes |
| 10Base-T LAN console port | Yes |
| RS-232 serial ports (multiplexed from DB-25 port) | 3 |
| | |
| I/O buses and slots | |
| Total PCI Slots (supports 66/33-MHz × 64/32 bits) | 2 |
| 2 Independent Twin-Turbo slots (500 MB/s)—two channels per slot; one slot limited to half-length PCI cards | |
| | |
| Max. Mass Storage Host Bus Adapters—see supported I/O table | |
| Fibre Channel 2 Gb/s | 2 |
| Ultra2 SCSI-LVD | 1 |
| Fast/Wide/Differential SCSI | 2 |
| Dual Ultra2 SCSI/Dual 10/100Base-TX Combo | 1 |
| Dual port FWD SCSI | 1 |
| Dual port Ultra2 SCSI-LVD | 1 |
| RAID 4si, PCI 4-port Ultra2 SCSI RAID | 1 |
| Max. Network Interface Cards—see supported I/O table | |
| 1000Base-TX Gigabit Ethernet | 2 |
| 10/100Base-TX | 2 |
| FDI | 2 |
| Quad Port 10/100Base-TX | 2 |
| 1000Base-SX | 2 |
| | |
| | |
| | |

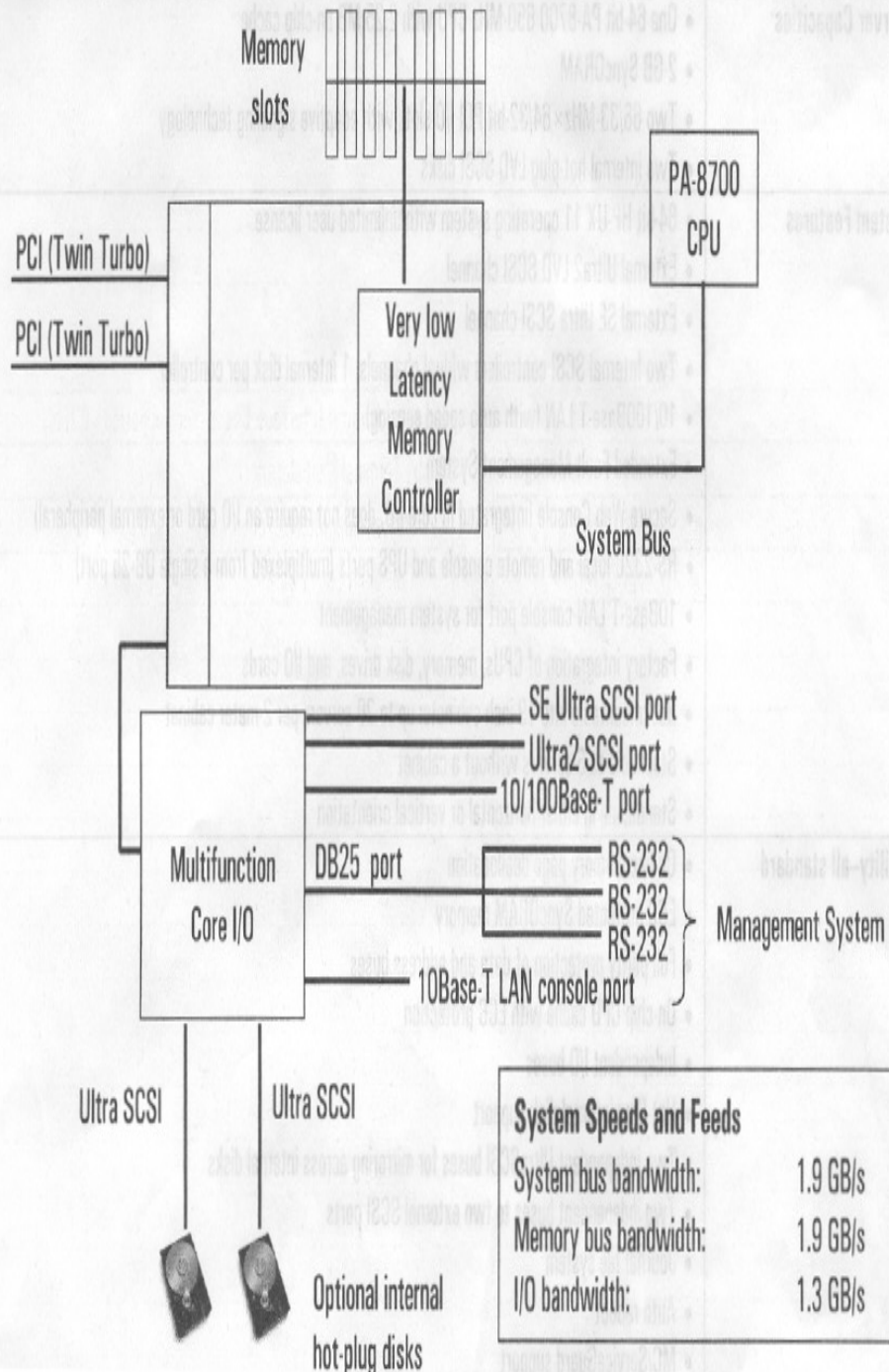
*TBD = To be determined

| | |
|---|--|
| Max. Network Interface Cards (cont.)—see supported I/O table | |
| ATM 155 Mb/s—MMF | 2 |
| ATM 155 Mb/s—UTP5 | 2 |
| ATM 622 Mb/s—MMF | 2 |
| 802.5 Token Ring 4/16/100 Mb/s | 2 |
| Dual port X.25/SDLC/FR | 2 |
| Quad port X.25/FR | 1 |
| 100Base-FX | 2 |
| | |
| Max. Additional Interface Cards—see supported I/O table | |
| 8 port Terminal Multiplexer | 2 |
| 64 port Terminal Multiplexer | 2 |
| HP Praesidium Speed Card | 1 |
| Graphics/USB | 1 kit (2 cards) |
| Electrical Characteristics | |
| AC Input power | 100-240 VAC 50/60 Hz |
| Current requirements at 200V | 1.3 A |
| Typical Power dissipation (watts) | 290 W |
| Maximum Power dissipation (watts) | 350 W |
| Power factor at full load | 0.95 at 240V, 0.98 at 120V |
| kW rating for UPS loading | 0.4 kW |
| Typical Heat dissipation (BTUs/hour) | 990 |
| Maximum Heat dissipation (BTUs/hour) | 1365 |
| Site Preparation | |
| Site planning and installation included | No |
| Depth (mm/inches) w/o front bezel | 635 mm/25 inches |
| Depth (mm/inches) w/ front bezel | 710 mm/28 inches |
| Deskside Width (mm/inches)—horizontal | 430 mm/17 inches |
| Rack Width (mm/inches) | 482 mm/19 inches |
| Deskside Height (mm/inches)—vertical | 533 mm/21 inches |
| Rack Height (EIA/mm/inches) | 2 EIA units/89/3.5 inches |
| Weight (kg/lbs) Max. | 20 kg/45 lbs |
| | |
| Environmental Characteristics | |
| Acoustics (operator/bystander) at 20°C | < 6.7 Bels LwA |
| Operating Temperature (up to 5000 ft) | +5 to 35° C |
| Non-operating Temperature | -40 to +65° C |
| Maximum rate of temperature change | 20° C/hour |
| Operating relative humidity | 15% to 80%, non-condensing |
| Non-operating relative humidity | 5% to 90%, non-condensing |
| Operating altitude above sea level | To 3.0 km (10,000 ft) |
| Non-operating altitude above sea level | To 4.5 km (15,000 ft) |
| | |
| Regulatory Compliance | |
| Electromagnetic interference | FCC Class A. Manufacturer's Declaration to EN55022 Level A, VCCI Registered, Class 1 |
| Safety | UL Listed, cUL Certified, TUV GS Mark, compliant with EN 60950 and EN 41003 |

Overview

Component locations are the same as the HP Server rp2470. Please see **Figure 2.1.1**.

Figure 2.1.7 HP Server rp2430 System Architecture



Features

Table 2.1.6 HP Server rp2430 Features

| | |
|---------------------------------------|--|
| Minimum System | <ul style="list-style-type: none"> One 64-bit PA-8700 650-MHz CPU with 2.25 MB on-chip cache 128-MB SyncDRAM |
| Maximum Server Capacities | <ul style="list-style-type: none"> One 64-bit PA-8700 650-MHz CPU with 2.25 MB on-chip cache 2-GB SyncDRAM Two 66/33-MHz×64/32-bit PCI I/O slots with adaptive signaling technology Two internal hot-plug LVD SCSI disks |
| Standard System Features | <ul style="list-style-type: none"> 64-bit HP-UX 11 operating system with unlimited user license External Ultra2 LVD SCSI channel External SE Ultra SCSI channel Two Internal SCSI controllers w/dual channels, 1 internal disk per controller 10/100Base-T LAN (with auto speed sensing) Extended Fault Management System Secure Web Console (integrated in core I/O; does not require an I/O card or external peripheral) RS-232C local and remote console and UPS ports (multiplexed from a single DB-25 port) 10Base-T LAN console port for system management Factory integration of CPUs, memory, disk drives, and I/O cards Rackmountable into 19-inch cabinets; up to 20 servers per 2-meter cabinet Stackable to 6 servers without a cabinet Standalone in either horizontal or vertical orientation |
| High Availability—all standard | <ul style="list-style-type: none"> On-line memory page deallocation ECC protected SyncDRAM memory Full parity protection of data and address buses On-chip CPU cache with ECC protection Independent I/O buses Hot-Plug internal disk support Two independent UltraSCSI buses for mirroring across internal disks Two independent buses to two external SCSI ports Journal file system Auto reboot MC/ServiceGuard support On-line diagnostics and system health monitor |
| Security | <ul style="list-style-type: none"> Separate LAN for system management Password protection on console port Disabling of remote console ports |
| Internet Server Functions | <ul style="list-style-type: none"> Internet server (inetd) Domain name server Routing (OSPF, BIND, RIP, EGP, HELLO, gateD) Network Time Protocol Pre-loaded wireless web server (WAP) HP WebQoS Peak Java developer's kit Java virtual machine e-Speak development kit |
| Client Configuration Services | <ul style="list-style-type: none"> Automatic configuration for printers, PCs, workstations, and X terminals (DHCP, Bootp, tftp, rbootp) |
| Email | <ul style="list-style-type: none"> Mail, MailX, ELM Sendmail, MIME, SMTP, ESMTP |
| Remote Access Services | <ul style="list-style-type: none"> Telnet, ftp, anonymous ftp server |

Configuration

CPU Configuration

The HP Server rp2430 includes one pre-installed 64-bit, 650-MHz PA-8700 processor. The HP Server rp2430 does not support 2-way SMP.

Processor Details

- 650-MHz clock speed
- On-chip 2.25-MB high speed cache (750-KB instruction, 1500-KB data)
- Single-bit cache error correction
- Double clocked 1.9-GB/s System bus
- Full PA-RISC 2.0 binary compatibility

Memory Configuration

The HP Server rp2430 supports SyncDRAM (Synchronous Dynamic Random Access Memory) DIMMs with full ECC protection. The HP Server rp2430 only supports the 128-MB, 512-MB, and 1024-MB memory modules—providing up to 2 GB of memory across 8 DIMM slots. If the 8 slots are configured with more than 2 GB, the system will not boot.

Memory Loading Rules

- The HP Server rp2430 base configuration has one pre-installed 128-MB DIMM
- 512-MB module must be installed as a 2×256 MB board pair
- 1024-MB module must be installed as a 2×512 MB board pair
- Minimum memory is 128 MB
- Maximum memory is 2 GB
- DIMMs must be loaded in the following order (see **Figure 2.1.3**): 0, 1, 2, 3, 4, 5, 6, 7
- DIMM sizes may be mixed in the same system. However, use same size DIMMs for optimal performance.

I/O Architecture

The HP Server rp2430 contains five I/O channels, each providing 250 MB/s of peak bandwidth. The channels are laid-out to support two “Twin-Turbo” PCI slots and the core I/O.

The term “Turbo” refers to a PCI slot that has a dedicated I/O channel. The HP Server rp2430 has two “Twin-Turbo” slots, each with *two* dedicated channels. The dedicated, independent channels provide both performance and availability advantages. The “Twin-Turbo” slots, labeled slots 1 and 2 on the chassis, each provide 500 MB/s of peak bandwidth. The independent design prevents slow cards from affecting the performance of a fast card. Independence also provides error containment. For example, if a card hangs in slot 1, the card in slot 2 will still function properly.

The fifth and final I/O channel provides 250 MB/s of dedicated bandwidth to the core I/O. The core I/O consists of two internal hot-plug disks, an Ultra2 SCSI connection, an Ultra SCSI connection, a 10/100Base-T LAN, a 10Base-T service LAN, and three RS-232 serial ports multiplexed from a single DB-25 connection.

Both of the HP Server rp2430 PCI slots support 32- and 64-bit PCI cards running at 33- and 66-MHz bus speeds. The slots are keyed to accept 5 volt and Universal PCI cards. The HP Server rp2430 uses HP-developed Adaptive Signaling technology to allow each slot to operate at the full speed of the PCI card. The speed capability of PCI cards is sensed and the signaling speed set to the fastest possible for each card.

Supported I/O cards

Table 2.1.7 Supported I/O Cards on the HP Server rp2430

| I/O Card | Product Number | Full-length Or Half-length ¹ | First HP-UX Release | Connector Type(s) | Factory Integration | HP-UX Boot support | Maximum Cards per System |
|--|----------------|---|---------------------|--------------------------------------|---------------------|--------------------|--------------------------|
| PCI 2 Gb/s Fibre Channel Adapter | A6795A | Half-length | 11.00 | Duplex SC | Yes | Yes | 2 |
| Ultra2 SCSI-LVD | A5149A | Full-length | 11.00 | VHDCI | Yes | Yes | 1 |
| Dual Port Ultra2 SCSI-LVD | A5150A | Full-length | 11.00 | VHDCI | Yes | Yes | 1 |
| Ultra160 SCSI Adapter | A6828A | Full-length | 11.00 | VHDCI | Yes | Yes | 1 |
| Dual Port Ultra160 SCSI Adapter | A6829A | Full-length | 11.00 | VHDCI | Yes | Yes | 1 |
| Fast/Wide/Differential SCSI | A4800A | Half-length | 11.00 | HD | Yes | Yes | 2 |
| Dual Port FWD SCSI | A5159B | Full-length | 11.00 | VHDCI | Yes | Yes | 1 |
| Dual Ultra2 SCSI/Dual 10/100Base-TX Combo ^{2,3} | A5838A | Full-length | 11.00 | VHDCI and RJ-45 | Yes | Yes | 1 |
| RAID 4si, PCI 4 port Ultra2 SCSI RAID | A5856A | Full-length | 11.00 | VHDCI | Yes | No | 1 |
| 10/100Base-TX | A5230A | Half-length | 11.00 | RJ-45 | Yes | No | 2 |
| Quad Port 100Base-TX | A5506B | Half-length | 11.00 | RJ-45 | Yes | No | 2 |
| 1000Base-TX Gigabit Ethernet | A6825A | Half-length | 11.00 | RJ-45 | Yes | No | 2 |
| 1000Base-SX Gigabit Ethernet | A6847A | Half-length | 11.00 | Duplex SC | Yes | No | 2 |
| ATM 155 Mb/s MMF | A5513A | Half-length | 11.00 | Duplex SC | Yes | No | 2 |
| ATM 622 Mb/s MMF | A5483A | Half-length | 11.00 | Duplex SC | Yes | No | 2 |
| FDDI Dual Attach Station LAN Adapter ⁴ | A3739B | Half-length | 11.00 | FDDI SC | Yes | No | 2 |
| X.25/SDLC/FR dual port | J3525A | Half-length | 11.00 | RS-530, RS-232, V.35, RS-449 or X.21 | Yes | No | 2 |
| 8-port Terminal Multiplexer | A6748A | Half-length | 11.00 | RS-232 | Yes | No | 2 |
| 64-port Terminal Multiplexer | A6749A | Full-length | 11.00 | RS-232 or RS-422 | Yes | No | 1 |
| Secure Web Console PCI Card ⁵ | A5858A | Half-length | 11.00 | RS-232 (in) and RJ-45 (out) | Yes | No | 1 |
| Graphics/USB kit (2 cards) ⁶ | A6150B | See note 6 | 11.00 | | Yes | No | 2 |
| Hyper Fabric 4X (copper) | A6092A | Half-length | 11.00 | 37-pin D-type | Yes | No | 2 |
| Hyper Fabric 2 (fiber) | A6386A | Half-length | 11.00 | LC-duplex short wave | Yes | No | 2 |
| 802.5 Token Ring 4/16/100 Mb/s | A5783A | Half-length | 11.00 | RJ-45 and DB-9 | Yes | No | 2 |
| Public Key Cryptography ⁷ | A5486A | Half-length | 11.00 | | No | No | 1 |

¹ PCI slot 1 is restricted to half-length cards

² The Dual Ultra2 SCSI/Dual 10/100Base-TX Combo card (A5838A) is only supported in PCI slot 2, the full-length, independent PCI slot

³ HP recommends at least 256 MB of memory be used with the Dual Ultra2 SCSI/Dual 10/100Base-TX Combo card (A5838A)

⁴ HP recommends at least 256 MB of memory be used with the FDDI LAN adapter (A3739B)

⁵ The Secure Web Console card must be configured in the initial server order; it cannot be ordered as an accessory at a later date

⁶ The graphics card is only supported in slot 1, the half-length independent PCI slot; the USB card is supported in any slot

⁷ The Public Key Cryptography card is only supported in PCI slots 1 and 2, the slots with independent channels

HP Server rp2430 to HP Server rp2470 Upgrade (A6893A)

The HP Server rp2430 is fully upgradeable to an HP Server rp2470. The A6893A upgrade is “in-the-box,” requiring only a simple firmware change. Although no hardware is needed for the upgrade, users will want to purchase additional processors and/or memory modules to take advantage of the enhanced capabilities. Please see the *HP 9000, Itanium-based, and Carrier-Grade Servers Ordering Guide* for more information.

The following HP Server rp2430 features are identical to the HP Server rp2470. Please refer to the HP Server rp2470 section.

- Racking Configurations
- Integrated Multifunction Core I/O
- Extended Fault Management System
- Internal Disk Drives
- System Console
- UPS Power Protection