

HPE ProLiant DL380 Gen9

2U rack server, dual Intel Xeon E5-2600 v3/v4, 24 x DDR4, iLO 4

FORM FACTOR	SOCKETS	MEMORY	DRIVE BAYS	MANAGEMENT
2U rack	2 x LGA2011-3	24 x DDR4	8 to 24 SFF, 12 LFF	iLO 4

Overview

Refurbished HPE ProLiant DL380 Gen9 2U rack servers, tested and stocked in Doha, with dual Intel Xeon E5-2600 v3 or v4 processors, 24 DDR4 DIMM slots, SFF or LFF drive cages and iLO 4, delivered across Qatar within a day.

The DL380 Gen9 is the 2U counterpart to the DL360 Gen9 and the direct equivalent of the Dell R730: the same E5-2600 v3 and v4 platform and 24 memory slots, in a chassis with up to 24 SFF or 12 LFF drives, up to six PCIe slots and space for double-width GPUs. It was HPE's best-selling server for four years, which is why refurbished units are plentiful, cheap and easy to keep running. For a backup server, a file server, a Proxmox or ESXi host that needs drive bays, or a GPU box on a budget, it is hard to beat on price per bay.

Chassis options

HPE builds the DL380 Gen9 around removable drive cages, so a unit is described by its base chassis and the cages fitted. The two base chassis are SFF (2.5") and LFF (3.5"); they cannot be converted into each other, but SFF units can often be expanded by adding a second or third 8-bay cage.

CHASSIS	FRONT BAYS	DRIVE TYPES	TYPICAL USE
8 SFF	8	SAS, SATA, SSD	Entry virtualisation hosts, application servers
16 SFF	16	SAS, SATA, SSD	General virtualisation and database hosts
24 SFF	24	SAS, SATA, SSD, up to 6 NVMe with the Express Bay kit	All-flash databases, VDI, vSAN nodes
12 LFF	12	SAS, SATA	Bulk capacity, backup targets, file servers, Ceph or ZFS nodes

A rear 2 SFF or 3 LFF cage is available on most configurations, and an internal dual microSD kit gives a hypervisor boot device.

Processors

The DL380 Gen9 takes Intel Xeon E5-2600 v3 (Haswell-EP, 2014) and v4 (Broadwell-EP, 2016) processors in two LGA2011-3 sockets. v4 CPUs need System ROM P89 v2.00 or later and unlock 2400 MT/s memory. Both CPUs in a system must be identical. The list below covers the SKUs most commonly found in refurbished units; the platform supports the full range up to 22 cores.

Xeon E5-2600 v4 (Broadwell-EP)

PROCESSOR	CORES	BASE CLOCK	TDP	MEMORY SPEED
Xeon E5-2620 v4	8	2.1 GHz	85 W	2133 MT/s
Xeon E5-2630 v4	10	2.2 GHz	85 W	2133 MT/s
Xeon E5-2640 v4	10	2.4 GHz	90 W	2133 MT/s
Xeon E5-2650 v4	12	2.2 GHz	105 W	2400 MT/s
Xeon E5-2660 v4	14	2.0 GHz	105 W	2400 MT/s
Xeon E5-2680 v4	14	2.4 GHz	120 W	2400 MT/s
Xeon E5-2690 v4	14	2.6 GHz	135 W	2400 MT/s
Xeon E5-2695 v4	18	2.1 GHz	120 W	2400 MT/s
Xeon E5-2697 v4	18	2.3 GHz	145 W	2400 MT/s
Xeon E5-2698 v4	20	2.2 GHz	135 W	2400 MT/s
Xeon E5-2699 v4	22	2.2 GHz	145 W	2400 MT/s

Xeon E5-2600 v3 (Haswell-EP)

PROCESSOR	CORES	BASE CLOCK	TDP	MEMORY SPEED
Xeon E5-2620 v3	6	2.4 GHz	85 W	1866 MT/s
Xeon E5-2630 v3	8	2.4 GHz	85 W	1866 MT/s
Xeon E5-2640 v3	8	2.6 GHz	90 W	1866 MT/s

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Xeon E5-2650 v3	10	2.3 GHz	105 W	2133 MT/s
Xeon E5-2660 v3	10	2.6 GHz	105 W	2133 MT/s
Xeon E5-2670 v3	12	2.3 GHz	120 W	2133 MT/s
Xeon E5-2680 v3	12	2.5 GHz	120 W	2133 MT/s
Xeon E5-2690 v3	12	2.6 GHz	135 W	2133 MT/s
Xeon E5-2695 v3	14	2.3 GHz	120 W	2133 MT/s
Xeon E5-2697 v3	14	2.6 GHz	145 W	2133 MT/s
Xeon E5-2699 v3	18	2.3 GHz	145 W	2133 MT/s

The lower-tier parts cap memory at 1866 or 2133 MT/s regardless of the DIMMs fitted. If memory bandwidth matters, an E5-2650 v4 or above with v4 silicon runs 2400 MT/s on the same board.

Memory

Twenty-four DDR4 DIMM slots, twelve per processor across four channels. HPE SmartMemory registered (RDIMM) and load-reduced (LRDIMM) modules are supported; they cannot be mixed in the same system. With one CPU installed, only the twelve slots on that side are usable. Third-party DIMMs work but the system reports them as non-HPE memory.

MODULE	CAPACITIES	MAXIMUM SYSTEM MEMORY
RDIMM	8 GB, 16 GB, 32 GB	768 GB with 24 x 32 GB
LRDIMM	32 GB, 64 GB, 128 GB	3 TB with 24 x 128 GB on v4 processors

Populate all four channels per CPU in matched sets: 8, 16 or 24 DIMMs in total for a dual-CPU system. Memory runs at the lower of the DIMM rating and the CPU limit, and three DIMMs per channel drops the speed to 1866 MT/s, so 24-DIMM configurations trade bandwidth for capacity.

Storage and RAID

Drive support depends on the cages fitted. All cages are hot-plug. HPE Smart Array controllers come in two forms: modular (fitted to a dedicated slot) and PCIe card. The controller options are:

CONTROLLER	TYPE	CACHE	RAID LEVELS	NOTES
Dynamic Smart Array B140i	Software RAID (SATA)	None	0, 1, 5, 10	Onboard; SATA only, adequate for boot mirrors
Smart HBA H240ar	Pass-through HBA	None	0, 1, 5 (simple)	Direct disk access for vSAN, Ceph, ZFS, Storage Spaces
Smart Array P440ar	Hardware RAID	2 GB FBWC	0, 1, 5, 6, 10, 50, 60	The common choice for virtualisation and database hosts
Smart Array P840ar	Hardware RAID	4 GB FBWC	0, 1, 5, 6, 10, 50, 60	Larger cache and 16 lanes; for 24 SFF and SSD arrays

The P841 adds external SAS ports for D3600 and D3700 expansion shelves. Supported drive types are 12 Gb/s SAS and 6 Gb/s SATA in hard disk and SSD form, plus NVMe in the Express Bay configuration. Drives need HPE Gen8 or Gen9 Smart Carriers; Gen10 carriers are not interchangeable.

Networking and expansion

Onboard networking is an embedded HPE 331i quad-port 1 GbE adapter, and a FlexibleLOM slot takes a second adapter without using a PCIe slot. Common FlexibleLOM options:

- HPE 366FLR quad-port 1 GbE
- HPE 361FLR-T dual-port 10 GbE BASE-T
- HPE 560FLR-SFP+ dual-port 10 GbE SFP+
- HPE 640FLR-SFP28 dual-port 25 GbE

Beyond the FlexibleLOM, the DL380 Gen9 offers up to six PCIe Gen3 slots across three risers, and the GPU enablement kit supports double-width accelerators such as the NVIDIA Tesla K80, M60 or P40, up to three with the right risers and 1400 W power supplies. Fibre Channel HBAs, 10 GbE adapters and SAS expansion controllers all have room.

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Power supplies

Two hot-plug redundant Flex Slot power supply bays, configured 1+1. Options are 500 W, 800 W and 1400 W in Platinum and Titanium grades. A dual-CPU system with a full memory load and a Smart Array generally sits within the 800 W envelope; GPU configurations need 1400 W units. Both supplies in a system should be the same rating.

Management

Every DL380 Gen9 includes iLO 4 with a dedicated management port. iLO Standard covers remote power, health monitoring and basic alerts; iLO Advanced adds the virtual console, virtual media and remote firmware updates. On current firmware the HTML5 console works in any modern browser without plugins, and a basic Redfish API is available. Advanced licences can be added to any unit, and Intelligent Provisioning handles bare-metal OS installs.

Physical specification

Form factor	2U rack, 2 socket
Height	87.3 mm (2U)
Width	445.4 mm
Depth	Approximately 680 mm for SFF chassis, 730 mm for LFF, without bezel
Weight	Up to approximately 32 kg fully configured
Rails	HPE Easy Install rails, ball-bearing or friction
Operating temperature	10 to 35 °C continuous, with ASHRAE A3 and A4 support in qualified configurations

Supported operating systems

Windows Server 2012 R2, 2016 and 2019; Red Hat Enterprise Linux 6, 7 and 8; SUSE Linux Enterprise Server 12; Ubuntu Server LTS releases; VMware ESXi 6.0, 6.5, 6.7 and 7.0; and Proxmox VE. Windows Server 2022 and ESXi 8.0 run on this platform but are not on HPE's support matrix for it. Confirm your hypervisor's hardware compatibility list before buying if you need vendor support.