

Family guide

HP ProLiant Servers

x86 mainstream tower,
rack and hyperscale servers



Table of contents

3	Is big data holding you back?
3	HP ProLiant—the world's most self-sufficient server
4	HP ProActive Insight architecture
6	Selecting the right server
6	The ML family of servers
6	The DL family of servers
7	The SL family of servers
7	The BL family of servers
8	HP ProLiant Servers—MicroServer, 100, and 300e series
12	HP ProLiant Servers—300p series
15	HP ProLiant Servers—500 and 900 series
16	HP ProLiant Servers—DL2000
17	HP ProLiant Servers—SL6500
18	HP Qualified Options for ProLiant Servers
18	HP ProLiant Server supported options
22	HP Insight Management for ProLiant Servers
24	Operating systems and virtual environments for ProLiant Servers
24	HP Intelligent Infrastructure
25	HP Solutions for ProLiant Servers
25	HP Storage Networking—Fabric switching
25	HP Disk Enclosures
25	HP Shared Storage
26	HP Backup Systems
26	HP Tape Drives, Autoloaders, and Libraries
27	HP Support Services



Is big data holding you back?

The cloud era has created an unprecedented explosion of data and digital information. The impact on data centers is tremendous. With highly virtualized environments and unpredictable workloads, a typical 10,000-square-foot data center can see demand for storage capacity grow by 45% each year. And along with that demand comes the burden of protecting and analyzing data that will generate useful business insight.

But the impact isn't just on your infrastructure's outdated servers. There is a ripple effect that reaches out to your entire server infrastructure and into data center operations. For every new rack of storage, seven racks of server computing power are needed. And those servers must be integrated, managed, powered, cooled, and supported.

For many data centers, IT infrastructure and operations have reached a breaking point; incremental improvements no longer work. It's time for a server that works smarter, so that everything works better.

HP ProLiant—the world's most self-sufficient server

Customer inspired, HP ProLiant Gen8 servers are unlike anything else in the market. HP ProLiant Gen8 servers include over 150 design innovations that allow administrators to increase application performance, and free up resources to focus on business innovation.

Powered by HP ProActive Insight architecture, the new servers constantly analyze over a thousand system parameters to get the best application performance and proactively improve uptime—all while providing actionable insight into every aspect of your IT infrastructure.

ProLiant Gen8 introduces HP-only and industry-first innovations that use embedded intelligence to get rid of manual tasks and automate IT operations.

HP ProActive Insight architecture

ProLiant Gen8 is about transforming the server experience—not just what’s inside the box.

HP ProActive Insight architecture is built into every ProLiant Gen8 server and is defined by four distinct pillars. It is a rich set of capabilities that help IT administrators boost application performance, protect data, simplify server operations, optimize energy efficiency, and streamline the support experience. These servers are able to inform, learn, and grow—constantly and proactively fixing issues and helping you tackle everyday tasks.

The ProActive Insight architecture includes built-in intelligence, analytics, and a 3D Sea of Sensors embedded across the infrastructure that continuously analyzes over 1,600 system parameters. This innovation enables automation of manual tasks and proactively responds to common alerts and failures. Further, it enables technologies such as HP Active Health, HP Smart Array, HP Location Discovery, and HP Insight Online and Proactive Support Service. These HP-only innovations help IT administrators get more work done with less effort.

ProActive Insight architecture supports the highest uptime and the best application performance with the least amount of admin effort, system downtime, and power consumption.

Figure 1. HP ProActive Insight architecture

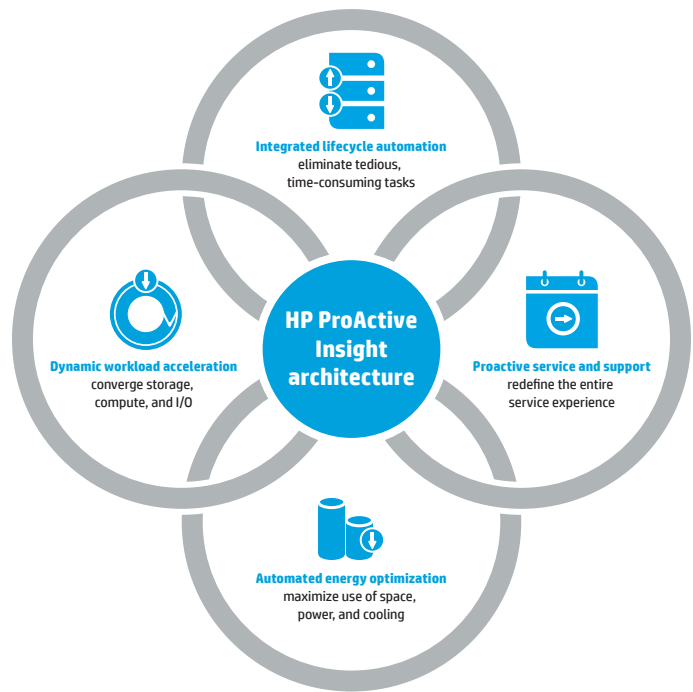


Figure 2. Peak performance indicators

Integrated lifecycle automation	Dynamic workload acceleration	Automated energy optimization	Proactive service and support
3x	6x	70%	66%
Admin productivity	Performance increase for the most demanding workloads	More compute per watt	Faster time to problem resolution

Based on internal testing with a fully online firmware and system software update with HP SUM 5.0 vs. HP SUM 4.2

6x improved storage performance: testing of the new Smart Array controllers compared to the current generation Smart Array controllers in a RAID 6 configuration; Internal HP Lab testing

1.7x compute per watt over previous server replacement cycle model*

* Based on HP internal testing with a 50% increase in server performance (OLTP applications), a 10% reduction in per server energy consumption plus 7% cooling reduction from Intelligent Series rack. Assuming a conservative PUE of 2.0, translates 7% cooling to 3.5% reduced cooling power. 10% (< per server) + 3.5% (< from "Intelligent Series" rack) = 13.5%. 150% (performance) x 113.5% (servers/P&C envelope) = 1.5 x 1.135 = 1.70

Up to 66% faster problem resolution time for HP Insight Remote Support-initiated cases (HW) vs. traditional phone support

Source: HP internal call center data, Q4 FY11 (calculation based on average of 7.1 hours for an Insight Remote Support-initiated cases vs. 11.8 hours for phone-initiated cases)



Automate

Integrated lifecycle automation

ProLiant Gen8 servers use intelligence to automate the most common tasks during each step of the IT lifecycle. The HP Active Health system continuously monitors and securely logs over 1,600 system parameters and 100% of all configuration changes, empowering you with the insight to keep your systems running at peak performance with minimal downtime and effort.

Key pillar features:

- **HP Intelligent provisioning:** Get systems online 3x faster¹ with a fully integrated system and OS configuration tool
- **HP Active Health:** 24x7 Mission control for delivering maximum uptime through automated monitoring, self-diagnosis and alerting
- **HP Smart Update:** Breakthrough system maintenance tool with one-click simplicity that systematically updates servers and blade infrastructures at the scale of your data center



Accelerate

Dynamic workload acceleration

HP engineers balanced the system architecture while unifying storage, I/O, and compute resources to make data-intensive application performance run faster. This approach brings storage and compute closer together, eliminates much of the cost and complexity, and removes the most common performance bottleneck—storage.

Key pillar features:

- **Solid state optimized:** Engineered for solid state storage with built-in analytics to deliver a dynamic balance of performance and capacity
- **Smart data protection:** Confidently protect data and ensure uptime for continuous business operations
- **Smart data services:** orchestrated with real-time analysis to build the future of converged storage



Optimize

Automated energy optimization

Intelligent and efficient server and infrastructure technologies reduce the power and airflow needed to operate HP ProLiant Gen8 servers. These technologies reclaim limited space, power, and cooling resources for needed workloads, while also reducing error-prone manual checking and documenting of power and rack configurations.

Key pillar features:

- **Location Discovery Services:** Optimize workload placement with servers that self-identify and inventory themselves.
- **Thermal Discovery Services:** Reduce energy usage and increase compute capacity.
- **Power Discovery Services:** Eliminate power configuration errors, precisely track power usage by rack and server by server, while eliminating manual recordkeeping.



Support

Proactive service and support

HP Insight Online is the industry's first comprehensive cloud-based IT management and support solution for an HP environment. Connected to HP Services and HP-authorized channel partners, including 2,000 ServiceONE experts, HP delivers unique support and services that are intuitive, dynamic, and automated. HP experts help clients proactively resolve issues, deliver real-time insight, and continuously improve data center operations uptime.

Key pillar features:

- **Insight Online:** The industry's first comprehensive cloud-based, IT management and support solution integrated with HP Insight Remote Support.
- **Proactive Support Services:** Technology enabled, reactive and proactive services based on ProActive Insight architecture improves infrastructure uptime and performance
- **ServiceONE Advantage:** Qualified local partners to plan, manage and deliver solutions spanning the entire IT lifecycle

¹ Based on internal testing with a fully online firmware and system software update with HP SUM 5.0 vs. HP SUM 4.2

Selecting the right server

With one HP ProLiant Server shipping every 11.2 seconds² and more than 28 million sold, HP ProLiant Servers are the undisputed market share leader.³ This high-level market acceptance stems in part from our ongoing commitment to providing a complete industry-standard server infrastructure that delivers confidence and reliability.

Whether it's a departmental server, an enterprise data center, or anything in between, HP can meet your exact needs. You can choose

the right levels of performance, availability, expandability, and manageability from the world's most comprehensive portfolio of industry-standard servers and options.

To help you find the Gen8 version of your current equipment, select the best server for your environment, and find the best fit for your organization's needs, please visit the HP ProLiant Gen8 transition guide at h20195.www2.hp.com/v2/GetPDF.aspx/4AA4-0119ENW.pdf.

Figure 2. HP ProLiant Server portfolio



HP ProLiant ML family

Expandable tower servers ideal for remote and branch offices



HP ProLiant DL family

Versatile, rack-optimized server with a balance of efficiency, performance and management

The ML family of servers

HP ProLiant ML Servers are flexible, expandable tower (rack/tower option) servers that are the ideal choice for data centers, remote/branch offices, or SMBs that require a server that can provide maximum performance for current requirements and expansion for future growth.

The ML300 series is available in either rack or tower models⁴. These servers are ideal for applications ranging from running in the datacenter or remote branch offices requiring large amounts of internal storage and I/O to SMBs requiring essential compute and expansion capabilities. The ML300 series incorporates the latest Gen8 innovations in storage, memory, and management.

HP ProLiant Gen8 ML family includes:

- **HP ProLiant ML300p series**—THE flexible tower or rack data center standard with leading performance and versatility
- **HP ProLiant ML300e series**—Tower servers that redefine essential and easy-to-use computing

The DL family of servers

HP ProLiant DL Servers offer versatile rack-optimized servers that balance efficiency, performance, and management. HP DL servers deliver decades of engineering knowledge and integration experience to speed the implementation of new business computing technology.

HP ProLiant DL Servers are powerful servers in 1, 2, 4, 7, or 8U configurations that are ideal for performance-driven compute processes with an array of internal storage options in a dense rack package. For Gen8, the servers offer an increased processor core count, memory, and internal storage capacities. They also offer the next generation of embedded Smart Array technology.

HP ProLiant Gen8 DL family includes:

- **HP ProLiant DL100 series**—High performance computing in an affordable and dense design
- **HP ProLiant DL300p series**—Rack server data center standard with leading performance and versatility
- **HP ProLiant DL300e series**—Redefines essential and easy-to-use computing
- **HP ProLiant DL500 series**—Scale-up servers for demanding compute-intensive workloads

² 24x7 IDC 4CQ11

³ IDC 4CQ2011

⁴ Please reference server QuickSpecs for product specific offerings

HP ProLiant Gen8 servers transform the experiences and economics of applications and data optimization, server operations, data center efficiency, and IT support.



HP ProLiant SL family

Purpose built for the world's most extreme data centers

The SL family of servers

HP ProLiant SL Servers are purpose-built for the most demanding hyperscale environments. Ideal for web/hosting/cloud service providers and other high performance computing environments, the SL family of servers enables rapid deployment, greater agility, and lower operational cost.

HP ProLiant Gen8 SL family includes:

- **HP ProLiant Servers SL6500**—Purpose-built for high performance computing using modular servers, the HP ProLiant SL6500 servers incorporates high performance features such as FDR InfiniBand and integrated GPUs, within an innovative shared infrastructure to greatly reduce costs, increase power efficiency, and density.



HP ProLiant BL family

Cloud-ready converged infrastructure engineered to maximize every hour, watt and dollar

The BL family of servers

HP ProLiant BL Servers offer the ideal balance of performance with scalability, and are the standard for a wide variety of mainstream business and HPC scale-out applications for small, medium, and enterprise data centers.

This next-generation ProLiant blade offers increased performance, capacities, and options with processors, memory, storage, and I/O expansion slots.

HP ProLiant Gen8 BL family includes:

- **HP ProLiant BL400c series**—Server blades that deliver the same capabilities, features, and benefits of HP ProLiant rack servers in a smaller, more power-efficient form factor

For more information about HP BladeSystem, visit hp.com/blades.

To learn more about each HP BladeSystem server, visit the HP BladeSystem Family Guide at <http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=4AA1-4286ENW> &cc=us&lc=en.

HP ProLiant Servers—MicroServer, 100, and 300e series

Redefining essential and easy-to-use computing



	MicroServer	ML110 G7	ML150 G6	ML330 G6	ML350e Gen8
	Ideal entry-level server with essential features for small business	Perfect first server for growing business	Expandable and affordable for growing businesses	Performance and manageability to scale your business	Essential performance with room to grow
Number of processors	1	1	1 or 2	1 or 2	1 or 2
Maximum number of cores	2	4	8	12	16
Processor family	AMD Turion™ II	Intel® Xeon® E3 Intel® Core™ i3 Intel® Pentium® Intel® Celeron®	Intel® Xeon® 5500 series	Intel® Xeon® 5600 series Intel® Xeon® 5500 series	Intel® Xeon® E5-2400
Maximum processor frequency	1.5 GHz	3.5 GHz	2.53 GHz	2.53 GHz	2.4 GHz
Memory slots	2	4	12	18	12
Maximum memory per server	8 GB	16 GB	48 GB	192 GB	192 GB
Networking ports (embedded)	(1) 1GbE	(2) 1GbE	(1) 1GbE	(2) 1GbE	(2) 1GbE
Maximum FlexibleLOM ports	None	None	None	None	None
Dedicated iLO/LO100 LAN port	N/A	Optional	Optional	Standard	Standard
Maximum drive bays (All drives are hot plug unless otherwise noted)	4 LFF NHP SATA	8 SFF SAS/SATA 4 LFF NHP SAS/SATA	8 LFF SAS/SATA 8 LFF NHP SAS/SATA	8 LFF SAS/SATA/SSD 8 LFF NHP SAS 4 LFF NHP SATA	24 SFF SAS/SATA/SSD 18 LFF SAS/SATA/SSD 4 LFF NHP SATA
Maximum internal storage	8 TB	8 TB	24 TB	24 TB	54 TB
I/O expansion slots	2 PCIe	4 PCIe 2.0	1 PCI 1 PCIe 3 PCIe 2.0	4 PCIe Optional 2 PCI-X	2 PCIe 2.0 4 PCIe 3.0
Form factor	Ultra micro-tower	4U tower	5U tower	5U tower	5U tower
Management	HP MicroServer Remote Access Card (optional)	HP iLO 3 (standard)	HP LO100i (standard)	HP iLO 2 (standard)	HP iLO Management Engine (standard)
Warranty, year(s) (parts/labor/onsite)	1/0/0	1/1/1 WW 3/1/1 Brazil	1/1/1	3/1/1	3/1/1

For additional details on supported options, visit the server QuickSpecs at hp.com/go/quickspecs.

HP ProLiant Servers—MicroServer, 100, and 300e series (continued)

Redefining essential and easy-to-use computing



	DL120 G7	DL320 G6
	Best solution for dedicated groups and applications	Entry compute power with enterprise management for remote or space-constrained installations
Number of processors	1	1
Maximum number of cores	4	6
Processor family	Intel® Xeon® E3 Intel® Core™ i3 Intel® Pentium® Intel® Celeron®	Intel® Xeon® 5600 series Intel® Xeon® 5500 series
Maximum processor frequency	3.5 GHz	2.66 GHz
Memory slots	4	9
Maximum memory per server	16 GB	144 GB
Networking ports (embedded)	(2) 1GbE	(2) 1GbE
Maximum FlexibleLOM ports	None	None
Dedicated iLO/L0100 LAN port	Optional	Optional
Maximum drive bays (All drives are hot plug unless otherwise noted)	8 SFF SAS/SATA 4 LFF SAS/SATA	8 SFF SAS/SATA/SSD 4 LFF SAS/SATA/SSD
Maximum internal storage	8 TB	12 TB
I/O expansion slots	2 PCIe 2.0	2 PCIe Optional 1 PCI-X
Form factor	1U rack	1U rack
Management	HP iLO 3 (standard)	HP iLO 2 (standard)
Warranty, year(s) (parts/labor/onsite)	1/1/1	3/3/3

For additional details on supported options, visit the server QuickSpecs at hp.com/go/quickspecs.

HP ProLiant Servers—MicroServer, 100, and 300e series (continued)

Redefining essential and easy-to-use computing



	DL160 G6	DL160 Gen8	DL165 G7	DL360e Gen8
	Designed for general-purpose and compute-intensive environments	High-performance computing with increased manageability in a dense 1U design	Designed for low-cost memory and compute-intensive environments	Essential features in an optimized design
Number of processors	1 or 2	1 or 2	1 or 2	1 or 2
Maximum number of cores	12	16	24	16
Processor family	Intel® Xeon® 5600 series Intel® Xeon® 5500 series	Intel® Xeon® E5-2600	AMD Opteron™ 6200 Series AMD Opteron™ 6100 Series	Intel® Xeon® E5-2400
Maximum processor frequency	3.6 GHz	3.0 GHz	3.3 GHz	2.4 GHz
Memory slots	18	24	24	12
Maximum memory per server	288 GB	768 GB	384 GB	384 GB
Networking ports (embedded)	(2) 1GbE	(2) 1GbE	(4) 1GbE	(4) 1GbE
Maximum FlexibleLOM ports	None	(4) 1GbE or (2) 10GbE (optional)	None	None
Dedicated iLO/L0100 LAN port	Optional	Standard	Optional	Standard
Maximum drive bays (All drives are hot plug unless otherwise noted)	8 SFF SAS/SATA/SSD 4 LFF SAS/SATA/SSD 4 LFF NHP SAS/SATA	8 SFF SAS/SATA/SSD 4 LFF SAS/SATA/SSD	8 SFF SAS/SATA/SSD 4 LFF SAS/SATA/SSD 4 LFF NHP SATA	8 SFF SAS/SATA/SSD 4 LFF SAS/SATA/SSD
Maximum internal storage	12 TB	12 TB	12 TB	12 TB
I/O expansion slots	2 PCIe 2.0	2 PCIe 3.0	2 PCIe 2.0	1 PCIe 2.0 1 PCIe 3.0
Form factor	1U rack	1U rack	1U rack	1U rack
Management	HP L0100i (standard)	HP iLO Management Engine (standard)	HP L0100i (standard)	HP iLO Management Engine (standard)
Warranty, year(s) (parts/labor/onsite)	3/0/0 AMS, EMEA 3/1/1 APJ	3/0/0 AMS, EMEA 3/1/1 APJ	3/0/0	3/1/1

For additional details on supported options, visit the server QuickSpecs at hp.com/go/quickspecs.

HP ProLiant Servers—MicroServer, 100, and 300e series (continued)

Redefining essential and easy-to-use computing



	DL180 G6	DL380e Gen8
	Flexible and reliable value server for growing businesses needing expandability	Compute and storage, ideal for essential data center needs
Number of processors	1 or 2	1 or 2
Maximum number of cores	12	16
Processor family	Intel® Xeon® 5600 series Intel® Xeon® 5500 series	Intel® Xeon® E5-2400
Maximum processor frequency	3.2 GHz	2.4 GHz
Memory slots	12	12
Maximum memory per server	192 GB	384 GB
Networking ports (embedded)	(2) 1GbE	(4) 1GbE
Maximum FlexibleLOM ports	None	None
Dedicated iLO/L0100 LAN port	Optional	Standard
Maximum drive bays (All drives are hot plug unless otherwise noted)	25 SFF SAS/SATA/SSD 14 LFF SAS/SATA/SSD	27 ⁵ SFF SAS/SATA/SSD 14 ⁵ LFF SAS/SATA/SSD
Maximum internal storage	42 TB	42 TB
I/O expansion slots	4 PCIe	1 PCIe 2.0 3 PCIe 3.0 Optional 2 PCIe 3.0
Form factor	2U Rack	2U Rack
Management	HP LO100i (standard)	HP iLO Management Engine (standard)
Warranty, year(s) (parts/labor/onsite)	3/0/0	3/1/1

For additional details on supported options, visit the server QuickSpecs at hp.com/go/quickspecs.

⁵ Requires two rear drive cages

HP ProLiant Servers—300p series

THE data center standard with leading performance and versatility



	ML350 G6	ML350p Gen8	ML370 G6/DL370 G6
	Adaptable, reliable mainstay for your business	Best-in-class performance with maximum expandability	4U rack or tower server fine-tuned for virtualization and consolidation environments, well-suited for remote office sites or data centers
Number of processors	1 or 2	1 or 2	1 or 2
Maximum number of cores	12	16	12
Processor family	Intel® Xeon® 5600 series Intel® Xeon® 5500 series	Intel® Xeon® E5-2600	Intel® Xeon® 5600 series Intel® Xeon® 5500 series
Maximum processor frequency	3.2 GHz	3.3 GHz	3.6 GHz
Memory slots	18	24	18
Maximum memory per server	288 GB	768 GB	384 GB
Networking ports (embedded)	(2) 1GbE	(4) 1GbE	(4) 1GbE Optional (2) 10GbE
Maximum FlexibleLOM ports	None	None	None
Dedicated iLO/L0100 LAN port	Standard	Standard	Standard
Maximum drive bays (All drives are hot plug unless otherwise noted)	16 SFF SAS/SATA/SSD 8 LFF SAS/SATA/SSD 6 LFF SAS/SATA	24 SFF SAS/SATA/SSD 18 LFF SAS/SATA/SSD	24 SFF SAS/SATA/SSD 14 LFF SAS/SATA/SSD
Maximum internal storage	24 TB	54 TB	42 TB
I/O expansion slots	6 PCIe 2.0	1 PCIe 2.0 8 PCIe 3.0	1 PCIe 9 PCIe 2.0 Optional 2 PCI-X
Form factor	5U tower or 5U rack	5U tower or 5U rack	4U tower or 4U rack
Management	HP iLO 2 (standard)	HP iLO Management Engine (standard)	HP iLO 2 (standard)
Warranty, year(s) (parts/labor/onsite)	3/3/3	3/3/3	3/3/3

For additional details on supported options, visit the server QuickSpecs at hp.com/go/quickspecs.

HP ProLiant Servers—300p series (continued)

THE data center standard with leading performance and versatility



	DL360 G7	DL360p Gen8
	Performance, efficiency, capacity, and reliability in a 1U compute space	Performance-driven compute and storage density
Number of processors	1 or 2	1 or 2
Maximum number of cores	12	16
Processor family	Intel® Xeon® 5600 series	Intel® Xeon® E5-2600
Maximum processor frequency	3.6 GHz	3.3 GHz
Memory slots	18	24
Maximum memory per server	384 GB	768 GB
Networking ports (embedded)	(4) 1GbE	None
Maximum FlexibleLOM ports	None	(4) 1GbE or (2) 10GbE
Dedicated iLO/L0100 LAN port	Standard	Standard
Maximum drive bays (All drives are hot plug unless otherwise noted)	8 SFF SAS/SATA/SSD	10 SFF SAS/SATA/SSD 8 SFF SAS/SATA/SSD 4 LFF SAS/SATA/SSD
Maximum internal storage	8 TB	12 TB
I/O expansion slots	2 PCIe 2.0 Optional 1 PCI-X	2 PCIe 3.0
Form factor	1U rack	1U rack
Management	HP iLO 3 (standard)	HP iLO Management Engine (standard)
Warranty, year(s) (parts/labor/onsite)	3/3/3	3/3/3

For additional details on supported options, visit the server QuickSpecs at hp.com/go/quickspecs.

HP ProLiant Servers—300p series (continued)

THE data center standard with leading performance and versatility



	DL380 G7	DL380p Gen8	DL385 G7	DL385p Gen8
	Affordable server with robust features for growing businesses and remote sites	THE no compromise data center standard	Performance and flexibility that means business	Performance and flexibility that means business
Number of processors	1 or 2	1 or 2	1 or 2	1 or 2
Maximum number of cores	12	16	32	32
Processor family	Intel® Xeon® 5600 series Intel® Xeon® 5500 series	Intel® Xeon® E5-2600	AMD Opteron™ 6200 Series AMD Opteron™ 6100 Series	AMD Opteron™ 6200 Series
Maximum processor frequency	3.6 GHz	3.3 GHz	3.3 GHz	3.4 GHz
Memory slots	18	24	24	24
Maximum memory per server	384 GB	768 GB	512 GB	768 GB
Networking ports (embedded)	(4) 1GbE	None	(4) 1GbE	None
Maximum FlexibleLOM ports	None	(4) 1GbE or (2) 10GbE	None	(4) 1GbE or (2) 10GbE
Dedicated iLO/L0100 LAN port	Standard	Standard	Standard	Standard
Maximum drive bays (All drives are hot plug unless otherwise noted)	8 SFF SAS/SATA/SSD 16 ⁶ SFF SAS/SATA/SSD 6 LFF SAS/SATA/SSD	8 SFF SAS/SATA/SSD 16 ⁶ SFF SAS/SATA/SSD 25 SFF SAS/SATA/SSD 8 LFF SAS/SATA/SSD 12 LFF SAS/SATA/SSD	8 SFF SAS/SATA/SSD 16 ⁶ SFF SAS/SATA/SSD 6 LFF SAS/SATA/SSD	8 SFF SAS/SATA/SSD 16 ⁶ SFF SAS/SATA/SSD 25 SFF SAS/SATA/SSD 8 LFF SAS/SATA/SSD 12 LFF SAS/SATA/SSD
Maximum internal storage	18 TB	36 TB	18 TB	36 TB
I/O expansion slots	3 PCIe 2.0 Optional 3 PCIe 2.0	2 PCIe 3.0 + 1 PCIe 2.0 Optional 3 PCIe 3.0	3 PCIe 2.0 Optional 3 PCIe 2.0	3 PCIe 2.0 Optional 3 PCIe 2.0 ⁷
Form factor	2U rack	2U rack	2U rack	2U rack
Management	HP iLO 3 (standard)	HP iLO Management Engine (standard)	HP iLO 3 (standard)	HP iLO Management Engine (standard)
Warranty, year(s) (parts/labor/onsite)	3/3/3	3/3/3	3/3/3	3/3/3

For additional details on supported options, visit the server QuickSpecs at hp.com/go/quickspecs.

⁶ With optional second SFF drive cage. Second drive cage requires an expander kit or storage controller.

⁷ With optional second SFF drive cage. Second drive cage requires a storage controller.

HP ProLiant Servers—500 and 900 series

Scale-up servers for your most demanding, compute-intensive workloads



	DL580 G7	DL585 G7	DL980 G7
	THE enterprise standard for business critical workloads	Versatile workhorse for the evolving data center	THE ultimate in x86 computing for the most demanding, data-intensive x86 workloads
Number of processors	2 or 4	2 or 4	4 or 8
Maximum number of cores	40	64	80
Processor family	Intel® Xeon® E7-4800 Intel® Xeon® 7500 series	AMD Opteron™ 6200 Series AMD Opteron™ 6100 Series	Intel® Xeon® E7-4800 Intel® Xeon® E7-2800
Maximum processor frequency	2.67 GHz	3.3 GHz	2.4 GHz
Memory slots	64	48	128
Maximum memory per server	2 TB	1 TB	4 TB
Networking ports (embedded)	(4) 1GbE Optional (2) 10GbE	(4) 1GbE Optional (2) 10GbE	(4) 1GbE Optional (2) 10GbE
Maximum FlexibleLOM ports	None	None	None
Dedicated iLO/L0100 LAN port	Standard	Standard	Standard
Maximum drive bays (All drives are hot plug unless otherwise noted)	8 SFF SAS/SATA/SSD	8 SFF SAS/SATA/SSD	8 SFF SAS/SSD
Maximum internal storage	8 TB	8 TB	7.2 TB
I/O expansion slots	11 PCIe 2.0	11 PCIe 2.0	16 PCIe 2.0
Form factor	4U rack	4U rack	8U rack
Management	HP iLO 3 (standard)	HP iLO 3 (standard)	HP iLO 3 (standard)
Warranty, year(s) (parts/labor/onsite)	3/3/3	3/3/3	3/3/3

For additional details on supported options, visit the server QuickSpecs at hp.com/go/quickspecs.

HP ProLiant Servers—DL2000

Designed to improve efficiency and increase density without additional infrastructure expense—multinode flexibility with four-in-one efficiency



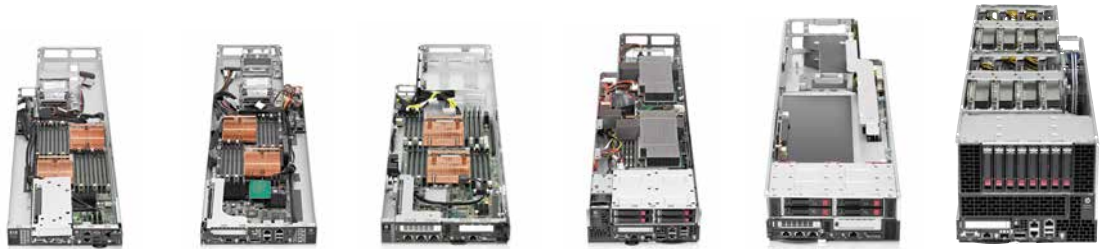
DL170e G6
Multinode efficiency with
4 nodes in 2U density

Number of processors	1 or 2
Maximum number of cores	12
Processor family	Intel® Xeon® 5600 series Intel® Xeon® 5500 series
Maximum processor frequency	3.06 GHz
Memory slots	16
Maximum memory per server	192 GB
Networking ports (embedded)	(2) 1GbE Optional (1) 1GbE
Maximum FlexibleLOM ports	None
Dedicated iLO/LO100 LAN port	Optional
Maximum drive bays (All drives are hot plug unless otherwise noted)	6 SFF SAS/SATA 3 LFF SAS/SATA
Maximum internal storage	9 TB
I/O expansion slots	1 PCIe 2.0 LP Optional 2 PCIe 2.0
Form factor	DL2000 (4 nodes in 2U)
Management	HP LO100i (standard)
Warranty, year(s) (parts/labor/onsite)	1/1/1

For additional details on supported options, visit the server QuickSpecs at hp.com/go/quickspecs.

HP ProLiant Servers—SL6500

Enhanced for scale-out customers with an innovative shared infrastructure to greatly reduce costs and increase power efficiency



	SL170s G6	SL390s 1U G7	SL230s Gen8	SL390s 2U G7	SL250s Gen8	SL390s 4U G7
	Energy efficiency with plenty of storage with 2 nodes in 1U density	First HP server with HPC networking, built to perform	Purpose built compute density and agility for hyperscale	Designed for mainstream GPU accelerated computing	Purpose built performance-density accommodating up to 3 GPUs	Unmatched compute density in a cable-free, 8 GPU server tray
Number of processors	1 or 2	1 or 2	1 or 2	1 or 2	1 or 2	1 or 2
Maximum number of cores	12	12	16	12	16	12
Processor family	Intel® Xeon® 5600 series Intel® Xeon® 5500 series	Intel® Xeon® 5600 series Intel® Xeon® 5500 series	Intel® Xeon® E5-2600	Intel® Xeon® 5600 series Intel® Xeon® 5500 series	Intel® Xeon® E5-2600	Intel® Xeon® 5600 series Intel® Xeon® 5500 series
Maximum processor frequency	3.6 GHz	3.6 GHz	3.0 GHz	3.6 GHz	3.0 GHz	3.6 GHz
Memory slots	16	12	16	12	16	12
Maximum memory per server	256 GB	192 GB	256 GB	192 GB	256 GB	192 GB
Networking ports (embedded)	(2) 1GbE Optional (1) 1GbE	(2) 1GbE (1) SFP+ (10GbE) (1) QSFP (QDR IB)	(2) 1GbE	(2) 1GbE (1) SFP+ (10GbE) (1) QSFP (QDR IB)	(2) 1GbE	(2) 1GbE (1) SFP+ (10GbE) (1) QSFP (QDR IB)
Maximum FlexibleLOM ports	None	None	(4) 1GbE or (2) 10GbE or (2) QSFP: 10GbE/ 40GbE/QDR IB/FDR IB	None	(4) 1GbE or (2) 10GbE or (2) QSFP: 10GbE/ 40GbE/QDR IB/FDR IB	None
Dedicated iLO/LO100 LAN port	Optional	Standard	Standard	Standard	Standard	Standard
Maximum drive bays (All drives are hot plug unless otherwise noted)	2 LFF QR SAS/SATA 4 SFF QR SAS/SATA/ SSD	4 SFF QR SAS/SATA 2 LFF QR SAS/SATA SSD	2 SFF SAS/SATA/SSD 4 SFF QR SAS/SATA/ SSD 2 LFF QR SAS/SATA	4 SFF SAS/SATA 2 SFF QR SAS/SATA	4 SFF SAS/SATA/SSD 4 SFF QR SAS/SATA/ SSD	8 SFF SAS/SATA/SSD
Maximum internal storage	6 TB	6 TB	8 TB	4 TB	8 TB	8 TB
I/O expansion slots	1 PCIe 2.0	1 PCIe 2.0	1 PCIe 3.0	1 PCIe 2.0 3 GPU PCIe 2.0	1 PCIe 2.0 3 GPU PCIe 2.0	1 PCIe 2.0 8 GPU PCIe 2.0
Form factor	SL6500 (8 nodes in 4U)	SL6500 (8 nodes in 4U)	SL6500 (8 nodes in 4U)	SL6500 (4 nodes in 4U)	SL6500 (4 nodes in 4U)	SL6500 (2 nodes in 4U)
Management	HP LO100i (standard)	HP iLO 3 (standard)	HP iLO Management Engine (standard)	HP iLO 3 (standard)	HP iLO Management Engine (standard)	HP iLO 3 (standard)
Warranty, year(s) (parts/labor/onsite)	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1

For additional details on supported options, visit the server QuickSpecs at hp.com/go/quickspecs.

HP Qualified Options for ProLiant Servers

Complete your data center with HP Qualified Options—including processors, drives, IO accelerators, memory, controllers, racks, operating system software, and power and cooling. Strengthen the foundation of your data center with high-caliber products that are

easy to maintain and tailored for ProLiant, Integrity, and HP storage products, giving you confidence in your whole infrastructure.

Please see the following tables for the supported Qualified Options and ProLiant Servers.

HP ProLiant Server supported options

	Essential													Performance										Scale-up			Multinode										
	MicroServer	ML110 G7	ML150 G6	ML330 G6	ML350e Gen8	DL120 G7	DL320 G6	DL160 G6	DL160 Gen8	DL165 G7	DL360e Gen8	DL180 G6	DL380e Gen8	ML350 G6	ML350p Gen8	ML370 G6	DL370 G6	DL360 G7	DL360p Gen8	DL380 G7	DL380p Gen8	DL385 G7	DL385p Gen8	DL580 G7	DL585 G7	DL980 G7	DL170e G6	SL170s G6	SL390s 1U G7	SL230s Gen8	SL390s 2U G7	SL250s Gen8	SL390s 4U G7				
Processors																																					
Intel Celeron		•				•																															
Intel Core		•				•																															
Intel Pentium		•				•																															
Intel Xeon		•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•		•		•		•	•	•	•	•	•	•	•			
AMD Opteron										•												•	•		•												
AMD Turion	•																																				
HP SmartMemory																																					
DDR3 registered (RDIMMs)			•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
DDR3 unbuffered (UDIMMs)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•						•	•	•	•	•	•	•	•			
DDR3 HyperCloud (HDIMM)																			•		•																
DDR3 Load Reduced (LRDIMM)									•		•		•		•			•		•		•															
HP SmartDrives for Gen8																																					
Large form factor (LFF) SAS					•				•		•		•	•				•		•		•															
LFF SATA					•				•		•		•	•				•		•		•															
LFF SATA SSD					•				•		•		•	•				•		•		•															
Small form factor (SFF) SAS					•				•		•		•	•				•		•		•								•		•					
SFF SATA					•				•		•		•	•				•		•		•									•		•				
SFF SATA SSD					•				•		•		•	•				•		•		•									•		•				
SFF SAS SSD									•		•		•	•				•		•		•									•		•				
HP Hard Drives																																					
Large form factor (LFF) SAS		•	•	•		•	•	•		•		•		•		•				•		•					•	•	•	•							
LFF SATA	•	•	•	•		•	•	•		•		•		•		•				•		•					•	•	•	•							
Small form factor (SFF) SAS		•				•	•		•		•		•	•		•				•		•				•	•	•	•	•	•	•	•	•			
SFF SATA		•				•	•	•		•		•		•		•				•		•				•	•	•	•	•	•	•	•	•			
HP Solid State Drives																																					
Small form factor (SFF) SAS SSD							•	•		•		•		•		•		•		•		•			•	•	•	•			•	•	•	•			
SFF SATA SSD							•	•		•		•		•		•				•		•			•	•		•		•	•	•	•	•			
Large from factor (LFF) SATA SSD			•	•			•	•		•		•		•		•				•		•															
HP I/O Accelerators																																					
ioDrive and ioDrive2															•	•	•	•	•	•	•	•	•	•	•	•	•				•						
ioDuo and ioDuo2															•	•	•	•	•	•	•	•	•	•	•	•	•										

• = Supported for this product.

For additional information on HP Qualified Options, visit hp.com/go/hpqo.

For additional details on supported options, visit the server QuickSpecs at hp.com/go/quickspecs.

HP ProLiant Server supported options (continued)

	Essential												Performance										Scale-up			Multinode											
	MicroServer	ML110 G7	ML150 G6	ML330 G6	ML350e Gen8	DL120 G7	DL320 G6	DL160 G6	DL160 Gen8	DL165 G7	DL360e Gen8	DL180 G6	DL380e Gen8	ML350 G6	ML350p Gen8	ML370 G6	DL370 G6	DL360 G7	DL360p Gen8	DL380 G7	DL380p Gen8	DL385 G7	DL385p Gen8	DL580 G7	DL585 G7	DL980 G7	DL170e G6	SL170s G6	SL390s 1U G7	SL230s Gen8	SL390s 2U G7	SL250s Gen8	SL390s 4U G7				
HP Smart Array Controllers																																					
HP Smart Array P800 Controller 3 Gb/s 2 ports internal, 4 ports external								•				•		•	•									•	•												
HP Smart Array P410i Controller 2 ports internal on embedded controller															•	•	•		•		•			•	•	•											
HP Smart Array P212 Controller 1 port internal, 1 port external		•	•	•		•	•	•	•		•			•	•	•	•		•		•			•	•	•	•	•	•		•		•				
HP Smart Array P410 Controller 2 ports internal			•	•		•	•	•	•		•			•	•	•	•		•		•			•	•	•		•	•		•		•				
HP Smart Array P411 Controller 2 ports external			•	•		•	•	•	•		•			•	•	•	•		•		•			•	•	•	•	•	•		•		•				
HP Smart Array P812 Controller 2 ports internal, 4 ports external				•		•	•	•		•		•		•	•	•	•		•		•			•	•	•	•	•	•								
HP Smart Array Controllers for Gen8																																					
HP Dynamic Smart Array B120i 1 internal port on embedded controller									•		•		•																								
HP Dynamic Smart Array B320i 2 internal port on raiser/daughter card											•		•	•																•		•					
HP Smart Array P420i Controller 2 ports internal on embedded controller														•				•		•		•															
HP Smart Array P222 Controller 1 port internal, 1 port external					•				•		•		•	•				•		•		•								•		•					
HP Smart Array P420 Controller 2 ports internal					•				•		•		•	•				•		•		•										•					
HP Smart Array P421 Controller 2 ports external					•				•		•		•	•				•		•		•								•		•					
HP Smart Array P822 Controller 2 ports internal, 4 ports external					•				•		•		•	•				•		•		•															
HP Host Bus Adapters (HBAs)																																					
HP SC11Xe SCSI HBA		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
HP SC08e Host Bus Adapter 2 ports external for P2000sa G3 support		•		•		•	•	•		•		•		•		•	•		•		•			•	•	•											
HP H220 Host Bus Adapter 2 ports internal to support tape and internal server storage					•				•		•		•	•						•		•															
HP H221 Host Bus Adapter 2 ports external to support tape, P2000sa G3, and D2000					•				•		•		•	•				•		•		•								•		•					
HP H222 Host Bus Adapter 1 port internal, 1 port external to support tape, internal storage, and D2000					•				•		•		•	•				•		•		•								•		•					

• = Supported for this product.

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For additional details on supported options, visit the server QuickSpecs at hp.com/go/quickspecs.

HP ProLiant Server supported options (continued)

	Essential													Performance										Scale-up			Multinode											
	MicroServer	ML110 G7	ML150 G6	ML330 G6	ML350e Gen8	DL120 G7	DL320 G6	DL160 G6	DL160 Gen8	DL165 G7	DL360e Gen8	DL180 G6	DL380e Gen8	ML350 G6	ML350p Gen8	ML370 G6	DL370 G6	DL360 G7	DL360p Gen8	DL380 G7	DL380p Gen8	DL385 G7	DL385p Gen8	DL580 G7	DL585 G7	DL980 G7	DL170e G6	SL170s G6	SL390s 1U G7	SL230 Gen8	SL390s 2U G7	SL250 Gen8	SL390s 4U G7					
HP 10GbE FlexibleLOM Networking Adapters																																						
HP Ethernet 10Gb 2-port 530FLR-SFP+ Adapter									•										•		•		•								•		•					
HP FlexFabric 10Gb 2-port 554FLR-SFP+ Adapter									•										•		•		•								•		•					
HP 10GbE Networking Adapters																																						
HP Ethernet 10Gb 2-port 530SFP+ Adapter					•						•		•		•				•		•		•		•	•	•				•		•					
HP NC550SFP 2-port 10GbE Adapter				•			•	•				•		•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•		•				
HP NC552SFP 2-port 10GbE Adapter				•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				
HP NC522SFP 2-port 10GbE Adapter				•				•				•		•		•	•		•		•		•		•	•	•			•		•		•				
HP NC523SFP 2-port 10GbE Adapter				•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•		•		•					
HP NC524SFP 2-port 10GbE Adapter														•		•	•							•	•	•												
HP 1GbE FlexibleLOM Networking Adapters																																						
HP Ethernet 1Gb 4-Port 331FLR Adapter									•										•		•		•								•		•					
HP 1GbE Networking Adapters																																						
HP Ethernet 1Gb 2-port 332T Adapter					•				•	•	•		•		•				•		•		•		•	•	•				•		•					
HP Ethernet 1Gb 2-port 361T Adapter					•				•	•	•		•		•				•		•		•		•	•	•				•		•					
HP Ethernet 1Gb 4-port 331T Adapter					•				•	•	•		•		•				•		•		•		•	•	•				•		•					
HP NC112T 1-port 1GbE Adapter	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				
HP NC360T 2-port 1GbE Adapter		•	•	•		•	•	•		•		•		•		•	•		•		•		•		•	•	•		•		•		•					
HP NC364T 4-port 1GbE Adapter			•	•					•		•			•		•	•		•		•		•		•	•	•		•		•		•					
HP NC365T 4-port 1GbE Adapter		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				
HP NC375T 4-port 1GbE Adapter		•	•	•		•	•	•		•		•		•		•	•		•		•		•		•	•	•		•		•		•					
HP NC373F 1-port 1GbE Multifunction Adapter			•	•		•	•	•		•		•		•		•	•		•		•		•		•	•	•		•		•		•					
HP NC373T 1-port 1GbE Multifunction Adapter		•	•	•		•	•	•		•		•		•		•	•	•	•	•	•	•	•	•	•	•	•		•		•		•					
HP NC382T 2-port 1GbE Multifunction Adapter		•	•	•		•	•	•		•		•		•		•	•	•	•	•	•	•	•	•	•	•	•		•		•		•					
HP InfiniBand Host Channel Adapters (HCAs)																																						
InfiniBand host channel adapters				•			•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				
HP Dual Function FlexibleLOM Adapters																																						
HP IB FDR/EN 10/40Gb 2P 544FLR-QSFP Adapter									•										•		•		•								•		•					
HP IB QDR/EN 10Gb 2P 544FLRQ-SFP Adapter									•										•		•		•								•		•					
HP Dual Function Adapters																																						
HP IB FDR/EN 10/40Gb 2P 544QSFP Adapter									•		•		•		•		•	•	•	•	•	•	•								•		•					

• = Supported for this product.

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HP ProLiant Server supported options (continued)

	Essential													Performance							Scale-up		Multinode										
	MicroServer	ML110 G7	ML150 G6	ML330 G6	ML350e Gen8	DL120 G7	DL320 G6	DL160 G6	DL160 Gen8	DL165 G7	DL360e Gen8	DL180 G6	DL380e Gen8	ML350 G6	ML350p Gen8	ML370 G6	DL370 G6	DL360 G7	DL360p Gen8	DL380 G7	DL380p Gen8	DL385 G7	DL385p Gen8	DL580 G7	DL585 G7	DL980 G7	DL170e G6	SL170s G6	SL390s 1U G7	SL230s Gen8	SL390s 2U G7	SL250s Gen8	SL390s 4U G7

HP Common Slot Power Supplies

HP 460W Common Slot Gold Hot Plug Power Supply		• ^a			• ^a		• ^a	•			•	•	•	•	•	•	•	•	•	•	•	•	•										
HP 460W Common Slot Platinum Hot Plug Power Supply								•			•						•		•		•												
HP 460W Common Slot Platinum Plus Hot Plug Power Supply					• ^a			• ^a	•		•	•	•	•	•			•		•		•								•		•	
HP 750W Common Slot Gold Hot Plug Power Supply			• ^a	• ^a	• ^a			•		•	•	•	•	•	•	•	•	•	•	•	•	•	•					•	•	•	•	•	•
HP 750W Common Slot Platinum Hot Plug Power Supply											•						•		•		•					•	•	•		•		•	•
HP 750W Common Slot Platinum Plus Hot Plug Power Supply					• ^a			• ^a	•		•		•	•	•			•		•		•								•		•	
HP 1200W Common Slot Silver Hot Plug Power Supply Kit														•		•	•	•						•	•		•	•	•		•		•
HP 1200W Common Slot Platinum Hot Plug Power Supply Kit																			•		•			•	•	•	•	•	•		•		•
HP 1200W Common Slot Platinum Plus Hot Plug Power Supply Kit											•		•		•			•		•		•								•		•	
HP 750W Common Slot -48VDC Hot Plug Power Supply								• ^a	•		•		•	•	•			•		•		•							•		•		•
HP 1200W Common Slot -48VDC Hot Plug Power Supply Kit																	•		•		•						•	•	•	•	•	•	•

HP Multi-Output Power Supplies

HP 150W Power Supply	•																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						</
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• = Supported for this product.

For additional information on HP Qualified Options, visit hp.com/go/hpgo.

For additional details on supported options, visit the server QuickSpecs at hp.com/go/quickspecs.

Note: For more information on HP Common Slot Power Supplies, please review the QuickSpecs at http://h18004.www1.hp.com/products/quickspecs/14209_div/14209_div.html.

Note: For more information on HP Multi-Output Power Supplies, please review the QuickSpecs at http://h18004.www1.hp.com/products/quickspecs/14283_div/14283_div.html.

^a Requires an enablement kit (common slot power backplane) to use this power supply

HP Insight Management for ProLiant Servers

HP Insight Management is a complete suite of ProLiant Server lifecycle management capabilities that can flexibly operate from embedded on-system utilities, or your preferred CMS, and now even from the cloud. Managing ProLiant Servers with Insight Management results in increased efficiency and precise control of your server infrastructure resources. With a rich set of capabilities that are easy to access and simple to use it covers critical areas such as server deployment and configuration, health and alerting, energy, power and remote management, and warranty and contract information access via a cloud-based portal. The core components that make up Insight Management are HP iLO Management Engine, HP Insight Control, and HP Insight Online. With Insight Management's proactive management and built-in automation, ProLiant Servers are so intelligent they practically manage themselves.

HP iLO Management Engine is a complete set of embedded management features supporting the complete lifecycle of the server, from initial deployment through ongoing management to service alerting and support. By delivering comprehensive embedded management that covers every step of the server lifecycle for every server in their environment, HP helps customers speed time to deployment, maximize server and application availability through proactive notification, and dramatically accelerate time to resolution when issues do arise.

HP Insight Control is essential server management that enables you to fully utilize the management capability built into your HP ProLiant Servers. Insight Control delivers powerful capabilities that allow you to proactively monitor ProLiant Server health and performance (both physical and virtual), deploy ProLiant Servers quickly, reduce energy costs, and control ProLiant Servers from anywhere. Additionally, HP Insight Control extends the ProLiant server management experience to customers who have standardized on HP Performance Suite, Microsoft® System Center, and VMware vCenter Server.

HP Insight Online provides one stop, secure access to the information you need to monitor the devices in your IT environment, along with standard warranty and contract services, from anywhere, anytime. Through the HP Support Center portal, Insight Online can automatically display devices remotely monitored by HP Insight Remote Support software and lets you easily track service events and support cases, view device configurations, and proactively monitor your HP contracts and warranties as well as HP Proactive service credit balances.

Insight Management has a rich set of capabilities that are easy to access and simple to use and cover all aspects of the server lifecycle, resulting in increased efficiency and precise control of your ProLiant Servers. Please see the below table outlining the differences between these rich capabilities.

Figure 3. HP insight Management for ProLiant Servers

	HP iLO Advanced	HP Insight Control-Linux	HP Insight Control ¹⁰	HP Insight Online ¹¹
Service and Support Events				● ¹²
Channel Partner Access				● ¹²
Contracts and Warranty Management			● ¹²	●
VMware vCenter Server Integration			●	
Microsoft System Center Integration			●	
Server Migration			●	
Health and Alerting		●	●	● ¹²
Server Deployment		●	●	
Virtual Machine Management		●	●	
Advanced Power Management		●	●	
Performance Management		●	●	
Console Record, Replay, Collaboration	●	●	●	
Virtual Media, Folders, Keyboard, Video, and Mouse	●	●	●	
Alerting, Syslog, Power Management	●	●	●	
HP iLO Management Engine ⁹	●			

For the latest enterprise management integration support, visit hp.com/servers/integration.

For more details about software for HP ProLiant and HP Integrity, visit hp.com/go/insight.

⁹ HP iLO Management Engine, in all HP ProLiant Gen8 servers, includes HP iLO (HP iLO Mobile App., Sea of Sensors Thermal Management), HP Intelligent Provisioning, HP Agentless Management, HP Active Health System.

¹⁰ Windows® and Linux managed nodes

¹¹ Available with standard HP contract, warranty, and Care Pack services in the HP Support Center Portal

¹² Available with Insight Remote Support and customer opt-in

HP Insight Management for ProLiant Servers (continued)

Please see the following table for the supported Insight Management software and ProLiant Servers.

For online readers only: To learn more about the software in the chart below, hover your mouse over the software name to display a URL you can visit for additional information.

Figure 4. HP Insight Management support table for ProLiant Servers

	Essential												Performance								Scale-up			Multinode													
	MicroServer	ML110 G7	ML150 G6	ML330 G6	ML350e Gen8	DL120 G7	DL320 G6	DL160 G6	DL160 Gen8	DL165 G7	DL360e Gen8	DL180 G6	DL380e Gen8	ML350 G6	ML350p Gen8	ML370 G6	DL370 G6	DL360 G7	DL360p Gen8	DL380 G7	DL380p Gen8	DL385 G7	DL385p Gen8	DL580 G7	DL585 G7	DL980 G7	DL170e G6	SL170s G6	SL390s 1U G7	SL230s Gen8	SL390s 2U G7	SL250s Gen8	SL390s 4U G7				
Essential Infrastructure Management Software																																					
HP iLO Management Engine					•				•		•		•		•				•		•		•								•		•				
HP Integrated Lights-Out 3 (HP iLO 3)		•				•												•		•		•			•	•	•			•		•		•			
HP Integrated Lights-Out 2 (HP iLO 2)			•	•			•							•		•	•																				
HP Lights-Out 100i (LO100i)								•		•		•																•	•								
Service Pack for ProLiant (SPP)		•		•	•	•	•		•		•		•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
Insight Control ¹³				•	•	•	•	•	•				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
Insight Control for Microsoft® System Center		•		•	•	•	•		•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
Insight Control for VMware vCenter Server			•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•		•			
Insight Control for Linux ¹⁴				•	•		•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
Systems Insight Manager (SIM)				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
Insight Remote Support		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
Insight Online		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
Advanced Infrastructure Management Software																																					
Matrix OE				•	•		•		•				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			•	•	•	•			
HP Capacity Advisor			•	•	•		•	•	•			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			•	•	•	•	•			
Consolidation software																														•	•	•	•	•			

• = Supported for this product.

For the latest enterprise management integration support, visit hp.com/servers/integration.

For more details about management capabilities for HP ProLiant and HP Integrity, visit hp.com/go/insight

Please see support matrix for additional info:

¹³ Insight Control Support Matrix: <http://h20000.www2.hp.com/bc/docs/support/SupportManual/c03168909/c03168909.pdf>

¹⁴ Insight Control Linux Support Matrix: <http://h20000.www2.hp.com/bc/docs/support/SupportManual/c03239203/c03239203.pdf>



Operating systems and virtual environments for ProLiant Servers

Purchase your entire operating environment from HP. HP resells and provides full-service and support for Microsoft Windows operating systems, Red Hat Linux subscriptions, Novell SUSE Linux subscriptions, Citrix XenServer, Microsoft Hyper-V®, and VMware hypervisors. For the latest operating support information and to learn more visit hp.com/go/ossupport.

HP Intelligent Infrastructure

HP has fundamentally redefined the expectations and economics of the data center. We have eliminated tedious and time-consuming tasks across the IT lifecycle with a smarter, more automated, and self-sufficient infrastructure. It's a game-changing achievement that only the 20-year global leader in x86 servers could deliver. It is the result of our relentless focus on our customers and our ability to turn that into inspired design that is sophisticated, elegant, and simple. The combination of better performance, lower energy requirements, and sophisticated design means that HP ProLiant Gen8 servers can provide up to 1.7 times the compute capability per watt as the previous generation servers.¹⁵

- **Location Discovery Services:** Optimize workload placement with servers that self-identify and inventory themselves.
- **Thermal Discovery Services:** Reduce energy usage and increase compute capacity.
- **Power Discovery Services:** Eliminate power configuration errors, precisely track power usage by rack and server by server, while eliminating manual recordkeeping.¹⁶

To know more about Intelligent Infrastructure and products offered, please visit hp.com/go/infrastructure.

¹⁵ Based on HP internal testing, the 10% power savings comes from a combination of: 1) 20% reduction in system memory power from operating HP SmartMemory at 1.35v DIMM versus 1.5v; 2) 30% reduction in system fan power as a result of ProLiant Sea of Sensors technology improvements; and 3) 5% improvement in system power efficiency provided by new HP ProLiant Gen8 Servers.

¹⁶ Based on an Aperture survey in 2007 57% of all data center outages are the result of human error. This includes 26% caused by PDU and breaker overloads.

HP Solutions for ProLiant Servers

HP can help you gain the full value from your investments with advanced storage devices, such as fabric switching, disk enclosures, and shared storage to ensure you can grow as your business grows, as well as, backup systems, tape drives, auto loaders, and libraries for backup or disaster recovery.

HP Storage Networking—Fabric switching

Whether your company is small, midsize, or a large enterprise, you expect your storage environment to give you improved performance and functionality, faster I/O at the server level, larger network pipes for aggregation, better longevity of solutions, and more room to scale. HP offers an ideal range of Fibre Channel (FC) switches for your SAN, delivering the scalability, performance, and broad interoperability that your mission-critical data and applications demand. Combining ease of use, flexibility, and improved security with cost-effective pricing, these switches are key enablers of your dynamic and adaptive storage networking environment.

To know more about the latest range of HP Fabric Switches, visit

HP Fabric Switches Family Guide: [http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=4AA2-6642ENW &cc=us&lc=en](http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=4AA2-6642ENW&cc=us&lc=en).

Or visit the HP Storage Area Networking page at hp.com/go/SAN

HP Disk Enclosures

Is your storage growing by leaps and bounds, exceeding your current system capacity? Manage your growing storage needs by deploying low-cost, high capacity/performance external storage disk enclosures, ideal for small application environments in small and medium businesses, remote offices, and departmental locations. Modular platform provides investment protection and by purchasing only what is needed today, allows for growth as storage requirements evolve. For small businesses HP Disk Enclosures are a step toward simplifying expansion of your capacity.

To see all of the Disk Enclosure offerings available to meet your needs, visit h18006.www1.hp.com/storage/disk_storage.

HP Shared Storage

Trust your data to the broad selection of HP external storage products ranging from smaller needs with the capability to grow incrementally, to massive installations requiring always-on availability, massive scalability, and unparalleled performance for the most demanding environments. HP also provides powerfully simple management for mid-range arrays; in addition to NAS, modular SAN storage, and disk-to-disk backup with easy-to-use, affordable, and reliable networked storage for small and medium businesses.

To see all of the storage offerings available to meet your needs, visit hp.com/storage.

HP Backup Systems

Take the pain out of backup and disaster recovery across your enterprise with HP StoreOnce Backup Systems. Consolidate multiple concurrent backup streams to a single HP StoreOnce Backup System with industry-leading store and restore performance to significantly reduce your backup window, and help you to meet your SLAs. Increase storage efficiency using the StoreOnce deduplication to retain up to 20x more data, and seamlessly move the data across your enterprise for more flexible disaster recovery and remote office protection. Reduce staff overheads by automating backup and simplifying management from a single pane of glass. With the only solutions to offer high-availability data protection, you can be confident in the availability of your backup.

StoreOnce Backup Systems are also highly scalable to keep pace with unpredictable data growth, offering up to 768 TB of raw capacity.

To learn more about the latest range of StoreOnce products, visit HP disk, tape, software, and services for data protection Family Guide: [http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=4AA1-9471ENW &cc=us&lc=en](http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=4AA1-9471ENW&cc=us&lc=en).

hp.com/go/StoreOnce

hp.com/go/D2D

hp.com/go/B6000

HP Tape Drives, Autoloaders, and Libraries

Tape plays a critical role in the storage strategy for companies of all sizes, from small and midsize businesses to large enterprises. Combined with disk storage in a multi-tier protection strategy, HP Tape products offer a storage solution with low total cost of ownership. Tape is also portable, making it ideal for secure offsite and offline backup, disaster recovery, data compliance, and long-term archiving. Also, the new HP Linear Tape File System (LTFS) functionality makes tape self-describing, file-based, and easy-to-use and provides users with an interface similar to that of a hard disk.

HP Tape Libraries deliver enormous scalability to keep pace with unpredictable data growth. Incorporating between one and 96 tape drives, tape libraries enable enterprises to consolidate and store up to 15 PB (compressed 2:1) of enterprise data.

To learn more about the latest range of tape drives, autoloaders, and libraries, visit hp.com/go/tape.



To learn more on how HP ProLiant Servers and infrastructure can help you confidently lay the foundation for your converged infrastructure, visit hp.com/go/proliant.

HP Support Services

With technology evolving at a rapid pace, it is increasingly important for companies to be able to rely on IT support services that are constantly adapting to address the complexities of today's evolved IT environment. Always On Support Services from HP for ProLiant Servers and BladeSystem redefines support, factoring in the breakthrough capabilities of HP ProLiant Servers and BladeSystem. HP offers a comprehensive set of services to manage and optimize every aspect of the server environment. Our end-to-end lifecycle services include working with your IT team to design your environment from scratch or to integrate new technology into your existing infrastructure. Our services help customers quickly get systems up and running, and provide ongoing reactive and proactive support.

- **HP Foundation Care:** Customers receive cost-effective reactive services with separate or integrated hardware and software support options. This support includes HP Collaborative Support with Integrated Software Vendor (ISV) software problem resolution and enhanced call management.
- **HP Proactive Care:** This advanced support is integrated with both reactive and proactive support. It offers a single point of contact for remote and onsite hardware support delivered by HP technology experts to help customers proactively address potential issues and minimize downtime.
- **HP Data Center Care:** This service supports the customer's entire data center environment and is developed for environments that have HP as well as multivendor equipment. It is customized for the customer's specific needs and SLAs.
- **HP Lifecycle Event Services:** These services give customers comprehensive end-to-end services—covering strategy, planning, deployment, technical, and education services, which can be used at any stage of the solution lifecycle.

We offer easy-to-use, cost effective support packages at various levels to meet your specific business needs. Support packages can include automated 24/7 support with HP Insight Software solutions tailored to meet your needs at no additional cost. These solutions proactively monitor, rapidly identify, and quickly resolve issues. And HP Education Services that help address the challenge of managing costs and resources while keeping up with the latest technology.

For more information, visit hp.com/services/proliant or hp.com/services/bladeSystem.

For customer service training, visit hp.com/learn/proliant.

Or contact your local HP Sales representative or Authorized HP ServiceOne Partner.

HP Financial Services

Not every technology acquisition has to be a traditional cash-and-carry transaction. HP Financial Services offers a variety of customized leasing and financing options to facilitate your HP ProLiant purchase and keep your technology expenditures in line with your overall budget.

For more information, visit hp.com/go/hpfinancialservices.

HP is making the transition to ProLiant Gen8 as easy and affordable as possible. Through our Refresh for Less program, you can start saving money immediately with no upfront cash outlay. The efficiency gains in ProLiant Gen8 servers are so great, that it will actually cost you less to lease and operate ProLiant Gen8 servers.

For more information on Refresh for Less, visit hp.com/go/refresh-for-less

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