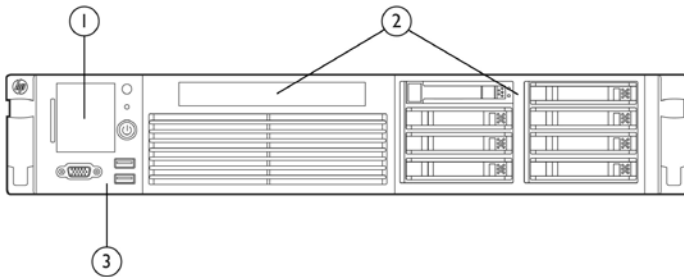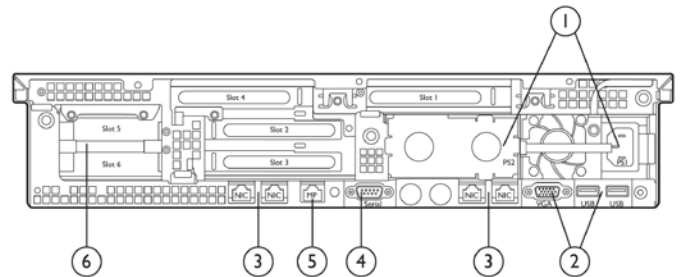## Overview

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.

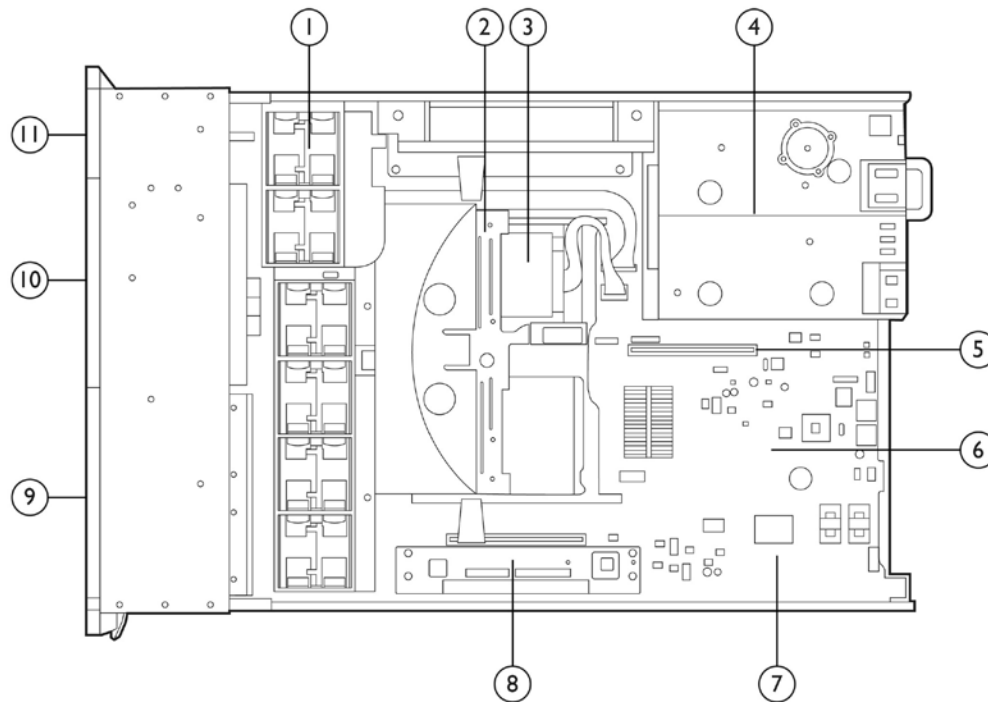**HPE Integrity rx2800 i4 Server: Front View**

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
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

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:

Standard Features

- 8GB (2 x 4GB) PC3L-10600 Registered CAS 9 Memory Kit
- 16GB (2 x 8GB) PC3L-10600 Registered CAS 9 Memory Kit
- 32GB (2 x 16GB) PC3L-10600 Registered CAS 9 Memory Kit

Key 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 7.2TB of internal storage with 900GB 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
- 146GB 15K RPM 6G/s SAS (Serial Attached SCSI) 2.5" Small Form Factor Hot Plug Disk
- 300GB 15K RPM 12G/s SAS (Serial Attached SCSI) 2.5" Small Form Factor Hot Plug Disk
- 300GB 10K RPM 6G/s SAS (Serial Attached SCSI) 2.5" Small Form Factor Hot Plug Disk
- 450GB 15K RPM 12G/s SAS (Serial Attached SCSI) 2.5" Small Form Factor Hot Plug Disk
- 450GB 10K RPM 6G/s SAS (Serial Attached SCSI) 2.5" Small Form Factor Hot Plug Disk
- 600GB 15K RPM 12G/s SAS (Serial Attached SCSI) 2.5" Small Form Factor Hot Plug Disk 600GB 10K RPM 6G/s SAS (Serial Attached SCSI) 2.5" Small Form Factor Hot Plug Disk
- 900GB 10K RPM 6G/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
- 200GB 12G SAS SLC 2.5" Small Form Factor (SFF) Enterprise Performance Solid State Drive
- 400GB 12G SAS SLC 2.5" Small Form Factor (SFF) Enterprise Performance Solid State Drive
- 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

Standard Features

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 PCIe 4-port 1000Base-T Gigabit Adapter
- HPE Integrity 10GbE-SR 2p PCIe Adapter
- HPE Integrity 10GbE-LR 2p PCIe Adapter
- HPE Integrity 10GbE-Cu 2p PCIe Adapter
- HPE Integrity NC552SFP 2P 10GbE 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

Multi-function (Combo) Adapters
Support for multi-function (Network and Fibre Channel Adapter on one card) cards
- HPE PCIe 1p 4Gb FC AND 1p 1000BT Adapter
- HPE PCIe 2p 4Gb FC AND 2p 1000BT Adapter
- HPE PCIe 2p 4Gb FC AND 2p 1000BSX Adapter
- HPE PCIe 2p 8Gb FC AND 2p 1/10GbE Adapter

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 PCIe 1-port 8Gb FC SR Emulex HBA
- HPE PCIe 2-port 8Gb FC SR Emulex 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 Ctlr
- HPE Integrity SA 812/1GB PCIe SAS Ctrl

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

Standard Features

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. The HPE Power Advisor is located at: **http://www.hp.com\go\hppoweradvisor**.

Up to six (6) hot-plug fans (N+1 redundancy)

Key Power & Cooling Features:
- ENERGY STAR ® certified with 80Plus Platinum Power Supplies
- 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.

Emedded 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
- 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.hp.com/go/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)

Standard Features

- 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.

Certifications and Compliance
- ENERGY STAR ® certified with 80Plus Platinum Power Supplies

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
- Dynamic Root Disk (DRD)

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

Control

Standard Features

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

Protecting System
- Bastille system hardening
- Host Intrusion Detection System

Standard Features

- 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: **http://h18004.www1.hp.com/products/QuickSpecs/12079_div/12079_div.html**
Overview: **http://www.hp.com/go/HPE-ux**

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

HPE Technology Services for Integrity Servers

HPE Technology Services delivers confidence, reduces risk and helps customers realize agility and stability. Connect to Hewlett Packard Enterprise to help prevent problems and solve issues faster. Our support technology lets you to tap into the knowledge of millions of devices and thousands of experts to stay informed and in control, anywhere, any time.

Protect your business beyond warranty with HPE Care Pack Services

HPE Care Pack Services enable you to order the right service level, length of coverage and response time as you purchase your new server, giving you full entitlement for the term you select.

Recommended HPE Care Pack Services for optimal satisfaction with your Hewlett Packard Enterprise product.

Optimized Care
HPE Proactive Care with 6 hour call-to-repair commitment, three year Care Pack Service

HPE Proactive Care helps prevent problems and stabilize IT by utilizing secure, real-time, predictive analytics and proactive consultations when your products are connected to Hewlett Packard Enterprise. This Care Pack Service combines three years' proactive reporting and advice with our highest level reactive coverage and enhanced escalation management, The Hewlett Packard Enterprise 24x7, six hour call-to-repair hardware commitment. Hewlett Packard Enterprise is the only leading manufacturer who makes this level of coverage available as a standard service offering for your most valuable servers. Service includes 24x7 collaborative software support for leading industry standard software running on your HPE ProLiant server.
http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA3-8855ENW.pdf

Standard Care
HPE Proactive Care with 24x7 coverage, three year Care Pack Service

HPE Proactive Care helps prevent problems and stabilize IT by utilizing secure, real-time, predictive analytics and proactive consultations when your products are connected to Hewlett Packard Enterprise. This Care Pack Service combines three years' proactive reporting and advice with our 24x7 coverage and enhanced escalation management, four hour hardware response time and two hour call back for software questions on leading industry standard software running on your HPE ProLiant server.
http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA3-8855ENW.pdf

Basic Care
Foundation Care 24x7, three-year Care Pack Service

HPE Foundation Care 24x7 connects you to Hewlett Packard Enterprise 24 hours a day, seven days a week for assistance on resolving issues. Hardware onsite response within four hours if needed; collaborative software included in this Care Pack service provides troubleshooting assistance on industry leading software running on your HPE server. Simplify your support experience and make Hewlett Packard Enterprise your first call for hardware or software questions.
http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=4AA4-8876ENW&cc=us&lc=en

Related Services
HPE Server Hardware Installation

Provides for the basic hardware installation of Hewlett Packard Enterprise branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner.
http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN.pdf

Factory Express for Servers and storage

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

Services and Support

For more information on Factory Express services for your specific server model please contact your sales representative or go to:
http://www.hp.com/go/factory-express.

Data Privacy Services
Protect your data through better media management. HPE Data privacy services help manage and protect sensitive data to reduce the risk of unauthorized access to private information and help meet compliance requirements. Our retention services allow you to keep drives and other devices upon failure, our removal services provide convenient data sanitization and our recovery services allow you to safely retire IT assets and capture any remaining value from the hardware. **http://www.hp.com/services/dataprivacy** Additional HPE Care Pack services can be found at: **http://www.hp.com/go/cpc**

eSupport

Get connected to Hewlett Packard Enterprise to improve your support experience
Prevent problems with innovative, automated monitoring tools and proactive services. Combining Proactive Care Services with our remote support technology such as Insight Online provides you with expert advice and personalized, cloud-based automated IT support, helping to prevent unplanned down time and solve problems quickly. For more information, visit:
http://www.hp.com/go/proactiveinsightexperience

HPE Support Center
Personalized online support portal with access to information, tools and experts to support Hewlett Packard Enterprise business products. Submit support cases online, chat with Hewlett Packard Enterprise experts, access support resources or collaborate with peers. Learn more **http://www.hp.com/go/hpsc**
The Hewlett Packard Enterprise Support Center Mobile App allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime.
HPE Insight Remote Support and HPE Support Center are available at no additional cost with an Hewlett Packard Enterprise warranty, HPE Care Pack or Hewlett Packard Enterprise contractual support agreement.
NOTE: The HPE Support Center Mobile App is subject to local availability

Parts and Materials

Hewlett Packard Enterprise 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 QuickSpecs, 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 Hewlett Packard Enterprise due to malfunction.

Additional Services Information

To learn more on HPE ProLiant servers, HPE BladeSystem servers and HPE StorageWorks storage products, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner. Or visit
http://www.hp.com/services/proliant or **http://www.hp.com/services/bladesystem** or
http://www.hp.com/services/storage

Ordering and Configuration

Server product numbers	• **HPE Integrity rx2800 i4 Rack-Optimized Server** AT101A

Server product numbers

• **HPE Integrity rx2800 i4 Rack-Optimized Server**   AT101A

Minimum additional components required:
- One processor
- 8 GB memory
- HPE rx2800 i4 Racking Kit

NOTE:
- **Supports High Line Power (1200W) and Low Line Power (800W)**
- **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.**

• **HPE Integrity rx2800 i4 Office Friendly Server**   AT102A

Minimum additional component required:
- One processor (supports Intel® Itanium® 9520 quad-core processor only)
- 8 GB memory
- Requires the pedestal kit (Cannot be factory integrated. Must be assembled on site)

NOTE:
- **OFS configuration does not support hot-swap redundancy in cooling fans**
- **Supports both High Line Power (1200W) and Low Line Power (800W).**
- **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
- **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

HPE Integrity rx2800 i4 Itanium 9520 (1.73GHz/4-core/20MB/130W) Processor Kit	AT104A
HPE rx2800 i4 Itanium 9550 (2.4GHz/4-core/32MB/130W) Processor Kit	AT138A
HPE Integrity rx2800 i4 Itanium 9540 (2.13GHz/8-core/24MB/170W) Processor Kit	AT105A
HPE Integrity rx2800 i4 Itanium 9560 (2.53GHz/8-core/32MB/170W) Processor Kit	AT106A

NOTE: Processor frequencies cannot be mixed in a server.

Memory Exp Board   HPE Integrity rx2800 i4 6-slot Memory Expansion Board   AT103A

NOTE:
- **Each memory expansion board contains six (6) memory DIMM slots**
- **The server supports a maximum of four (4) memory expansion boards or 24 DIMM slots.**
- **For one processor in system, maximum of two (2) memory expansion boards are supported.**

System Memory

HPE rx2800 i4 8GB (2x4G) Single Rank PC3L 10600 (DDR3-1333) Registered CAS-9 Memory Kit	AT108A
HPE rx2800 i4 16GB (2x8G) Dual Rank PC3L 10600 (DDR3-1333) Registered CAS-9 Memory Kit	AT109A
HPE rx2800 i4 32GB (2x16G) Dual Rank PC3L 10600 (DDR3-1333) Registered CAS-9 Memory Kit	AT110A

NOTE:
- **Memory must be installed in groups of two DIMMs, also known as pairs or**

Ordering and Configuration

modules.
- For best performance, all DIMM slots should be populated with the same size DIMM.
- Each memory pair must consist of DIMMs of the same type: same capacity/density, same organization, same number of ranks, and same speed.
- Alternate DIMM pairs between memory risers. If both processor sockets are populated, alternate DIMMs between processors.

I/O Riser Boards	HPE Integrity rx2800 i2 PCIe 3-Slot Riser Board	AM228A
	HPE Integrity rx2800 i2 PCIe 2-Slot Riser Board	AM245A

NOTE
- I/O Riser Boards can be mixed in the system
- Last two slots on second I/O riser board (secondary riser board) supports only Low Profile form factor for some I/O cards.

Network Adapters	HPE PCIe 2-port 1000Base-T LAN Adapter	AD337A
	HPE PCIe 2-port 1000Base-SX LAN Adapter	AD338A
	HPE PCIe 4-port 1000Base-T Gigabit Adapter	AD339A
	HPE Integrity PCIe 2-port 10GbE-SR Fabric Adapter	AM225A

NOTE:
- For more details, please visit:
  http://h18004.www1.hp.com/products/QuickSpecs/13874_div/13874_div.html

	HPE Integrity PCIe 2-port 10GbE-LR Fabric Adapter	AM232A
	HPE Integrity PCIe 2-port 10GbE-CR Copper Adapter	AM233A
	HPE Integrity NC552SFP 10Gb 2-port Server Adapter	AT118A

NOTE:
- Transceivers (HPE Integrity 10Gb SR SFP+ Opt) must be ordered separately.
- For more details, please visit:
  http://h18004.www1.hp.com/products/QuickSpecs/14207_div/14207_div.html

	HPE Ethernet 10Gb 2-port 561T Adapter for Integrity Servers	B9F25A

Converged Network Adapters	HPE Integrity CN1100E Dual Port Converged Network Adapter	AT111A

NOTE:
- Transceivers (HPE Integrity 10Gb SR SFP+ Opt) must be ordered separately.
- For more details, please visit:
  http://h18004.www1.hp.com/products/QuickSpecs/14205_div/14205_div.html

Multi-function (Combo) Adapters	HPE PCIe 1-port 4Gb and 1-port 1000BT Adapter	AD221A

NOTE: Maximum of four (4) cards are supported.

	HPE PCIe 2-port 4Gb and 2-port 1000BT Adapter	AD222A

NOTE: Maximum of four (4) cards are supported.

	HPE PCIe 2-port 4Gb and 2-port 1000BSX Adapter	AD393A

NOTE: Maximum of four (4) cards are supported.

	HPE PCIe 2-port 8Gb FC and 2-port 1/10Gb Ethernet Adapter	AT094A

NOTE:

Ordering and Configuration

- Maximum of four (4) cards are supported.
- Transceivers (HPE Integrity 10Gb SR SFP+ Opt or HPE Integrity 1Gb RJ-45 SFP Opt) and HPE Integrity 8Gb SW FC SFP+ Opt must be ordered separately.
- For more details, please visit: **http://h18004.www1.hp.com/products/QuickSpecs/14206_div/14206_div.html**

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 8Gb 1-port PCIe Fibre Channel Host Bus Adapter	AH402A
	HPE 8Gb 2-port PCIe Fibre Channel Host Bus Adapter	AH403A
	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	AT139A
	HPE Integrity 1Gb RJ-45 SFP Opt	AT140A
	HPE Integrity 8Gb SW FC SFP+ Opt	AT141A

Graphics Adapter	HPE Integrity rx2800 i2 2D Graphics Adapter	AH423A

NOTE:
- Maximum of two cards are supported
- For more details, please visit: **http://www.hp.com/products1/serverconnectivity/misc/graphics/specifications/AH423A/specs.html**

InfiniBand Host Channel Adapters	HPE Integrity PCIe 2-port 4X QDR InfiniBand Host Channel Adapter	AT083A

NOTE:
- Maximum of two cards are supported.
- For more details, please visit: **http://h18004.www1.hp.com/products/QuickSpecs/13968_div/13968_div.html**

Hardware Security Support	HPE Integrity rx2800 i2 Trusted Platform Module Kit	AM237A

NOTE:
- Maximum of one (1) module is supported.
- Module is not shipped to China and Russia.

SAS RAID Controllers and Host Bus Adapters	HPE Integrity Smart Array P411/256 2-port External PCIe 6Gb SAS Controller	AM311A

NOTE:
- Only supported in primary I/O riser board
- 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: **http://h18004.www1.hp.com/products/QuickSpecs/13765_div/13765_div.html**

Internal Hard Disk Drives (HDDs)	HPE Integrity 146GB 15K SAS SFF Hard Disk Drive	AM302A
	HPE Integrity 300GB 10K SAS SFF Hard Disk Drive	AM244A

Ordering and Configuration

	HPE Integrity rx2800 i2 450GB 10K SAS SFF Hard Disk Drive	AM316A
	HPE Integrity 300GB 12G SAS 15K SFF (2.5in) Enterprise 3yr Warranty Hard Drive	B9F30A
	HPE Integrity 450GB 12G SAS 15K SFF (2.5in) Enterprise 3yr Warranty Hard Drive	B9F31A
	HPE Integrity 600GB 12G SAS 15K SFF (2.5in) Enterprise 3yr Warranty Hard Drive	B9F32A
	HPE Integrity rx2800 i2 600GB 10K SAS SFF Hard Disk Drive	AM317A
	HPE Integrity 900GB 10K SAS SFF Hard Disk Drive	AT069A
	HPE Integrity 1.2TB 6G SAS 10K SFF Hard Disk Drive	AT146A
	NOTE: HPE rx2800 RAID 5 Factory Config is not allowed.	

Solid State Drives (SSDs)	HPE 200GB 12G SAS Mainstream Endurance SFF 2.5-in Enterprise Mainstream 3yr Wty Solid State Drive	B9F50A
	HPE 400GB 12G SAS Mainstream Endurance SFF 2.5-in Enterprise Mainstream 3yr Wty Solid State Drive	B9F51A
	HPE 800GB 12G SAS Mainstream Endurance SFF 2.5-in Enterprise Mainstream 3yr Wty Solid State Drive	B9F52A

Factory RAID Options	HPE Integrity Factory Level 0 RAID **NOTE:** Requires minimum 1 drive	AM238A
	HPE Integrity Factory Level 1 RAID **NOTE:** Requires minimum 2 drives	AM239A
	HPE rx2800 RAID 5 Factory Config **NOTE:** Requires minimum 3 drives	AM240A
	NOTE: If RAID is selected, all hard drives must be identical	

Internal Optical Drives	HPE Integrity rx2800 i2 Slimline DVD-ROM Internal Optical Drive	AM242A
	HPE Integrity rx2800 i2 Slimline DVD+RW External Optical Drive	AM243A
Power Supplies	HPE Integrity rx2800 i4 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.
- Power cords should always be plugged into separate breakers whenever possible.
- 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.
  If the N+N power supply is ordered with the server, the additional cords will be included.

Racking Options	HPE Integrity rx2800 i2 Racking Kit **NOTE:** Required with HPE Integrity rx2800 i4 Rack-Optimized Server and HPE Integrity rx2800	AM227A

Ordering and Configuration

i4 Carrier-Grade Server with DC Power

HPE Integrity rx1600 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**
  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**
- **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)

* 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	
Airflow	Minimum	1360 CMH (800 CFM)
	Maximum	3230 CMH (1900 CFM)
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.

Technical Specifications

	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
More detailed regulatory documents and certifications	**http://docs.hp.com/en/hw.html**

Summary of Changes

Date	Version History	Action	Description of Change
11-Dec-2015	From Version 9 to 10	Changed	Standard Features and Ordering and Configuration sections were updated.
10-Jul-2015	From Version 8 to 9	Added	SKU added in Ordering and Configuration section: B9F25A
		Changed	Information in Standard Features section was updated.
1-Jun-2015	From Version 7 to 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	From Version 6 to 7	Changed	Standard Features section was updated
		Added	Technology Services for Integrity Servers and Protect your business beyond warranty with HPE Care Pack Services sections were added to Support Services SKUs added to Internal Hard Disk Drives: B9F30A, B9F31A, B9F32A
14-Feb-2014	From Version 5 to 6	Changed	Revision made in the Standard Features section.
10-Dec-2013	From Version 4 to 5	Added	HPE Integrity 1.2TB 10K SAS SFF HDD was added to Internal Hard Disk Drives.
30-Sep-2013	From Version 3 to 4	Changed	Revised the Fibre Channel Host Bus Adapters section of Ordering and Configuration.
31-May-2013	From Version 2 to 3	Changed	Revised the Technical Specifications section.
15-Mar-2013	From Version 1 to 2	Changed	Updated the Standard Features Section and Ordering and Configuration Section- corrected spelling.

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