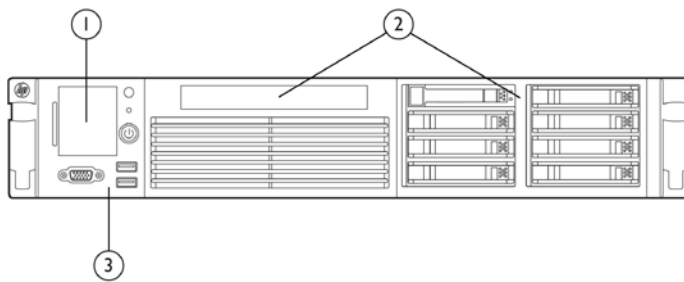


Overview

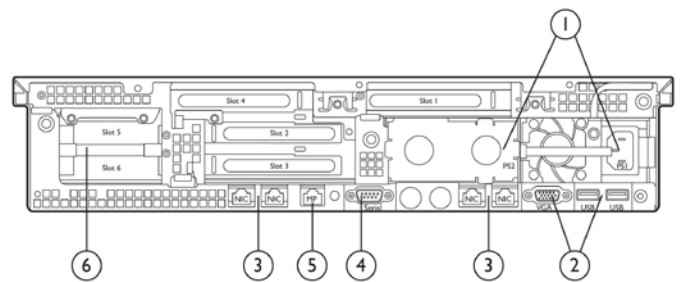
HPE Integrity rx2800 i4 Server

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

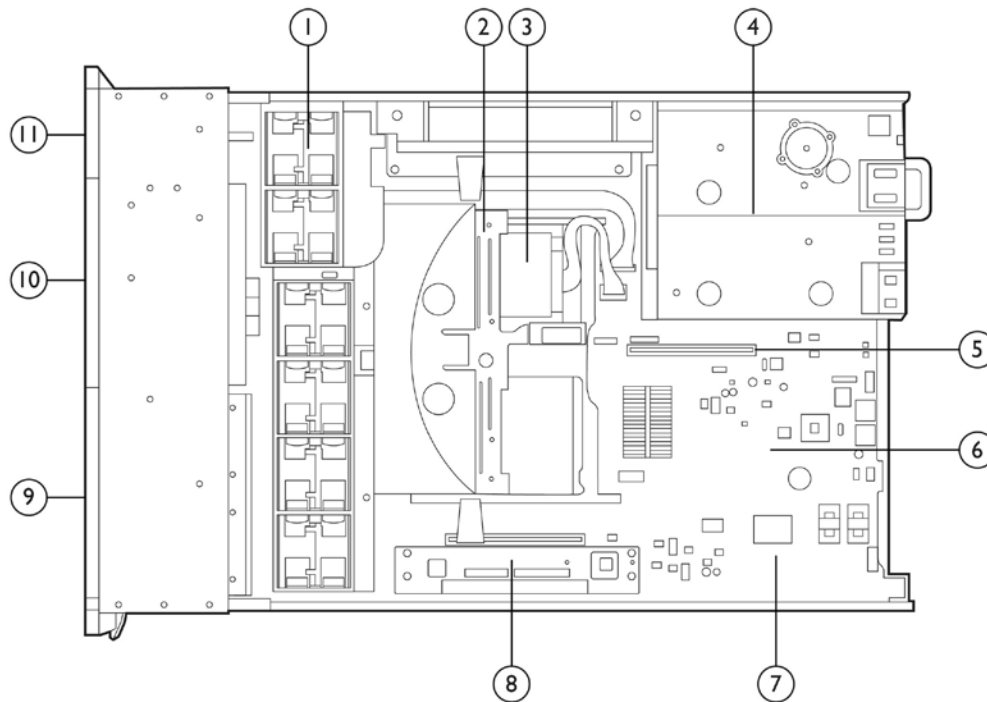
1. Systems Insight Display
2. 1 DVD & 8 SFF HDDs
3. Front Panel Console (KVM)



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 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

Standard Features

- 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 Ctrlr
- 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

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

Standard Features

- 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.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

Standard Features

- 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

- 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*

Standard Features

- 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
- 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.