## Overview

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 HP 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 HP Virtual Partitions (vPars) or Virtual Machines (VMs), while HP Insight software and HP Integrated Lights-Out 3 (iLO 3) increase staff productivity. HP-UX 11i v3 and HP 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.
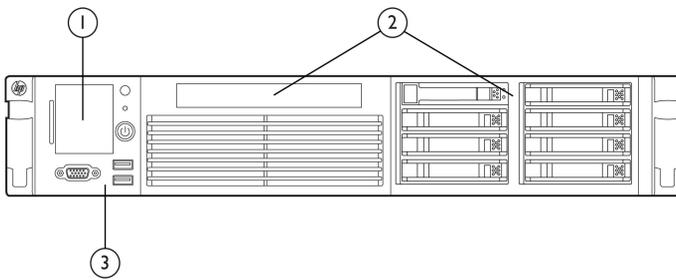

HP Integrity rx2800 i4 Server: Front View

1. Systems Insight Display
2. 1 DVD & 8 SFF HDDs
3. Front Panel Console (KVM)
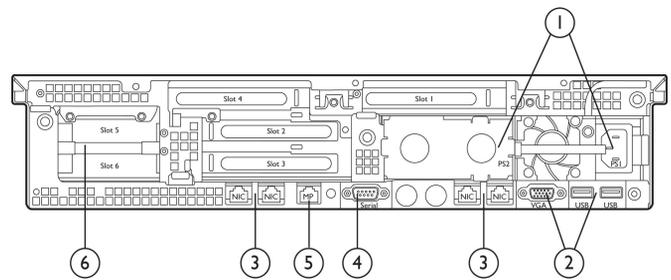
HP Integrity rx2800 i4 Server: Rear View

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

Overview
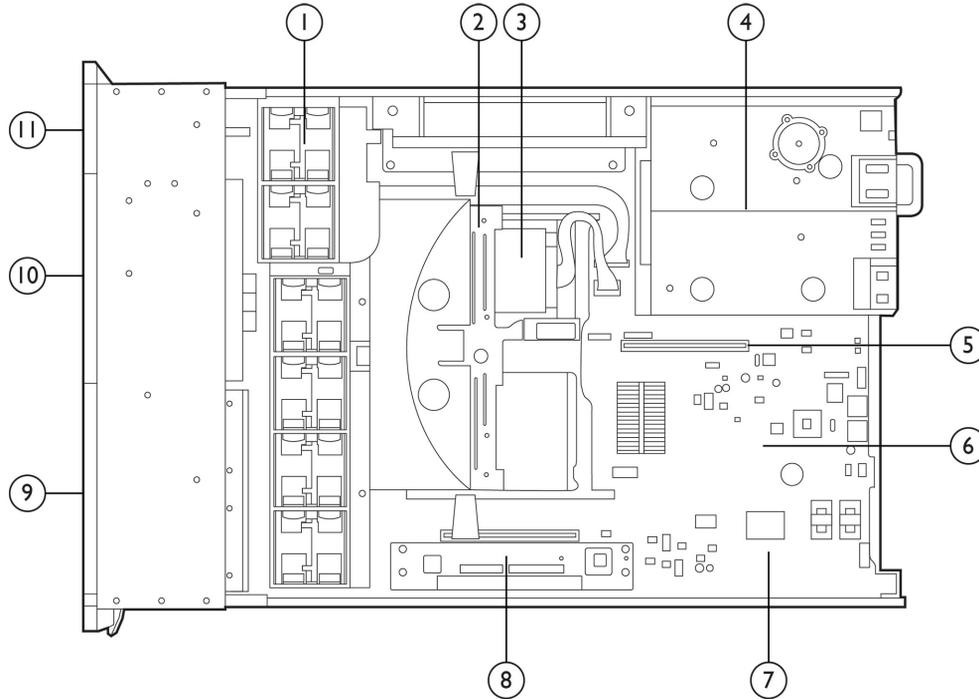
HP Integrity rx2800 i4 Server: Inside View

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 HP-UX 11iv3 1209 release

Standard Features

Models

HP 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 HP 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 6 Gb/s SAS HDDs

- 146GB 15K RPM SAS (Serial Attached SCSI) 2.5" Small Form Factor Hot Plug Disk
- 300GB 15K RPM SAS (Serial Attached SCSI) 2.5" Small Form Factor Hot Plug Disk
- 300GB 10K RPM SAS (Serial Attached SCSI) 2.5" Small Form Factor Hot Plug Disk
- 450GB 10K RPM SAS (Serial Attached SCSI) 2.5" Small Form Factor Hot Plug Disk
- 600GB 10K RPM SAS (Serial Attached SCSI) 2.5" Small Form Factor Hot Plug Disk
- 900GB 10K RPM SAS (Serial Attached SCSI) 2.5" Small Form Factor Hot Plug Disk

Internal Solid State Drives
Support for 6 Gb/s SAS Single Level Cell (SLC) SSDs

- 200GB 6G SAS SLC 2.5" Small Form Factor (SFF) Enterprise Performance Solid State Drive
- 400GB 6G SAS SLC 2.5" Small Form Factor (SFF) Enterprise Performance Solid State Drive

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

Embedded Network Controller
Two (2) two-port Intel 82575 embedded 10/100/1000Base-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

Standard Features

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)

- HP PCIe 2-port 1000Base-T card
- HP PCIe 2-port 1000Base-SX card
- HP PCIe 4-port 1000Base-T Gigabit Adptr
- HP Integrity 10GbE-SR 2p PCIe Adapter
- HP Integrity 10GbE-LR 2p PCIe Adapter
- HP Integrity 10GbE-Cu 2p PCIe Adapter
- HP Integrity NC552SFP 2P 10GbE Adapter

Converged Network Adapters

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

- HP Integrity CN1100E PCIe 2-port CNA

Multi-function (Combo) Adapters

Support for multi-function (Network and Fibre Channel Adapter on one card) cards

- HP PCIe 1p 4Gb FC AND 1p 1000BT Adapter
- HP PCIe 2p 4Gb FC AND 2p 1000BT Adapter
- HP PCIe 2p 4Gb FC AND 2p 1000BSX Adapter
- HP 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

- HP PCIe 1-port 8Gb FC SR Qlogic HBA
- HP PCIe 2-port 8Gb FC SR Qlogic HBA
- HP PCIe 1-port 8Gb FC SR Emulex HBA
- HP PCIe 2-port 8Gb FC SR Emulex HBA

SAS RAID Controllers and Host Bus Adapters

Support for 6 Gb/s SAS RAID Controllers

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

Graphics Adapter

Support for 2D graphics

- HP Integrity rx2800 2D Graphics Adapter

InfiniBand Host Channel Adapters

Standard Features

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

- HP 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 HP Power Advisor tool is run to determine configuration specific power and cooling needs. The HP 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.

Embedded Manageability and Serviceability

HP Integrity Integrated Lights-Out (iLO) 3 (factory integrated)
HP 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 HP UX tools (such as STM and EMS) to notify by email, pager and/or HP response centers.
- Interface to system monitoring and diagnostic hardware via an internal IC bus

NOTE: HP Integrity iLO 3 ships with a built in Advanced Pack License. No additional iLO licensing is needed.
For more information, please see www.hp.com/go/integrityilo

Standard Features

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

Accessories
Rack Kits
For customers who need to use non-HP 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-HP cabinets, please keep the adhere to the following instructions to ensure that HP 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 HP 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, HP recommends 32 inches of unobstructed floor space in the front and rear of rack installations. This recommendation applies to both HP and third party racks and cabinets.

Certifications and Compliance

- ENERGY STAR ® certified with 80Plus Platinum Power Supplies

Operating System
HP-UX 11i v3 1209 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)

Key HP-UX 11i features
Manageability

Getting Started

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

Deploy

- HP Ignite-UX
- Software Distributor-UX

Standard Features

- Software Package Builder
- Dynamic Root Disk (DRD)

Monitor

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

Control

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

Protect

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

Optimize

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

Provision

- HP Insight Dynamics - VSE infrastructure orchestration

Integrate

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

Virtualization

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

Availability

- Journal file system with HP-UX*
- Auto reboot

Standard Features

- HP Serviceguard for HP-UX*
- HP Serviceguard Extension for RAC for HP-UX*
- HP Serviceguard Extension for SAP for HP-UX*
- Serviceguard Manager for HP-UX Clusters*
- HP Event Monitoring Service
- HA Monitors for HP-UX
- HA Toolkits for HP-UX
- HP Mirrordisk/UX* (Included if purchase HP-UX 11i VSE-OE, HA-OE or DC-OE)
- Extended Campus Cluster*, HP Metrocluster*, and HP Continentalclusters* for HP UX
- HP System Insight Manager (SIM) for proactive fault management
- HP Serviceguard Storage Management Suites for HP-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
- HP Directory Server for HP-UX
- LDAP-UX Client
- Kerberos Server
- Kerberos Client Services
- PAM Kerberos

NOTE:
For detailed information on HP-UX support and features, please visit the following links:
QuickSpec: http://h18004.www1.hp.com/products/quickspecs/12079_div/12079_div.html
Overview: www.hp.com/go/hp-ux

Standard Features

Warranty

Three-year parts, 3 Year Labor and 3 Year on-site limited global warranty.
Protected by HP Services and a worldwide network of HP Authorized Channel Partners.

Services and Support

Support Services

HP Technology Services-consultants and support experts to solve your most complex infrastructure problems. We help keep your business running, no matter what. Boost availability and avoid downtime, trust our expertise to optimize your HP solution.

HP Care Pack Services: Packaged server and storage services for increased uptime, productivity and ROI
When you buy HP server and storage products and solutions, it's also a good time to think about what levels of support you may need. Our portfolio of service options reduce deployment and management worries while helping you get the most out of your server and storage investments. We take a holistic approach to your environment, bridging servers, blades, storage, software and network infrastructures with our packaged HP Care Pack Services for servers and storage. HP recommends the following support and Installation services for the Integrity rx2800i4 servers.

Protect your business beyond warranty
When it comes to robustness and reliability, standard computing equipment warranties have matured along with technology. Good news that can also create problems stemming from depending on standard warranties designed to only protect against product defects and some downtime causes. Using a standard approach to warranty uplifts, such as HP Care Pack Services, helps reduce downtime risks and provides operational consistency for mission-critical and standard business computing.

HP Care Pack Services: Upgrading or extending standard server and storage warranties cost effectively
HP Care Pack Services offer a standard reactive hardware and software support services suite sold separately, or combined with our Support Plus and Support Plus 24 services. The portfolio also provides a combination of integrated proactive and reactive services, such as Proactive 24 Service and Critical Service. In addition with HP Proactive Select, you can acquire the specific proactive constancy and technical services. HP Proactive Select menu offers a broad set of service options that you can mix and match depending on your specific requirements. Proactive service options include offers for server, storage, network, SAN device, software, environment and education services.

HP server and storage lifecycle support services offers a full spectrum of customer care-from technology support to complex migrations to complete managed services. HP Factory Express provides customization, integration and deployment services for turnkey solutions. HP Education Services offer flexible, comprehensive training on to help your IT staff get the most out of your server and storage investments. HP Financial solutions extend innovative financing and cost-effective asset management programs-from purchase to equipment retirement. Depending on a customer's individual support needs, customers' can choose from three conveniently structured support solutions. The support recommendations listed below generally apply to the server and the complete system. Options should be covered at the same service level as the associated installed system.

Choose the right level of support, deployment and professional integration services for your requirements and expectations:

Learn more: www.hp.com/services/servers and www.hp.com/services/storage

NOTE: Care Pack Services availability may vary by product and country.

HP Care Pack Services are sold by HP and HP Authorized Service Partners:

- Services for customers purchasing from HP or an enterprise reseller are quoted using HP order configuration tools.
- Customers purchasing from a commercial reseller can find HP Care Pack Services at: http://www.hp.com/go/lookuptool

Recommended HP Care Pack Services for optimal satisfaction with your HP product.
Optimized Care

Services and Support

3-Year HP Proactive 24 SKU: HA 111A3

HP Proactive 24 Service (P24) integrates hardware and software support to help you improve the stability and operational effectiveness of your IT environment. An HP Account Manager acts as your primary point of contact to ensure that HP meets your support needs effectively.

P24 provides the maximum value when multiple technologies in the environment (e.g. servers, storage, SAN and the network), are all covered. It provides an environment-wide view and consistent support of all of these components which affect stability of your key applications.

Choose P24 when you want to:

● enhance operational effectiveness with proactive problem identification and recommendations from HP
● partner with technical experts who help coordinate support, provide hands-on assistance, and share knowledge with your staff
● rapidly access support and expertise spanning your environment
● obtain personalized services tailored to your business environment and critical success factors
● anticipate necessary change - and execute it correctly the first time
● efficiently manage infrastructure resources to meet your performance objectives

http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA0-1614ENN.pdf

Server Installation SKU: 114A1

HP will install and configures your server hardware and operating system software, matching your Business objectives and systems environment to the configuration

http://h71028.www7.hp.com/ERC/downloads/5981-9356EN.pdf

INCLUDED in each package

Insight Remote Support
HP Insight Remote Support software delivers secure remote monitoring and support for your HP Servers and Storage, 24 X 7, so you can spend less time solving problems and more time focused on your business. You can have your systems remotely monitored for hardware failure using secure technology that's been proven at thousands of companies around the world. In many cases, you can avoid problems before they occur. Available as part of HP Warranty, Care Pack and Service Contract offers.

Standard Care

3-Year HP Support Plus 24 SKU: HA110A1
For a higher return on your server and storage investment, HP Support Plus 24 provides integrated hardware and software support services designed specifically for your technology. Available 24x7, this 3-year combined reactive support option delivers onsite hardware support and over-the-phone software support around-the-clock. Leverage the full strength of HP Technology Services - customers can trust the services professionals at HP to work collaboratively with them, putting our strategic and technical know-how to work across their entire infrastructure.

● Improve uptime with responsive hardware and software services
● Enjoy consistent service coverage across geographically dispersed sites
● Update HP software at a predictable cost
● Increase customer satisfaction-with no interoperability gaps
● http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-6638EN.pdf

Server Installation SKU: HA 114A1

Services and Support

HP will install and configures your server hardware and operating system software, matching your Business objectives and systems environment to the configuration

http://h71028.www7.hp.com/ERC/downloads/5981-9356EN.pdf

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Insight Remote Support

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Basic Care

3-Year HP Support Plus 24 SKU: HA 110A3

For a higher return on your server and storage investment, HP Support Plus 24 provides integrated hardware and software support services designed specifically for your technology. Available 24x7, this 3-year combined reactive support option delivers onsite hardware support and over-the-phone software support around-the-clock. Leverage the full strength of HP Technology Services - customers can trust the services professionals at HP to work collaboratively with them, putting our strategic and technical know-how to work across their entire infrastructure.

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- Increase customer satisfaction-with no interoperability gaps

http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-6638EN.pdf

Server Installation SKU: HA 114A1

HP will install and configures your server hardware and operating system software, matching your Business objectives and systems environment to the configuration

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Related Services

HP Startup Integrity 2-socket Server SVC

The HP Installation and Startup Service for Business Critical Servers is designed for customers who need more than the hardware installation delivered with the Basic Installation Care Pack. This service provides hardware integration and racking at your site for the server. It also provides basic operating system configuration, logical volume layout, and RAID setting of internal server storage, along with configuration of server network settings to establish connectivity with your network.

Services and Support

- Installation and startup by an HP technical specialist
- Availability of an HP service specialist to answer basic questions during the delivery of this service
- Delivery of the service at a mutually scheduled time convenient to your organization
- Verification prior to installation that all service prerequisites are met

HP Proactive Select Service

Provides a flexible way to purchase HP best-in-class consultancy and services. HP Proactive Select services start with a proactive delivery plan that is developed by an Account Support Manager (ASM) and you together. The proactive delivery plan will identify your IT goals and critical success factors.

Service benefits

- Access to a list of flexible and customizable proactive service activities
- Choose from a variety of service activities addressing both technology and process needs
- Have the ability to change the proactive delivery plan during the review meetings
- Enhance your in-house IT team with complementary assistance from HP
- Improved time to solution
- Reduce business risk and project costs by accessing HP specialists
- Simplify IT operational procedures by leveraging HP best practices
- Assigned Account Support Manager
- Proactive delivery plan and review meeting
- Proactive service credits redeemable for specific service activities of your choice

    http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA2-3842ENN

eSupport

HP eSupport is a portfolio of technology-based services that assist you with managing your business environment - from the desktop to the data center.

Support Portal

The HP support portal provides one-stop access to the information, tools and services you need to manage the daily operations of your IT environment.

Features include:

- Access to self-solve tools (including search technical knowledge base)
- Efficient logging and tracking of support cases
- Collaboration with other business and IT professionals
- Download of patches and drivers
- Access to diagnostic tools
- Proactive notification of relevant information

Access to certain features of the support portal requires an HP service agreement. To access the support portal, visit: http://www.hp.com/support

HP Insight Remote Support software delivers secure remote monitoring and support for your HP Servers and Storage, 24 X 7, so you can spend less time solving problems and more time focused on your business. You can have your systems remotely monitored for hardware failure using secure technology that's been proven at thousands of companies around the world. In many cases, you can avoid problems before they occur.

Services and Support

Customer Technical Training

HP Education Services
In today's cost-conscious business environment, IT professionals, developers, consultants and users face an interesting challenge: how to keep up with the latest technologies and expand important skills while delivering profitable results on current projects. To help address this challenge, HP offers innovative training solutions that help keep you up-to-date on virtualization, server, storage, Insight Control, Citrix, Microsoft® and open source/Linux-related topics-while spending less time away from business-critical activities.

HP Services Awards

HP Technology Services continues to be recognized for service and support excellence by customers, partners, industry organizations and publications around the world. Recent honors and award reflect our services team's dedications, technical expertise, professionalism and uncompromising commitment to customer satisfaction.

Factory Express Portfolio for Servers and Storage

HP Factory Express offers configuration, customization, integration and deployment services for HP 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. HP products supported through Factory Express include a wide array of servers and storage: HP Integrity, HP ProLiant, HP Integrity Server Blades, HP ProLiant Server Blades, HP BladeSystem, HP 9000 servers as well as the MSA1xxx, VA7xxx, EVA, XP, rackable tape libraries and configurable network switches.

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.

Additional Services Information

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

Ordering and Configuration

Server product numbers	**HP Integrity rx2800 i4 Rack-Optimized Base Server**	AT101A

Includes

- One 6-slot memory riser board
- One hot-plug power supply
- Integrated Quad-port 10/100/1000Base-TX LAN
- HP Smart Array P410i 6Gbps Serial-Attached SCSI (SAS) RAID Controller
- Integrity iLO 3 Basic Management and iLO Advanced Management licenses

Minimum additional components required:

- One processor
- 8 GB memory
- HP 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.

HP Integrity rx2800 i4 Office Friendly Base Server

Includes   AT102A

- One 6-slot memory DIMM riser board (supports HP rx2800 i4 PCIe 2-Slot Riser Board only)
- Two hot-plug redundant power supplies
- Pedestal foot
- Integrated Quad-port 10/100/1000Base-TX LAN
- HP Smart Array P410i 6Gbps Serial-Attached SCSI (SAS) RAID Controller
- Integrity iLO 3 Basic Management and iLO Advanced Management licenses

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 HP Smart Array P410i 6 Gb/s SAS RAID Controller

- HP rx2800 i4 512MB FBWC Kit (AM252A) is required for RAID 5 and RAID 5+0
- HP rx2800 i4 512MB FBWC kit (AM252A) AND HP rx2800 i4 Smart Array Advance Pack (SAAP) License (AM305A) is required for RAID 6 and RAID 6+0

Ordering and Configuration

Processors	HP rx2800 i4 Itanium 9520 4c Proc Kit	AT104A
	HP rx2800 i4 Itanium 9550 4c Proc Kit	AT138A
	HP rx2800 i4 Itanium 9540 8c Proc Kit	AT105A
	HP rx2800 i4 Itanium 9560 8c Proc Kit	AT106A

NOTE: Processor frequencies cannot be mixed in a server.

Memory Exp Board	HP rx2800 i4 6-Slot Mem 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	HP rx2800i4 8GB(2x4G) PC3L-10600R-9 Kit	AT108A
	HP rx2800i4 16GB(2x8G) PC3L-10600R-9 Kit	AT109A
	HP rx2800i4 32GB(2x16G)PC3L-10600R-9 Kit	AT110A

NOTE:

- Memory must be installed in groups of two DIMMs, also known as pairs or 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	HP rx2800 PCIe 3-Slot Riser Board	AM228A

Includes:
One (1) Full-Length/Full-Height PCI Express slot (x8 speed, x16 connector) and two (2) Half-Length/Full-Height PCI Express slots (x4 speed, x8 connector)

	HP rx2800 PCIe 2-Slot Riser Board	AM245A

Includes:
One (1) Full-Length/Full-Height PCI Express slot (x8 speed, x16 connector) and one (1) Half-Length/Full-Height PCI Express slot (x8 speed, x16 connector)

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	HP PCIe 2-port 1000Base-T card	AD337A
	HP PCIe 2-port 1000Base-SX card	AD338A

Ordering and Configuration

	HP PCIe 4-port 1000Base-T Gigabit Adptr	AD339A
	HP Integrity 10GbE-SR 2p PCIe Adapter	AM225A

NOTE:

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

	HP Integrity 10GbE-LR 2p PCIe Adapter	AM232A
	HP Integrity 10GbE-Cu 2p PCIe Adapter	AM233A
	HP Integrity NC552SFP 2P 10GbE Adapter	AT118A

NOTE:

- Transceivers (HP 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

Converged Network Adapters

	HP Integrity CN1100E PCIe 2-port Converged Network Adapter	AT111A

NOTE:

- Transceivers (HP 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

	HP PCIe 1p 4Gb FC AND 1p 1000BT Adapter	AD221A

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

	HP PCIe 2p 4Gb FC AND 2p 1000BT Adapter	AD222A

NOTE:

- Maximum of four (4) cards are supported.

	HP PCIe 2p 4Gb FC AND 2p 1000BSX Adapter	AD393A

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

	HP PCIe 2p 8Gb FC and 2p 1/10GbE Adapter	AT094A

NOTE:

- Maximum of four (4) cards are supported.
- Transceivers (HP Integrity 10Gb SR SFP+ Opt or HP Integrity 1Gb RJ-45 SFP Opt) and HP 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

	HP PCIe 1-port 8Gb FC SR Qlogic HBA	AH400A
	HP PCIe 2-port 8Gb FC SR Qlogic HBA	AH401A
	HP PCIe 1-port 8Gb FC SR Emulex HBA	AH402A
	HP PCIe 2-port 8Gb FC SR Emulex HBA	AH403A
	HP Integrity SN1000Q 1p 16GB FC HBA	B9F23A
	HP Integrity SN1000Q 2p 16GB FC HBA	B9F24A

Ordering and Configuration

Transceivers	HP Integrity 10Gb SR SFP+ Opt	AT139A
	HP Integrity 1Gb RJ-45 SFP Opt	AT140A
	HP Integrity 8Gb SW FC SFP+ Opt	AT141A

Graphics Adapter	HP Integrity rx2800 2D Graphics Adptr	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	HP Integrity 4X QDR CX-2 PCI-e G2 DP HCA	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	Trusted Platform Module (TPM)	AM237A
	NOTE:	

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

SAS RAID Controllers and Host Bus Adapters	HP Integrity PCIe 2p P411/256MB SAS Ctlr	AM311A
	NOTE:	

- Only supported in primary I/O riser board
- Maximum of three (3) HP Integrity PCIe 2P P411/256MB SAS Ctlr (AM311A) cards are supported.

	HP Integrity SA 812/1GB PCIe SAS Ctrl	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)	HP 146GB 15k SAS SFF 6GB DP Drive	AM302A
	HP 300GB 10K SAS SFF 6GB DP Drive	AM244A
	HP 450GB SAS 10Krpm SFF Hard Drive	AM316A
	HP Integrity 300GB 15K SAS SFF HDD	AT086A

Ordering and Configuration

	HP 600GB SAS 10Krpm SFF Hard Drive	AM317A
	HP Integrity 900GB 10K SAS SFF HDD	AT069A
	HP Integrity 1.2TB 10K SAS SFF HDD	AT146A

NOTE:

- HP rx2800 RAID 5 Factory Config is not allowed.

Solid State Drives (SSDs)	HP Integrity 200GB SAS 6Gb SFF SLC SSD	AT088A
	HP Integrity 400GB SAS 6Gb SFF SLC SSD	AT089A

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

Internal Optical Drives	HP Slimline DVD-ROM Optical Drive	AM242A
	HP Slimline DVD+RW Optical Drive	AM243A
Power Supplies	HP 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	HP rx2800 Racking Kit	AM227A
	NOTE:	
	Required with HP Integrity rx2800 i4 Rack-Optimized Server and HP Integrity rx2800 i4 Carrier-Grade Server with DC Power	
	HP rx26/28 Factory Rack-mount Shelf Kit	AB469A
	NOTE:	

Ordering and Configuration

- 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 HP Integrity rx2800 i4 Carrier-Grade Server with DC Power only

HP rx2800 Pedestal Foot   AM251A

NOTE:

- Ships by default with HP Integrity rx2800 i4 Office Friendly Base Server
- Can be ordered separately for tower form deployment of HP 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-operaitng Storage	8% RH - 90% RH and 32°C (90°F) DP
Altitiude	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

Technical Specifications

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