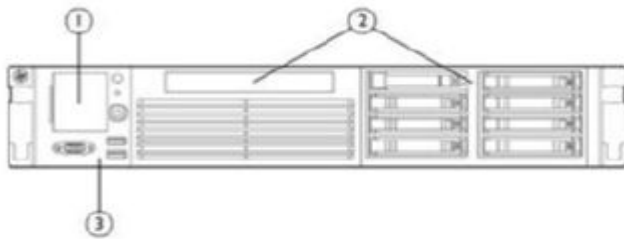


### Overview

### HPE Integrity rx2800 i6 Server

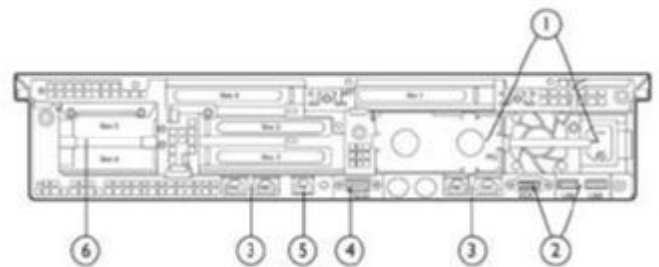
Is your branch office or data center server infrastructure challenged to support more users and applications within a constrained budget, smaller IT staff and limited space or energy footprint? Is downtime not an option, security paramount and IT dynamics mandate a flexible Converged Infrastructure (CI) that scales with your business?

HPE Integrity rx2800 i6 Server, delivers enterprise level security in a 2U two-socket UNIX® server. An ideal fit for branch offices and rack-mount server data centers supporting a range of mission-critical workloads. Customers achieve platform longevity and investment protection with advanced processors that deliver backward compatibility, while further enhancing performance with support of the HPE XP7 Storage and HPE 3PAR All Flash Arrays. Customers can also leverage the recent HP-UX innovations that include the Veritas 6.1 File system support, online HP-UX vPAR migration, Smart Quorum with HPE Serviceguard and HPE OpenStack support.



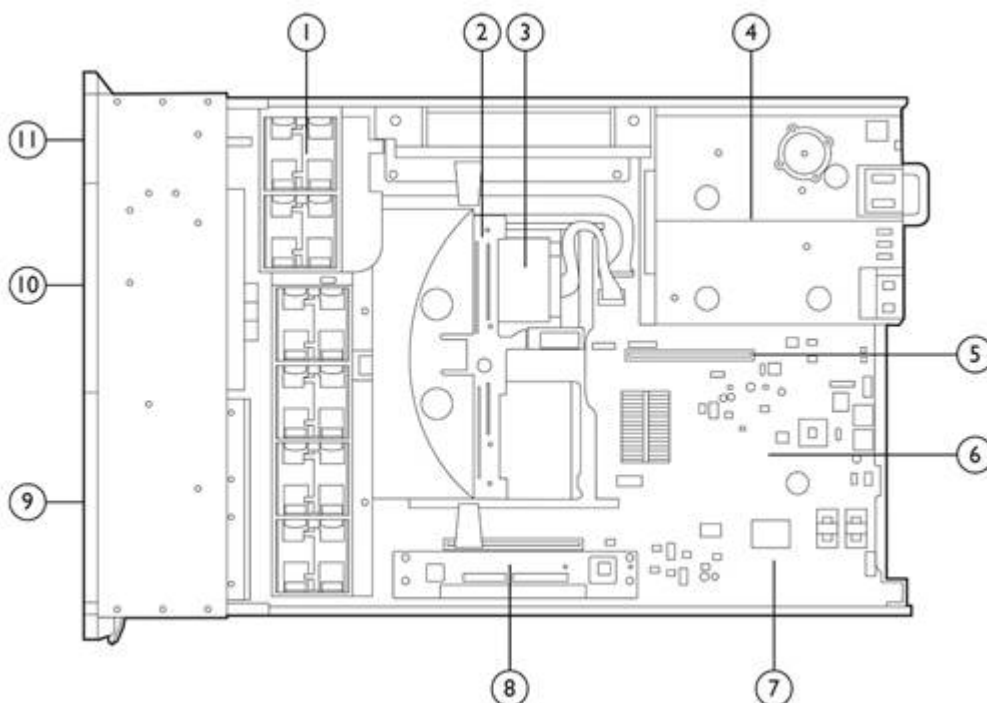
**HPE Integrity rx2800 i6 Server: Front View**

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



**HPE Integrity rx2800 i6 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 i6 Server: Inside View

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

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### What's New

- Supports Intel® Itanium® 9700 series processors
- Supports the higher frequency and low voltage PC3L-12800 registered CAS 11 memory DIMMs
- Supports the HPE XP7 Storage and HPE 3PAR All Flash Arrays for increased performance and lower TCO.
- Supports HP-UX 2018 Operating Environment Update Release which has enhancements in virtualization, high availability, security, and private cloud management.

### Standard Features

#### Models

HPE rx2800 i6 server comes in the following model: 2U Rack-Optimized Server (can be installed in tower form factor with pedestal kit)

#### Processors

Up to two (2) Intel Itanium 9700 processor series are supported:

- Intel Itanium 9760 8-core 2.66 GHz / 32 MB (L3) 170W
- Intel Itanium 9750 4-core 2.53 GHz / 32 MB (L3) 170W
- Intel Itanium 9740 8-core 2.13 GHz / 24 MB (L3) 170W
- Intel Itanium 9720 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-12800 Registered CAS 11 Memory Kit
- 32GB (2 x 16GB) PC3L-12800 Registered CAS 11 Memory Kit

#### Key features:

- DRAM ECC (Double Device Data Correction - DDDC)
- Memory Scrubbing

### Standard Features

- 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 12Gb/s Digitally Signed SAS HDDs

- 300Gb, 600 Gb and 900Gb 15K RPM 12G/s SAS (Serial Attached SCSI) 2.5" Small Form Factor Digitally Signed Disk
- 300Gb, 600Gb, 1.2Tb 10K RPM 12G/s SAS (Serial Attached SCSI) 2.5" Small Form Factor Digitally Signed Disk

### Internal Solid State Drives

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

- 400Gb, 800Gb 12G SAS SLC 2.5" Small Form Factor (SFF) Digitally Signed Firmware 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-X 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 1 & 10 Gb/s network adapters for Local Area Network (LAN)

- HPE Integrity 10GbE-SR/LR/CR 2port PCIe Adapter
- HPE Ethernet 10Gb 2 port 561T Adapter
- HPE 1000Base -T/SX 2 port PCIe Adapter

### Converged Network Adapters

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

- HPE Integrity CN1100E PCIe 2-port CNA

### Standard Features

#### Fibre Channel Host Bus Adapters

Support for one (1) or two (2) port (eight) 16 Gb/s Fibre Channel Host Bus Adapters

- 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

#### PCIe Workload Accelerator

Support for Intel's 3DXPoint P4800X adapter

- HPE 750GB PCIe x4 Lanes Write Intensive HDDL

#### 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:

<https://www.hpe.com/h20195/v2/GetPDF.aspx/4AA6-2925ENW.pdf>

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.

#### Embedded 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-T 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

### Standard Features

- iLO power measurement
- Integration with Insight Power Manager
- Separate LAN for system management
- 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 i6 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

- HP-UX 11i v3 2018 Update Release (HP-UX 11i v3 1805 release)
- HP-UX 11i v3 Data Center Operating Environment (DC-OE)
- HP-UX 11i v3 Virtual Server Operating Environment (VSE-OE)
- HP-UX 11i v3 High Availability Operating Environment (HA-OE)
- HP-UX 11i v3 Base Operating Environment (BOE)
- VSI OpenVMS V8.4-2L1 Base Operating Environment (BOE)
- VSI OpenVMS V8.4-2L1 High Availability Operating Environment (HA-OE)

**NOTE:** For detailed information on HP-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>

**NOTE:** For detailed information on VSI OpenVMS platform requirements, please visit the following pages:

- **OpenVMS Partner Platform Statements:** [http://www.vmssoftware.com/products\\_i6server.html](http://www.vmssoftware.com/products_i6server.html)
- **Software Product Descriptions and QuickSpecs:** [http://www.vmssoftware.com/pdfs/vms\\_pdf/VSI\\_V842L1\\_I64\\_SPD\\_OS\\_QS.pdf](http://www.vmssoftware.com/pdfs/vms_pdf/VSI_V842L1_I64_SPD_OS_QS.pdf)

## Standard Features

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### Service and Support

#### 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.

#### 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%<sup>1</sup> reduction in down time, near 100%<sup>2</sup> 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



### Service and Support

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 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

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

### Service and Support

#### **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.

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 MSAXxxx3PAR 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>

### Configuration Information

<b>Server product numbers</b>	<p>HPE Integrity rx2800 Rack-optimized Server <span style="float: right;">AT101A</span></p> <p>Minimum additional components required:</p> <ul style="list-style-type: none"> <li>• One processor</li> <li>• 16 Gb memory</li> <li>• HPE rx2800 Racking Kit</li> </ul> <p><b>NOTE:</b> Supports High Line Power (1200W) and Low Line Power (800W)</p> <p><b>NOTE:</b> 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><b>NOTE:</b> With HPE Smart Array P410i 6 Gb/s SAS RAID Controller:</p> <ul style="list-style-type: none"> <li>• HPE rx2800 512MB FBWC Kit (AM252A) is required for RAID 5 and RAID 5+0</li> <li>• HPE rx2800 512MB FBWC kit (AM252A) AND HPE rx2800 i4 Smart Array Advance Pack (SAAP) License (AM305A) is required for RAID 6 and RAID 6+0</li> </ul>								
<hr/>									
<b>Processors</b>	<table border="0"> <tr> <td>HPE rx2800 i6 Itanium 9720 (1.73GHz/4-core/20MB/130W) Processor Kit</td> <td style="text-align: right;">AT104B</td> </tr> <tr> <td>HPE rx2800 i6 Itanium 9750 (2.53GHz/4-core/32MB/170W) Processor Kit</td> <td style="text-align: right;">AT138B</td> </tr> <tr> <td>HPE rx2800 i6 Itanium 9740 (2.13GHz/8-core/24MB/170W) Processor Kit</td> <td style="text-align: right;">AT105B</td> </tr> <tr> <td>HPE rx2800 i6 Itanium 9760 (2.66GHz/8-core/32MB/170W) Processor Kit</td> <td style="text-align: right;">AT106B</td> </tr> </table> <p><b>NOTE:</b> Processor frequencies cannot be mixed in a server.</p>	HPE rx2800 i6 Itanium 9720 (1.73GHz/4-core/20MB/130W) Processor Kit	AT104B	HPE rx2800 i6 Itanium 9750 (2.53GHz/4-core/32MB/170W) Processor Kit	AT138B	HPE rx2800 i6 Itanium 9740 (2.13GHz/8-core/24MB/170W) Processor Kit	AT105B	HPE rx2800 i6 Itanium 9760 (2.66GHz/8-core/32MB/170W) Processor Kit	AT106B
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HPE rx2800 i6 Itanium 9760 (2.66GHz/8-core/32MB/170W) Processor Kit	AT106B								
<hr/>									
<b>Memory Exp Board</b>	<p>HPE Integrity rx2800 6-slot Memory Expansion Board <span style="float: right;">AT103A</span></p> <p><b>NOTE:</b> Each memory expansion board contains six (6) memory DIMM slots</p> <p><b>NOTE:</b> The server supports a maximum of four (4) memory expansion boards or 24 DIMM slots.</p> <p><b>NOTE:</b> For one processor in system, maximum of two (2) memory expansion boards are supported.</p>								
<b>System Memory</b>	<table border="0"> <tr> <td>HPE rx2800 16GB (2x8GB) Single Rank PC3L-12800 (DDR3-1600) Registered CAS-11 Memory Kit</td> <td style="text-align: right;">AT109B</td> </tr> <tr> <td>HPE rx2800 32GB (2x16GB) Dual Rank PC3L 12800 (DDR3-1600) Registered CAS-9 Memory Kit</td> <td style="text-align: right;">AT110A</td> </tr> </table> <p><b>NOTE:</b> Memory must be installed in groups of two DIMMs, also known as pairs or modules.</p> <p><b>NOTE:</b> For best performance, all DIMM slots should be populated with the same size DIMM.</p> <p><b>NOTE:</b> 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><b>NOTE:</b> Alternate DIMM pairs between memory risers. If both processor sockets are populated, alternate DIMMs between processors.</p>	HPE rx2800 16GB (2x8GB) Single Rank PC3L-12800 (DDR3-1600) Registered CAS-11 Memory Kit	AT109B	HPE rx2800 32GB (2x16GB) Dual Rank PC3L 12800 (DDR3-1600) Registered CAS-9 Memory Kit	AT110A				
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### Configuration Information

<b>PCIe Workload Accelerator</b>	HPE 750GB PCIe x4 Lanes Write Intensive HHHHL 3yr Wty Digitally Signed Firmware Card <b>NOTE:</b> Maximum of four (4) cards are supported.	878038-H21
<b>I/O Riser Boards</b>	HPE Integrity rx2800 PCIe 3-slot Riser Board HPE Integrity rx2800 PCIe 2-slot Riser Board <b>NOTE:</b> I/O Riser Boards can be mixed in the system <b>NOTE:</b> Last two slots on second I/O riser board (secondary riser board) supports only Low Profile form factor for some I/O cards.	AM228A AM245A
<b>Network Adapters</b>	HPE Integrity PCIe 2-port 10GbE-SR Fabric Adapter <b>NOTE:</b> For more details, please visit: <a href="https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04123309">https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04123309</a> HPE Integrity PCIe 2-port 10GbE-CR Copper Adapter <b>NOTE:</b> Transceivers (HPE Integrity 10Gb SR SFP+ Opt) must be ordered separately. <b>NOTE:</b> For more details, please visit: <a href="https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04123240">https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04123240</a> HPE Ethernet 10Gb 2-port 561T Adapter for Integrity Servers HPE PCIe 2-port 1000Base-T LAN Adapter HPE Integrity PCIe 2-port 10GbE-LR Fabric Adapter HPE PCIe 2-port 1000Base-SX LAN Adapter	AM225A AM233A B9F25A AD337A AM232A AD338A
<b>Converged Network Adapters</b>	HPE Integrity CN1100E Dual Port Converged Network Adapter <b>NOTE:</b> Transceivers (HPE Integrity 10Gb SR SFP+ Opt) must be ordered separately. <b>NOTE:</b> For more details, please visit: <a href="https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04164534">https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04164534</a>	AT111A
<b>Fibre Channel Host Bus Adapters</b>	HPE Integrity SN1000Q 1-port 16Gb Fibre Channel Host Bus Adapter HPE Integrity SN1000Q 2-port 16Gb Fibre Channel Host Bus Adapter	B9F23A B9F24A
<b>Transceivers</b>	HPE Integrity 10Gb SR SFP+ Transceiver HPE Integrity 1Gb RJ-45 SFP Transceiver HPE Integrity 8Gb SW FC SFP+ Transceiver	AT139A AT140A AT141A
<b>InfiniBand Host Channel Adapters</b>	HPE Integrity PCIe 2-port 4X QDR Infiniband Host Channel Adapter <b>NOTE:</b> Maximum of two cards are supported. <b>NOTE:</b> For more details, please visit: <a href="https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04154382">https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04154382</a>	AT083A

### Configuration Information

<b>Hardware</b>	HPE Integrity rx2800 Trusted Platform Module Kit	AM237A
<b>Security Support</b>	<p><b>NOTE:</b> Maximum of one (1) module is supported.</p> <p><b>NOTE:</b> Module is not shipped to China and Russia.</p>	
<b>SAS RAID Controllers and Host Bus Adapters</b>	<p>HPE Integrity Smart Array P411/256 2-port External PCIe 6Gb SAS Controller</p> <p><b>NOTE:</b> Only supported in primary I/O riser board</p> <p><b>NOTE:</b> Maximum of three (3) HPE Integrity PCIe 2P P411/256MB SAS Ctlr (AM311A) cards are supported.</p> <p>HPE Integrity Smart Array P812/1GB PCIe SAS Controller</p> <p><b>NOTE:</b> Maximum of one (1) card is supported.</p> <p><b>NOTE:</b> For more information, please visit:  <a href="https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04123316">https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04123316</a></p> <p>HPE Integrity Smart Array P441 12Gb 2-port External SAS Controller</p> <p><b>NOTE:</b> Maximum of three (3) adapters are supported.</p>	<p>AM311A</p> <p>AM312A</p> <p>Q9X08A</p>
<b>Internal Hard Disk Drives (HDDs)</b>	<p>HPE Integrity 300GB SAS 12G Enterprise 10K SFF (2.5in) ST 3yr Wty Digitally Signed Firmware HDD</p> <p>HPE Integrity 600GB SAS 12G Enterprise 10K SFF (2.5in) ST 3yr Wty Digitally Signed Firmware HDD</p> <p>HPE Integrity 1.2TB SAS 12G Enterprise 10K SFF (2.5in) ST 3yr Wty Digitally Signed Firmware HDD</p> <p>HPE Integrity 300GB SAS 12G Enterprise 15K SFF (2.5in) ST 3yr Wty Digitally Signed Firmware HDD</p> <p>HPE Integrity 600GB SAS 12G Enterprise 15K SFF (2.5in) ST 3yr Wty Digitally Signed Firmware HDD</p> <p>HPE Integrity 900GB SAS 12G Enterprise 15K SFF (2.5in) ST 3yr Wty Digitally Signed Firmware HDD</p> <p><b>NOTE:</b> HPE rx2800 RAID 5 Factory Config is not allowed.</p>	<p>B9F33B</p> <p>B9F34B</p> <p>B9F36B</p> <p>B9F30B</p> <p>B9F32B</p> <p>Q2C47A</p>
<b>Solid State Drives (SSDs)</b>	<p>HPE 400GB SAS 12G Write Intensive SFF (2.5in) ST 3yr Wty Digitally Signed Firmware SSD</p> <p>HPE 800GB SAS 12G Write Intensive SFF (2.5in) ST 3yr Wty Digitally Signed Firmware SSD</p>	<p>P04558-B21</p> <p>P04562-B21</p>
<b>Factory RAID Options</b>	<p>HPE Integrity RAID 0 Factory Configuration</p> <p><b>NOTE:</b> Requires minimum 1 drive</p> <p>HPE Integrity RAID 1 Factory Configuration</p> <p><b>NOTE:</b> Requires minimum 2 drives</p> <p>HPE Integrity rx2800 RAID 5 Factory Configuration</p> <p><b>NOTE:</b> Requires minimum 3 drives</p>	<p>AM238A</p> <p>AM239A</p> <p>AM240A</p>

### Configuration Information

**NOTE:** If RAID is selected, all hard drives must be identical

<b>Internal Optical Drives</b>	HPE Integrity rx2800 Slimline DVD-ROM Internal Optical Drive	AM242A
	HPE Integrity rx2800 Slimline DVD+RW External Optical Drive	AM243A
<b>Keyboard and Mouse Kits</b>	HPE USB US Keyboard/Mouse Kit	631341-B21
	HPE USB JP Keyboard/Mouse Kit	631360-B21
	HPE USB AP/INTL Keyboard/Mouse Kit	672097-373
	HPE USB OpenVMS Keyboard and 3-Button Mouse	AB552A
<b>Power Supplies</b>	HPE Integrity rx2800 Redundant Power Supply	AT133A
<p><b>NOTE:</b> 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.</p> <p><b>NOTE:</b> Power cords should always be plugged into separate breakers whenever possible.</p> <p><b>NOTE:</b> 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 plugs into the wall socket. This localized cord is included at the distribution site. If the N+N power supply is ordered with the server, the additional cords will be included.</p>		
<b>Racking Options</b>	HPE Integrity rx2800 Racking Kit	AM227A
	HPE Integrity rx26/2800 Rack Support Shelf Kit	AB469A
	HPE Integrity rx2800 Stand Alone Pedestal Kit	AM251A
<p><b>NOTE:</b> Required for factory racked order. One shelf kit needed per every 10 servers in the rack and one for every gap left between servers</p> <p><b>NOTE:</b> Can be ordered separately for tower form deployment of HPE Integrity rx2800 Rack-Optimized Server (AT101A)</p>		

### Technical Specifications

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

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

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<b>30 kg (66 lbs) (fully populated)</b>	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
<b>BTU Rating</b>	Maximum	4800 BTU/hr (at 240 VAC) 3400 BTU/hr (at 120 VAC)
<b>Power Supply Output</b>	Maximum	800w maximum @ 100 - 120VAC 1200W maximum @ 200 - 240 VAC

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<b>System Inlet Temperature</b>	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.

<b>Humidity (non-condensing)</b>	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

### Technical Specifications

<b>Altitude</b>	Operating	3050m (10,000 ft) maximum
	Non-operating	4500m (15,000 ft) maximum
<b>Air Quality</b>	Airborne contaminants must be at the G1 level or less as defined in ISA Standard ISA-71.04-1985	
<b>Airflow</b>	Minimum	1360 CMH (800 CFM)
	Maximum	3230 CMH (1900 CFM)
<b>Acoustics (sound power)</b>	Rack Mount	<= 7.0 bels LwAd

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<b>Regulatory Compliance</b>	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-Dec-2019	Version 10	Changed	Service and Support and Configuration Information sections were updated.
02-Apr-2019	Version 9	Added	Standard Features section was updated.
		Removed	Obsolete SKU was deleted: AH423A
03-Dec-2018	Version 8	Changed	Overview, Standard Features, and Ordering and Configuration sections were updated.
		Added	SKUs added in Ordering and Configuration section: P04558-B21, P04562-B21.
01-Oct-2018	Version 7	Changed	Configuration sections were updated.
2-Jul-2018	Version 6	Changed	Standard Features and Ordering and Configuration sections were updated.
		Added	SKUs added: 878038-H21, Q9X08A.
25-Sep-2017	Version 5	Changed	Standard Features and Ordering and Configuration sections were updated.
		Added	SKUs added in Ordering and Configuration section: B9F51B, B9F52B.
		Removed	SKUS deleted in Ordering and Configuration section: B9F50A, B9F51A, B9F52A.
14-Aug-2017	Version 4	Changed	Standard Features and Ordering and Configuration section were updated.
		Added	SKUs added in Ordering and Configuration section: 803197-B21, 803195-B21.
18-Aug-2017	Version 3	Changed	Standard Features section was updated.
11-Jul-2017	Version 2	Changed	Standard Features and Ordering and Configuration sections were updated.
		Added	SKUs added in Ordering and Configuration section: AD337A, AD338A and AD339A.
05-Jun-2017	Version 1	Created	New QuickSpecs

### Summary of Changes

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