

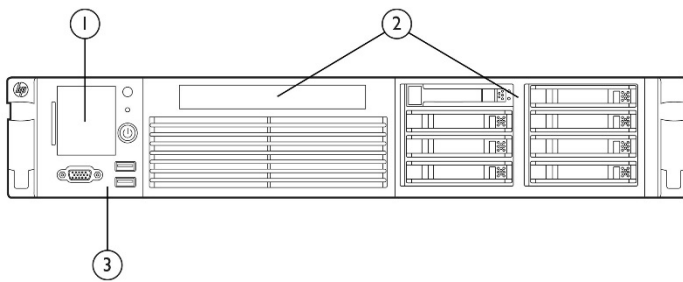
QuickSpecs

HPE Integrity rx2800 i4 Server

Overview

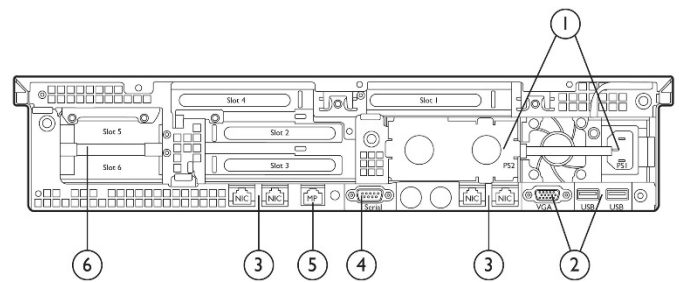
HPE Integrity rx2800 i4 Server

Is your branch office or data center server infrastructure challenged to support more users and applications within constrained budget, smaller IT staff and limited space or energy footprint? In your environment is downtime not an option, security is paramount and IT dynamics mandate a flexible converged infrastructure that scales with your business? The HPE Integrity rx2800 i4 Server, a reliable and secure 2U two-socket UNIX server, is a great fit for branch offices and rack-mount server data centers supporting a range of mission-critical workloads. With up to 3.5X performance, 21 percent less energy consumption, and 33 percent lower TCO, the Integrity rx2800 i4 Server does more with less. It enables workload consolidation and software licensing cost savings through HPE Virtual Partitions (vPars) or Virtual Machines (VMs), while HPE Insight software and HPE Integrated Lights-Out 3 (iLO 3) increase staff productivity. HPE-UX 11i v3 and HPE Serviceguard support provides always-on resiliency and disaster recovery capability. The Integrity rx2800 i4 Server offers exceptional configuration flexibility and also comes in tower configurations with reduced acoustics for deployment in infrastructure challenged office environments.



HPE Integrity rx2800 i4 Server: Front View

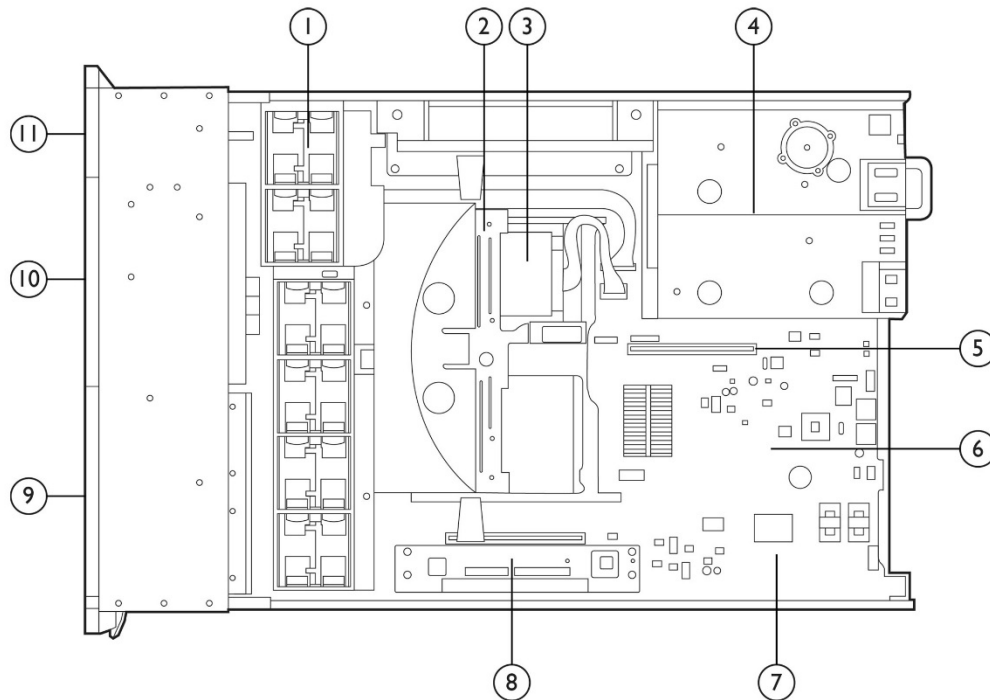
1. Systems Insight Display
2. 1 DVD & 8 SFF HDDs
3. Front Panel Console (KVM)



HPE Integrity rx2800 i4 Server: Rear View

1. 2x Power Supplies
2. Rear VGA & USB
3. 4x 1G LANs
4. RS232 port
5. iLO3 LAN
6. 6x I/O Slots

Overview



HPE Integrity rx2800 i4 Server: Inside View

- | | |
|---|---|
| 1. 6 system fans | 7. 2 low profile PCIe above p410i RAID controller |
| 2. Internal USB | 8. 24 DDR3 Memory Modules |
| 3. 2 Processor Sockets | 9. 8 Hard Disk Drive Slots |
| 4. 2 PSUs over ICH10, Gromit XE & RN50 video controller | 10. DVD-ROM or DVD+RW slot |
| 5. Chipset | 11. Front IO & Systems Insight Display |
| 6. 2 full-length PCIe slots over 2 half-length PCIe slots | |

What's New

- Support for Intel Itanium 9500 series processors
- Support for Low Voltage DIMMs
- Support for 80Plus Platinum Power Supplies
- Support for HPE-UX 11iv3 1209 release

Standard Features

Models

HPE rx2800 i4 server comes in two (2) models:

- 2U Rack-Optimized Server (can be installed in tower form factor with pedestal kit)
- Office Friendly Server (OFS) in tower form factor with reduced acoustics for deployment in office environments.

Processors

Up to two (2) Intel® Itanium® 9500 processor series are supported:

- Intel® Itanium® 9560 8-core 2.53 GHz / 32 MB (L3) 170W
- Intel® Itanium® 9550 4-core 2.4 GHz / 32 MB (L3) 170W
- Intel® Itanium® 9540 8-core 2.13 GHz / 24 MB (L3) 170W
- Intel® Itanium® 9520 4-core 1.73 GHz / 20 MB (L3) 130W

Key features:

- On core 32KB Level 1 (L1) cache; 16KB Instruction/16KB Data
- On core Level 2 (L2) cache, 512KB Instruction/256KB Data
- Up to 32MB Shared Last Level Cache (LLC); see details above for each processor
- Total of up to 54MB on die cache per processor
- Single bit cache error correction
- 50 bit physical addressing
- 64 bit virtual addressing
- Integrated memory controllers and Scalable Memory Interconnect (SMI)
- Intel Instruction Replay Technology
- Enhanced instructions-level parallelism
- Enhanced Intel Hyper Threading, with Dual-Domain Multi-Threading support
- Intel Cache Safe Technology
- Residual error protection for floating point operations
- Thermal logic technologies
- Dynamic CKE, for additional power savings with memory DIMMs
- Floating point coprocessor
- Full width Intel QuickPath Interconnect (QPI) links providing 25.6 GB/s of bandwidth
- QPI error detection, correction and lane failover
- Two memory controllers per processor w/ aggregate bandwidth of 34 GB/s read
- 1MB directory cache in memory controller
- Support for 12 DDR3 memory DIMMs per processor
- Turbo Boost Technology (allows low activity factor workloads to run at a faster clock speed)
- Error protection on all major data structures
- Dynamic Processor resilience and de-allocation (DPR)
- Advanced Machine Check Architecture (AMCA)
- Automatic Process Recovery (APR)
- Enhanced resistance to Soft Errors

Memory Expansion

- Up to four (4) 6-slot memory riser boards with total of 24 DDR3 registered Low Voltage (1.35V) memory modules (RDIMMs) are supported
- Up to 384GB system memory with Low Voltage (1.35V) 16GB DIMMs

Memory Modules

DDR3 (double data rate) SDRAM (synchronous dynamic random access memory) DIMMs with the following capacities:

- 16GB (2 x 8GB) PC3L-10600 Registered CAS 9 Memory Kit
- 16GB (2 x 8GB) PC3L-12800 Registered CAS 11 Memory Kit
- 32GB (2 x 16GB) PC3L-12800 Registered CAS 11 Memory Kit

Key features:

Standard Features

- DRAM ECC (Double Device Data Correction - DDDC)
- Memory Scrubbing
- Scalable Memory Interface (SMI) memory channel protection
- ECC and double chip spare to overcome single DRAM chip failures.

Internal Storage

- Up to eight (8) small form factor (SFF) hot-plug hard disk drives (HDD) or solid state drives (SSD)
- Up to 9.6TB of internal storage with 1.2TB HDDs

Embedded Storage Controller

Integrated HPE Smart Array P410i 6Gbps Serial-Attached SCSI (SAS) RAID Controller

Key features

- Support for eight (8) internal Hard Disk Drive (HDDs) and Solid State Drives (SSDs)
- Supports RAID 0, 1, 10, 5, 50, 6, 60

NOTE: Please refer to configuration information below for additional components that are required for RAID 5, 5+0, 6, 6+0

Internal Hard Disk Drives

Support for SAS HDDs

- 300GB, 600GB, 900GB, 1.2TB 10K RPM 12G/s SAS (Serial Attached SCSI) 2.5" Small Form Factor Hot Plug Disk
- 300GB, 450GB, 600GB, 900GB 15K RPM 12G/s SAS (Serial Attached SCSI) 2.5" Small Form Factor Hot Plug Disk

Internal Solid State Drives

Support for 12 Gb/s SAS Single Level Cell (SLC) SSDs

- 400GB and 800GB 12G SAS SLC 2.5" Small Form Factor (SFF) Enterprise Performance Solid State Drive

Optical Media Drive

Up to one (1) HPE Slimline DVD-RW or DVD-ROM Optical Drive

Embedded Network Controller

Two (2) two-port Intel 82575 embedded 10/100/1000 Base-TX LAN (auto sensing; RJ 45 connector, Wake On LAN support)

Graphics, VGA, USB and Serial ports

RN50 integrated chip for basic graphic capabilities with support for one of two (2) VGA ports (front or rear)

- Supports maximum resolution of 1280x1024x16M color. It does not support widescreen resolutions. One (1) RS 232 serial port
- Four (4) USB 2.0 ports

I/O Expansion slots

Up to six (6) PCIe Gen2 slots with choice of PCIe riser cards are supported

- 3-Slot Riser Card (1 FL/FH x8 speed/x16 connector and 2 HL/FH x4 speed/x8 connector)
- 2-Slot Riser Card (1 FL/FH x8 speed/x16 connector and 1 HL/FH x8 speed/x16 connector)

Network Adapters

Support for PCIe Gen2 1 Gb/s and 10 Gb/s network adapters for Local Area Network (LAN)

- HPE PCIe 2-port 1000Base-T card
- HPE PCIe 2-port 1000Base-SX card
- HPE Integrity 10GbE-SR 2p PCIe Adapter
- HPE Integrity 10GbE-LR 2p PCIe Adapter
- HPE Integrity 10GbE-Cu 2p PCIe Adapter
- HPE Ethernet 10Gb 2-port 561T Adapter

Converged Network Adapters

Support for PCIe Gen2 10 Gb/s converged network adapters for Fibre Channel over Ethernet and Ethernet

- HPE Integrity CN1100E PCIe 2-port CNA

Standard Features

Fibre Channel Host Bus Adapters

Support for one (1) or two (2) port (eight) 8 Gb/s Fibre Channel Host Bus Adapters

- HPE PCIe 1-port 8Gb FC SR Qlogic HBA
- HPE PCIe 2-port 8Gb FC SR Qlogic HBA
- HPE SN1000Q 1-port 16GB FC HBA
- HPE SN1000Q 2-port 16GB FC HBA

SAS RAID Controllers and Host Bus Adapters

Support for 6 Gb/s SAS RAID Controllers

- HPE Integrity PCIe 2p P411/256MB SAS Ctrl
- HPE Integrity SA 812/1GB PCIe SAS Ctrl

Support for 12 Gb/s SAS RAID Controller

- HPE Integrity Smart Array P441 12Gb 2-port External SAS Controller

Graphics Adapter

Support for 2D graphics

- HPE Integrity rx2800 2D Graphics Adapter

InfiniBand Host Channel Adapters

Support for Quad-Data Rate (QDR) 40 Gb/s 4X connector based InfiniBand Host Channel Adapter

- HPE Integrity 4X QDR CX-2 PCI-e G2 DP HCA

Hardware Security

Support for Trusted Platform Module (TPM) for hardware security support

Power & Cooling

Up to two (2) hot-swap power supplies for N+N redundancy

- 1200W Hot Plug Power Supply Kit (Supports High-Line and Low-Line Voltages)
NOTE: It is highly recommended that the HPE Power Advisor tool is run to determine configuration specific power and cooling needs. Please refer to: <http://www.hpe.com/info/hppoweradvisor>
- Up to six (6) hot-plug fans (N+1 redundancy)

Key Power & Cooling Features:

- Power monitoring and control
- UPS power management
- The hot swap design allows for the online replacement of a power supply when N+N=2 supplies are configured in the server.

Emdedded Manageability and Serviceability

HPE Integrity Integrated Lights-Out (iLO) 3 (factory integrated)

HPE Integrity Integrated Lights-Out (iLO) management processors make it simpler, faster, and less costly to remotely manage your Integrity servers.

Key features:

- Telnet and web console via 10/100/1000Base-TX management LAN (RJ 45 connector)
- Local VT100 or hpterm terminal, or VT100 or hpterm emulator via local RS 232 serial connection
- Remote VT100 or hpterm terminal, or VT100 or hpterm emulator via external modem
- SSL secured Web console accessible through the 10/100/1000Base-TX management LAN
- Console mirroring between all local, modem, LAN, and web consoles
- Virtual Media
- LDAP directory services
- iLO power measurement
- Integration with Insight Power Manager
- Separate LAN for system management

Standard Features

- Password protection on console port
- Disablement of remote console ports
- Remote power up and power down control
- Configurable remote access control
- Event notification to system console-Provides connectivity, information, and support for HPE UX tools (such as STM and EMS) to notify by email, pager and/or Hewlett Packard Enterprise response centers.
- Interface to system monitoring and diagnostic hardware via an internal IC bus

NOTE: HPE Integrity iLO 3 ships with a built in Advanced Pack License. No additional iLO licensing is needed.

For more information, please see <http://www.hpe.com/info/integrityilo>

Systems Insight Display

HPE Systems Insight Display LEDs enables diagnosis with the access panel installed

Accessories

Rack Kits

For customers who need to use non-HPE cabinets, simple options for installation are available

- Field Rack Kit (contains adjustable side rails to mount server in cabinets that use the four post EIA mounting system)
- Pedestal Kit (for tower form factor deployment)
- Rackmount Shelf Kit

NOTE: For non-HPE cabinets, please adhere to the following instructions to ensure that HPE can support the rack environment.

- **Anti-Tip** - The rack/cabinet must be solidly anchored to the floor both front and rear. This is usually accomplished by anti-tip feet or by direct bolting to the floor.
- **Air Flow** - The HPE Integrity rx2800 i4 uses front to back airflow to cool the unit. Thus a cabinet cannot have a solid front or rear door. Solid doors may have to be removed or changed to an open perforation pattern.
- **Cable Strain Relief** - A proper method of strain relief must be used. This may force the elimination of the rear door in some cases.
- **Front and Rear Access** - For proper cooling and ease of service access, Hewlett Packard Enterprise recommends 32 inches of unobstructed floor space in the front and rear of rack installations. This recommendation applies to both HPE and third party racks and cabinets.

Operating System

- HPE-UX 11i v3 1209 release
- HPE-UX 11i v3 Data Center Operating Environment (DC-OE)
- HPE-UX 11i v3 Virtual Server Operating Environment (VSE-OE)
- HPE-UX 11i v3 High Availability Operating Environment (HA-OE)
- HPE-UX 11i v3 Base Operating Environment (BOE)
- Key HPE-UX 11i features

Manageability

Getting Started

- HPE Systems Insight Manager
- HPE Insight Control for HPE-UX 11i
- HPE-UX 11i System Management
- HPE BladeSystem Integrated Manager in HPE System Insight Manager
- HPE Onboard Administrator
- HPE BladeSystem c-Class Onboard Administrator Firmware
- HPE BladeSystem c-Class Virtual Connect Firmware
- HPE Insight Control for HPE-UX 11i v3 (Included in Base OE)

Deploy

- HPE Ignite-UX
- Software Distributor-UX
- Software Package Builder

Standard Features

- Dynamic Root Disk (DRD)

Monitor

- HPE Systems Insight Manager
- HPE System Management Homepage
- Glance Plus Pak
- Performance Manager and Agent
- HPE Serviceguard Manager

Control

- HPE Integrity Integrated Lights-Out (iLO) 3 (standard with HPE Integrity rx2800 i4 Server)
- Integrity iLO 3 Advanced Pack license (included with HPE Integrity rx2800 i4 Server)

Protect

- HPE-UX Bastille
- Secure Resource Partitions
- Data Protector Software
- Software Assistant (SWA)

Optimize

- HPE Capacity Advisory
- HPE Virtualization Manager
- HPE-UX Workload Manager
- HPE Global Workload Manager
- Process Resource Manager
- HPE Insight Power Manager
- HPE-UX 11i v3 power management

Provision

- HPE Insight Dynamics - VSE infrastructure orchestration

Integrate

- HPE Business Technology Optimization
- IT Management Software
- HPE Insight Dynamics - VSE for HPE Integrity server blades

Virtualization

- HPE Integrity Virtual Machines (VMs)
- HPE Integrity Virtual Partitions (vPars) and Virtual Machines (VMs) 6.1
- HPE-UX Containers (Formerly known as Secure Resources Partitions)

Availability

- Journal file system with HPE-UX*
- Auto reboot
- HPE Serviceguard for HPE-UX*
- HPE Serviceguard Extension for RAC for HPE-UX*
- HPE Serviceguard Extension for SAP for HPE-UX*
- Serviceguard Manager for HPE-UX Clusters*
- HPE Event Monitoring Service
- HA Monitors for HPE-UX
- HA Toolkits for HPE-UX
- HPE Mirrordisk/UX* (Included if purchase HPE-UX 11i VSE-OE, HA-OE or DC-OE)
- Extended Campus Cluster*, HPE Metrocluster*, and HPE Continentalclusters* for HPE UX
- HPE System Insight Manager (SIM) for proactive fault management

Standard Features

- HPE Serviceguard Storage Management Suites for HPE-UX* Security

Protecting System

- Bastille system hardening
- Host Intrusion Detection System
- Secure Resource Partitions
- IPFilter - firewall technology
- Software Assistant (security bulletin currency)
- Install-time Security
- Boot Authentication
- Standard Mode Security Extensions
- Shadow Passwords
- Strong Random Number Generator

Protecting Data

- Encrypted volume and file system
- Trusted Computing Services
- Security containment
- OpenSSL
- IPsec
- Secure Shell
- MD5sum

Protecting Identity:

- Identity Management Integration
- Select Access for IdMI
- Role-based Access Control
- AAA Server
- HPE Directory Server for HPE-UX
- LDAP-UX Client
- Kerberos Server
- Kerberos Client Services
- PAM Kerberos

NOTE: For detailed information on HPE-UX support and features, please visit the following links:

- **QuickSpecs:** <https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04111649>
- **Overview:** <https://www.hpe.com/us/en/servers/hp-ux.html>

Warranty

Three-year parts, 3 Year Labor and 3 Year on-site limited global warranty.

Protected by Hewlett Packard Enterprise Services and a worldwide network of Hewlett Packard Enterprise Authorized Channel Partners.

Services and Support

Support Services

Protect your business beyond warranty with HPE Support Services

HPE Pointnext provides a comprehensive portfolio including Advisory and Transformational, Professional, and Operational Services to help accelerate your digital transformation. From the onset of your transformation journey, Advisory and Transformational Services focus on designing the transformation and creating a solution roadmap. Professional Services specializes in creative configurations with flawless and on-time implementation, and on-budget execution. Finally, operational services provides innovative new approaches like Flexible Capacity and Datacenter Care, to keep your business at peak performance. HPE is ready to bring together all the pieces of the puzzle for you, with an eye on the future, and make the complex simple.

Connect your devices:

Unlock all of the benefits of your technology investment by connecting your products to Hewlett Packard Enterprise. Achieve up to 77%¹ reduction in down time, near 100%² diagnostic accuracy and a single consolidated view of your environment. By connecting, you will receive 24x7 monitoring, pre-failure alerts, automatic call logging, and automatic parts dispatch. HPE Proactive Care Service and HPE Datacenter Care Service customers will also benefit from proactive activities to help prevent issues and increase optimization. All of these benefits are already available to you with your server storage and networking products, securely connected to HPE support.

IDC 2 – HP CSC reports 2014 – 2015

Learn more about getting connected at <http://www.hpe.com/services/getconnected>

HPE Proactive Care Advanced* – Call to Repair, three year Support Service

This service helps achieve a higher return on your product investment with personalized support from a local assigned Account Support Manager who will share best practice advice and personalized recommendations designed to help improve availability and performance to increase stability and reduce unplanned downtime. Leverage your system's ability to connect to HPE for pre-failure alerts, automatic call logging, and parts dispatch. For business critical incidents, this service offers critical event management to reduce mean time to resolution. This recommendation provides a local customer engineer for onsite hardware repair if required within 6 hours and two-hour callback for supported software. Collaborative software management is included with independent software vendors unless you have your software support from HPE where we own all cases from start through to resolution.

<https://www.hpe.com/h20195/V2/GetDocument.aspx?docname=4AA5-3259ENW&cc=us&lc=en>

HPE Proactive Care Advanced* - 24x7 coverage, three year Support Service

This service helps achieve a higher return on your product investment with personalized support from a local assigned Account Support Manager who will share best practice advice and personalized recommendations designed to help improve availability and performance to increase stability and reduce unplanned downtime. Leverage your system's ability to connect to HPE for pre-failure alerts, automatic call logging and parts dispatch. For business critical incidents, this service offers critical event management to reduce mean time to resolution. This recommendation provides 24x7 coverage with four-hour response for hardware and collaborative support that offers two-hour callback for supported software issues. Collaborative software management is included with independent software vendors unless you have your software support from HPE where we own all cases from start through to resolution.

<https://www.hpe.com/h20195/V2/GetDocument.aspx?docname=4AA5-3259ENW&cc=us&lc=en>

HPE Proactive Care* with 6 hour call-to-repair commitment, three year Support Service

HPE Proactive Care gives customers an enhanced call experience. When your products are connected to HPE, Proactive Care helps prevent problems and maintains IT stability by utilizing personalized proactive reports with recommendations and advice. This Service combines three years' proactive reporting and advice with our highest level of hardware support - HPE's 24x7, six hour hardware call-to-repair. HPE is the only leading manufacturer who makes this level of coverage available as a standard service

Services and Support

offering for your most valuable servers. This service also includes collaborative software support for Independent Software Vendors (ISVs), (Red Hat, VMWare, Microsoft, etc.) running on your HPE servers.

<https://www.hpe.com/h20195/v2/GetPDF.aspx/4AA3-8855ENW.pdf>

HPE Proactive Care* with 24x7 coverage, three year Support Service

HPE Proactive Care gives customers an enhanced call experience. When your products are connected to HPE, Proactive Care helps prevent problems and maintains IT stability by utilizing personalized proactive reports with recommendations and advice. This Service combines three years proactive reporting and advice with our 24x7 coverage, four hour hardware response time when there is a problem. This service also includes collaborative software support for Independent Software Vendors (ISVs), (Red Hat, VMWare, Microsoft, etc.) running on your HPE servers. <https://www.hpe.com/h20195/v2/GetPDF.aspx/4AA3-8855ENW.pdf>

NOTE: *HPE Proactive Care and HPE Proactive Care Advanced require that the customer connect their devices to make the most of these services and receive all the deliverables.

HPE Foundation Care 24x7, three-year Support Service

HPE Foundation Care 24x7 gives you access to HPE 24 hours a day, seven days a week for assistance on resolving issues. This service includes need based Hardware onsite response within four hours. In addition, collaborative software support is included in this service that provides troubleshooting assistance on industry leading software running on your HPE server. Simplify your support experience and make HPE your first call to help resolve hardware or software problems.

<https://www.hpe.com/h20195/V2/GetDocument.aspx?docname=4AA4-8876ENW&cc=us&lc=en>

Parts and Materials

HPE will provide HPE-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements.

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product quick-specs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by HPE due to malfunction.

Other related Services

HPE Installation and Startup Service

Provides for the installation and startup of HPE technology including BladeSystems, C-Class enclosure, HPE ProLiant c-Class and Integrity server blades, storage blades, SAN switch blades, HPE Virtual Connect modules (Ethernet and Fibre Channel), Ethernet network interconnects, and InfiniBand, as well as the installation of one supported operating system type (Windows® or Linux).

HPE Datacenter Care service

HPE Datacenter Care helps improve IT stability and security, increase the value of IT, and enable agility and innovation. It is a structured framework of repeatable, tested, and globally available services "building blocks." You can deploy, operate, and evolve your datacenter wherever you are on your IT journey. With HPE Datacenter Care, you benefit from a personalized relationship with HPE via a single point of accountability for HPE and others' products. For more information, visit

<http://www.hpe.com/services/datacentercare>

HPE Factory Express for Servers and storage

HPE Factory Express offers configuration, customization, integration and deployment services for HPE servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed.

Services and Support

Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging, and custom packaging. HPE products supported through Factory Express include a wide array of servers and storage: HPE Integrity, HPE ProLiant, HPE Apollo, HPE ProLiant Server Blades, HPE BladeSystem, HPE 9000 servers as well as the MSAxxx3PAR suite, XP, rackable tape libraries and configurable network switches.

HPE Technology Services Support Credits offer flexible services and technical skills to meet your changing IT demands. With a menu of service that is tailored to suit your needs, you get additional resources and specialist skills to help you maintain peak performance of your IT. Offered as annual credits, you can plan your budgets while proactively responding to your dynamic business.

HPE Education Services

Keep your IT staff trained making sure they have the right skills to deliver on your business outcomes. Book on a class today and learn how to get the most from your technology investment. <http://www.hpe.com/ww/learn>

For more information: <http://www.hpe.com/services>

Ordering and Configuration

Recommended

Offering the best combination of performance, value and availability, Recommended Options have been selected by Hewlett Packard Enterprise experts to provide the right technology for a range of workloads and market segments. Fully integrated into the ProLiant management and security experience, Recommended Options provide the best fit with timely availability.

Extended

Extended Options provide an extended catalog of products tailored for customers in specific markets or with specific workloads, requiring the utmost in performance or value. Fully integrated into the ProLiant management and security experience, Extended Options represent great value and performance but typically have a longer lead-time.

Server product numbers	<p>HPE Integrity rx2800 Rack-optimized Server AT101A</p> <p>Minimum additional components required:</p> <ul style="list-style-type: none"> • One processor • 16 GB memory • HPE rx2800 i4 Racking Kit <p>NOTE: Supports High Line Power (1200W) and Low Line Power (800W) NOTE: Low Line Power (800W) is supported in limited configurations. One processor with up to 12 memory DIMMs or two processor sockets with up to 8 memory DIMMs.</p>
	<p>HPE Integrity rx2800 i4 Office Friendly Server AT102A</p> <p>Minimum additional component required:</p> <ul style="list-style-type: none"> • One processor (supports Intel® Itanium® 9520 quad-core processor only) • 16 GB memory • Requires the pedestal kit (Cannot be factory integrated. Must be assembled on site) <p>NOTE: OFS configuration does not support hot-swap redundancy in cooling fans NOTE: Supports both High Line Power (1200W) and Low Line Power (800W). NOTE: Low line power is supported in limited configurations. One processor with up to 12 memory DIMMs or two processor sockets with up to 8 memory DIMMs. NOTE: With HPE Smart Array P410i 6 Gb/s SAS RAID Controller:</p> <ul style="list-style-type: none"> • HPE rx2800 i4 512MB FBWC Kit (AM252A) is required for RAID 5 and RAID 5+0 • HPE rx2800 i4 512MB FBWC kit (AM252A) AND HPE rx2800 i4 Smart Array Advance Pack (SAAP) License (AM305A) is required for RAID 6 and RAID 6+0

Processors	<p>HPE Integrity rx2800 i4 Itanium 9520 (1.73GHz/4-core/20MB/130W) Processor Kit AT104A</p> <p>HPE rx2800 i4 Itanium 9550 (2.4GHz/4-core/32MB/130W) Processor Kit AT138A</p> <p>HPE Integrity rx2800 i4 Itanium 9540 (2.13GHz/8-core/24MB/170W) Processor Kit AT105A</p> <p>HPE Integrity rx2800 i4 Itanium 9560 (2.53GHz/8-core/32MB/170W) Processor Kit AT106A</p> <p>NOTE: Processor frequencies cannot be mixed in a server.</p>
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Memory Exp Board	<p>HPE Integrity rx2800 6-slot Memory Expansion Board AT103A</p> <p>NOTE: Each memory expansion board contains six (6) memory DIMM slots NOTE: The server supports a maximum of four (4) memory expansion boards or 24 DIMM slots. NOTE: For one processor in system, maximum of two (2) memory expansion boards are supported.</p>
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Ordering and Configuration

System Memory	HPE rx2800 i4 16GB (2x8G) Dual Rank PC3L 10600 (DDR3-1333) Registered CAS-9 Memory Kit	AT109A
	HPE rx2800 16GB (2x8GB) Single Rank PC3L-12800 (DDR3-1600) Registered CAS-11 Memory Kit	AT109B
	HPE rx2800 32GB (2x16GB) Dual Rank PC3L 12800 (DDR3-1333) Registered CAS-9 Memory Kit	AT110A
	<p>NOTE: Memory must be installed in groups of two DIMMs, also known as pairs or modules.</p> <p>NOTE: For best performance, all DIMM slots should be populated with the same size DIMM.</p> <p>NOTE: Each memory pair must consist of DIMMs of the same type: same capacity/density, same organization, same number of ranks, and same speed.</p> <p>NOTE: Alternate DIMM pairs between memory risers. If both processor sockets are populated, alternate DIMMs between processors.</p>	
I/O Riser Boards	HPE Integrity rx2800 PCIe 3-slot Riser Board	AM228A
	HPE Integrity rx2800 PCIe 2-slot Riser Board	AM245A
	<p>NOTE: I/O Riser Boards can be mixed in the system</p> <p>NOTE: Last two slots on second I/O riser board (secondary riser board) supports only</p> <p>NOTE: Low Profile form factor for some I/O cards.</p>	
Network Adapters	HPE PCIe 2-port 1000Base-T LAN Adapter	AD337A
	HPE Integrity PCIe 2-port 10GbE-SR Fabric Adapter	AM225A
	NOTE: For more details, please visit: https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04123309	
	HPE Integrity PCIe 2-port 10GbE-CR Copper Adapter	AM233A
	HPE Ethernet 10Gb 2-port 561T Adapter for Integrity Servers	B9F25A
	HPE PCIe 2-port 1000Base-SX LAN Adapter	AD338A
	HPE Integrity PCIe 2-port 10GbE-LR Fabric Adapter	AM232A
Converged Network Adapters	HPE Integrity CN1100E Dual Port Converged Network Adapter	AT111A
<p>NOTE: Transceivers (HPE Integrity 10Gb SR SFP+ Opt) must be ordered separately.</p> <p>NOTE: For more details, please visit: https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04164534</p>		
Fibre Channel Host Bus Adapters	HPE PCI Express 1-port 8Gb Fibre Channel SR (QLogic) Adapter	AH400A
	HPE PCI Express 2-port 8Gb Fibre Channel SR (QLogic) Adapter	AH401A
	HPE Integrity SN1000Q 1-port 16Gb Fibre Channel Host Bus Adapter	B9F23A
	HPE Integrity SN1000Q 2-port 16Gb Fibre Channel Host Bus Adapter	B9F24A
Transceivers	HPE Integrity 10Gb SR SFP+ Opt (Recommended)	AT139A
	HPE Integrity 1Gb RJ-45 SFP Opt (Recommended)	AT140A
	HPE Integrity 8Gb SW FC SFP+ Opt (Recommended)	AT141A

Ordering and Configuration

Graphics Adapter	HPE Integrity rx2800 2D Graphics Adapter AH423A NOTE: Maximum of two cards are supported NOTE: For more details, please visit: https://www.hpe.com/h20195/v2/gethtml.aspx?docname=c04111594						
InfiniBand Host Channel Adapters	HPE Integrity PCIe 2-port 4X QDR Infiniband Host Channel Adapter AT083A NOTE: Maximum of two cards are supported. NOTE: For more details, please visit: https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04154382						
Hardware Security Support	HPE Integrity rx2800 Trusted Platform Module Kit AM237A NOTE: Maximum of one (1) module is supported. NOTE: Module is not shipped to China and Russia.						
SAS RAID Controllers and Host Bus Adapters	<table border="0"> <tr> <td data-bbox="303 798 1404 945"> HPE Integrity Smart Array P411/256 2-port External PCIe 6Gb SAS Controller AM311A NOTE: Only supported in primary I/O riser board NOTE: Maximum of three (3) HPE Integrity PCIe 2P P411/256MB SAS Ctlr (AM311A) cards are supported. </td> </tr> <tr> <td data-bbox="303 945 1404 1102"> HPE Integrity Smart Array P812/1GB PCIe SAS Controller AM312A NOTE: Maximum of one (1) card is supported. NOTE: For more information, please visit: https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04123316 </td> </tr> <tr> <td data-bbox="303 1102 1404 1249"> HPE Integrity Smart Array P441 12Gb 2-port External SAS Controller Q9X08A NOTE: Maximum of three (3) cards are supported. NOTE: For more information, please visit: https://h20195.www2.hpe.com/v2/gethtml.aspx?docname=a00047704enw </td> </tr> </table>	HPE Integrity Smart Array P411/256 2-port External PCIe 6Gb SAS Controller AM311A NOTE: Only supported in primary I/O riser board NOTE: Maximum of three (3) HPE Integrity PCIe 2P P411/256MB SAS Ctlr (AM311A) cards are supported.	HPE Integrity Smart Array P812/1GB PCIe SAS Controller AM312A NOTE: Maximum of one (1) card is supported. NOTE: For more information, please visit: https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04123316	HPE Integrity Smart Array P441 12Gb 2-port External SAS Controller Q9X08A NOTE: Maximum of three (3) cards are supported. NOTE: For more information, please visit: https://h20195.www2.hpe.com/v2/gethtml.aspx?docname=a00047704enw			
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Internal Hard Disk Drives (HDDs)	<table border="0"> <tr> <td data-bbox="303 1302 1404 1375"> HPE Integrity 300GB SAS 12G Enterprise 15K SFF (2.5in) ST 3yr Wty Digitally Signed Firmware HDD B9F30B </td> </tr> <tr> <td data-bbox="303 1375 1404 1449"> HPE Integrity 600GB SAS 12G Enterprise 15K SFF (2.5in) ST 3yr Wty Digitally Signed Firmware HDD B9F32B </td> </tr> <tr> <td data-bbox="303 1449 1404 1522"> HPE Integrity 900GB SAS 12G Enterprise 15K SFF (2.5in) ST 3yr Wty Digitally Signed Firmware HDD Q2C47A </td> </tr> <tr> <td data-bbox="303 1522 1404 1596"> HPE Integrity 300GB SAS 12G Enterprise 10K SFF (2.5in) ST 3yr Wty Digitally Signed Firmware HDD B9F33B </td> </tr> <tr> <td data-bbox="303 1596 1404 1669"> HPE Integrity 600GB SAS 12G Enterprise 10K SFF (2.5in) ST 3yr Wty Digitally Signed Firmware HDD B9F34B </td> </tr> <tr> <td data-bbox="303 1669 1404 1732"> HPE Integrity 1.2TB SAS 12G Enterprise 10K SFF (2.5in) ST 3yr Wty Digitally Signed Firmware HDD B9F36B </td> </tr> </table>	HPE Integrity 300GB SAS 12G Enterprise 15K SFF (2.5in) ST 3yr Wty Digitally Signed Firmware HDD B9F30B	HPE Integrity 600GB SAS 12G Enterprise 15K SFF (2.5in) ST 3yr Wty Digitally Signed Firmware HDD B9F32B	HPE Integrity 900GB SAS 12G Enterprise 15K SFF (2.5in) ST 3yr Wty Digitally Signed Firmware HDD Q2C47A	HPE Integrity 300GB SAS 12G Enterprise 10K SFF (2.5in) ST 3yr Wty Digitally Signed Firmware HDD B9F33B	HPE Integrity 600GB SAS 12G Enterprise 10K SFF (2.5in) ST 3yr Wty Digitally Signed Firmware HDD B9F34B	HPE Integrity 1.2TB SAS 12G Enterprise 10K SFF (2.5in) ST 3yr Wty Digitally Signed Firmware HDD B9F36B
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Solid State Drives (SSDs)	<table border="0"> <tr> <td data-bbox="303 1785 1404 1858"> HPE rx2800 400GB SAS 12G Write Intensive SFF (2.5in) ST 3yr Wty Digitally Signed Firmware SSD B9F51B </td> </tr> <tr> <td data-bbox="303 1858 1404 1915"> HPE rx2800 800GB SAS 12G Write Intensive SFF (2.5in) ST 3yr Wty Digitally Signed Firmware SSD B9F52B </td> </tr> </table>	HPE rx2800 400GB SAS 12G Write Intensive SFF (2.5in) ST 3yr Wty Digitally Signed Firmware SSD B9F51B	HPE rx2800 800GB SAS 12G Write Intensive SFF (2.5in) ST 3yr Wty Digitally Signed Firmware SSD B9F52B				
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Ordering and Configuration

Factory RAID Options	HPE Integrity RAID 0 Factory Configuration	AM238A
	NOTE: Requires minimum 1 drive	
	HPE Integrity RAID 1 Factory Configuration	AM239A
	NOTE: Requires minimum 2 drives	
	HPE rx2800 RAID 5 Factory Config (Recommended)	AM240A
	NOTE: Requires minimum 3 drives	
	NOTE: If RAID is selected, all hard drives must be identical	
Internal Optical Drives	HPE Integrity rx2800 Slimline DVD-ROM Internal Optical Drive	AM242A
	HPE Integrity rx2800 Slimline DVD+RW External Optical Drive	AM243A
Power Supplies	HPE Integrity rx2800 Redundant Power Supply	AT133A
	NOTE: The server provides an independent power input receptacle for each power supply (c13/C14 type). The independent design provides protection against losing the connection from a power cord or breaker.	
	NOTE: Power cords should always be plugged into separate breakers whenever possible.	
	NOTE: If the N+N power supply is ordered standalone the power supply will ship with two cords; one connects the system to the rack PDU and one enables connection to a wall socket. The cord that connects the system power supply to the PDU has an IEC 13 end, which plugs into the system power supply's IEC 14 socket, and an IEC 14 end, which plugs into the PDU's IEC 13 socket. The localized cord that connects the system power supply directly to the wall socket has an IEC 13 end, which plugs into the system power supply's IEC 14 socket, and a country specific end, which plus into the wall socket. This localized cord is included at the distribution site.	
	NOTE: If the N+N power supply is ordered with the server, the additional cords will be included.	
Racking Options	HPE Integrity rx2800 Racking Kit	AM227A
	NOTE: Required with HPE Integrity rx2800 i4 Rack-Optimized Server and HPE Integrity rx2800 i4 Carrier-Grade Server with DC Power	
	HPE Integrity rx26/2800 Rack Support Shelf Kit	AB469A
	NOTE: Required for factory racked order. One shelf kit needed per every 10 servers in the rack and one for every gap left between servers	
	NOTE: Not supported with HPE Integrity rx2800 i4 Carrier-Grade Server with DC Power only	
	HPE Integrity rx2800 Stand Alone Pedestal Kit	AM251A
	NOTE: Ships by default with HPE Integrity rx2800 i4 Office Friendly Base Server	
	NOTE: Can be ordered separately for tower form deployment of HPE Integrity rx2800 i4 Rack-Optimized Server (AT101A)	

Technical Specifications

Site Planning and Installation - Not Included (system is customer installable)

Dimensions	Height	89 mm (3.5") (2U)
	Width	482mm (19")
	Depth	692 mm (27.3")
Weight	Maximum	30 kg (66 lbs) (fully populated)

30 kg (66 lbs) (fully populated)	Voltage Range	100 - 120 VAC 200 - 240 VAC
	Maximum Current	9.2 Amps @ 100VAC, 6.6 Amps @ 200VAC
	Frequency Range	50 - 60 Hz
	Rated Input Power	1015W @ 115 VAC 1320W @ 230 VAC
BTU Rating	Maximum	4800 BTU/hr (at 240 VAC) 3400 BTU/hr (at 120 VAC)
Power Supply Output	Maximum	800w maximum @ 100 - 120VAC 1200W maximum @ 200 - 240 VAC

System Inlet Temperature	Recommended Operating Temperature	18°C - 27°C (64°F - 81°F)*
	Allowable Operating Temperature	5°C - 35°C (41°F - 95°F)*
	Non-Operating Temperature	-40°C - 80°C (-40°F - 175°F)

NOTE:* Operating limits apply from sea level to 1500m (4900 ft), above 1500m (4900 ft), derate maximum temperature by 2°C per every 300 m (3.6°F per every 985 ft) above sea level to a maximum of 3050 m (10,000 ft). No direct sustained sunlight. Maximum rate of change is 20°C (36°F) per hour. The Recommended Operating Range is recommended for continuous operation. Operating within the Allowable Operating Range is supported but may result in a decrease in system performance.

Humidity (non-condensing)	Recommended Operating Humidity	5.5°C (42°F) DP - 60% RH or 15°C (50°F) DP
	Allowable Operating Humidity	20% RH - 80% RH and 21°C (70°F) DP
	Non-operating Installed	8% RH - 90% RH and 29°C (84°F) DP
	Non-operating Storage	8% RH - 90% RH and 32°C (90°F) DP

Altitude	Operating	3050m (10,000 ft) maximum
	Non-operating	4500m (15,000 ft) maximum

Air Quality	Airborne contaminants must be at the G1 level or less as defined in ISA Standard ISA-71.04-1985	
	Minimum	1360 CMH (800 CFM)

Technical Specifications

Airflow	Maximum	3230 CMH (1900 CFM)
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Acoustics (sound power)	Rack Mount	<= 7.0 bels LwAd
	Office Friendly	<= 6.0 bels LwAd

Regulatory Compliance	Regulatory Model Number	RSVLA-RC01
	Electromagnetic interference	Complies with FCC Rules and Regulations, Part 15, as a Class A digital device. Manufacturer's Declaration to EN55022 Class A, VCCI Registered, Class A, KC (Korea Certification), BMSI Taiwan, CSA Certified, compliant with IEC 60950, UL 60950, EN 60950 and EN41003
	Safety	UL Listed, CSA Certified, TUV GS Mark compliant with EN 60950 and EN 41003

Summary of Changes

Date	Version History	Action	Description of Change
02-Jul-2018	Version 16	Changed	Standard Features and Ordering and Configuration sections were updated.
		Added	SKU was added: Q9X08A
02-Apr-2018	Version 15	Changed	Ordering and Configuration section was updated.
23-Oct-2017	Version 14	Changed	Care Pack naming and Service and Support- Parts and Materials updated.
25-Sep-2017	Version 13	Changed	Standard Features and Ordering and Configuration sections were updated.
		Added	SKUs were added in Ordering and Configuration sections: B9F51B, B9F52B.
		Removed	SKUs were deleted in Ordering and Configuration sections: B9F30A, B9F31A, B9F32A, B9F33A, B9F34A, B9F35A, B9F36A, B9F50A, B9F52A
17-Jul-2017	Version 12	Changed	Standard Features, Service and Support, and Ordering and Configuration sections were updated.
		Removed	Obsolete SKU was removed: B9F51A
27-Mar-2017	Version 11	Changed	Standard Features, Services and Support, Ordering and Configuration, and Technical Specifications sections were updated.
		Added	SKUs added in Ordering and Configuration section: AT109B, B9F30B, B9F32B, Q2C47A, B9F33A, B9F33B, B9F34A, B9F34B, B9F35A, B9F36A, B9F36B.
		Removed	OBS SKUs were deleted: AT108A, AM302A, AM244A, AM316A, AM317A, AT069A, AT146A.
11-Dec-2015	Version 10	Changed	Standard Features and Ordering and Configuration sections were updated.
10-Jul-2015	Version 9	Added	SKU added in Ordering and Configuration section: B9F25A
		Changed	Information in Standard Features section was updated.
1-Jun-2015	Version 8	Added	SKUs added in Configuration Information - Factory Integrated Models and Core options: 802576-B21, 802580-B21, 802584-B21
		Removed	SKUs removed in configuration Information - Factory Integrated Models and Core options: 632492-B21, 632494-B21
		Changed	Information updated in storage section.
1-Dec-2014	Version 7	Changed	Standard Features section was updated
		Added	Technology Services for Integrity Servers and Protect your business beyond warranty with HPE Pointnext operational services sections were added to Support Services SKUs added to Internal Hard Disk Drives: B9F30A, B9F31A, B9F32A
14-Feb-2014	Version 6	Changed	Revision made in the Standard Features section.
10-Dec-2013	Version 5	Added	HPE Integrity 1.2TB 10K SAS SFF HDD was added to Internal Hard Disk Drives.
30-Sep-2013	Version 4	Changed	Revised the Fibre Channel Host Bus Adapters section of Ordering and Configuration.
31-May-2013	Version 2 to 3	Changed	Revised the Technical Specifications section.
15-Mar-2013	Version 2	Changed	Updated the Standard Features Section and Ordering and Configuration Section- corrected spelling.
04-Dec-2012	Version 1	Created	New QuickSpecs

Summary of Changes



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