HP Z4 G4 Workstation

HP's best-selling performance workstation

Perfect for engineering, visualization and Machine Learning, HP's most popular workstation delivers disruptive performance for a wide spectrum of applications. With a choice of Intel® Xeon® or Core™ X processors, and support for dual extreme graphics, you get all you need, nothing more.

*Product image may differ from actual product

HP recommends Windows 11 Pro for business

Feature-rich functionality

- The Z4 is ahead of its time with more standard features than any other single processor HP workstation. With multiple configuration options, you can choose the perfect blend of components that meet your performance requirements.

Visualization powerhouse

- Visualize your project anytime with the power to move seamlessly between 3D CAD, rendering and simulation applications. The Z4 can easily handle tasks that require high frequency processing, multiple cores and high-powered GPUs for an optimized design process.

HP's most secure workstations

- Advanced security features come standard on every Z4. Rest assured your device, identity and data are safe with security software like HP Client Security Suite Gen3[2] and HP Sure Start Gen3[10] featuring a self-healing BIOS.

Featuring

- Support your unique user needs with a choice of Windows 10 Pro for Workstations 64 or Linux® operating systems.[1]
- Run demanding professional apps with the newest generation Intel® Xeon® processors available with up to 18 cores for powerful performance and productivity.
- Experience disruptive price-performance on multi-threaded applications, or combined workflows such as simulation based design, with Intel® Core™ X-Series processors: the high-performance single-socket processors from Intel®.[8]
- Get serious about graphics and reach peak productivity with access to a breadth of NVIDIA® and AMD professional graphics from entry to high-end 3D.[4]
- Install pro-grade storage hardware and elevate your storage-bound apps without sacrificing standard PCIe slots.
- The simply stunning design features front and rear handles, so you can easily relocate your system.
- Save space within your office layout with a chassis that is 10% smaller than the previous generation.
- Multiple high-speed network connections are easy and speedy with dual embedded 1GbE LAN ports with Thunderbolt™ 3 technology* for fast data transfers.[6,9]
- The optional dual front I/O USB 3.1 G2 Type C™ module lets you transfer data to devices using modern connection technology at higher data rates.[5]
- Optional self-encryption drives thwart outside access so your valuable IP won't fall into the wrong hands.[4]

HP Z4 G4 Workstation Specifications Table

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Available Operating Systems	Windows 11 Pro[1,21,25] Windows 11 Pro for Workstations[1,21,24] Windows 10 Pro[1,21,25] Windows 10 Pro for Workstations[1,21,24] Ubuntu 20.04 LTS[33] Red Hat® Enterprise Linux®[32] (Ubuntu 20.04 LTS, 64 bit version, HP Linux-ready, Red Hat® Enterprise Linux® drop-in-box, 1 year entitlement)
Processor family[26,30]	Intel® Core™ X-series processor; Intel® Xeon® W processor
Available Processors[3,29,34]	Intel® Core™ i9-10900X (3.7 GHz base frequency, up to 4.7 GHz with Intel® Turbo Boost Technology, 19.25 MB L3 cache, 10 cores); Intel® Core™ i9-10920X (3.5 GHz base frequency, up to 4.8 GHz with Intel® Turbo Boost Technology, 19.25 MB L3 cache, 12 cores); Intel® Core™ i9-10940X (3.3 GHz base frequency, up to 4.8 GHz with Intel® Turbo Boost Technology, 19.25 MB L3 cache, 14 cores); Intel® Core™ i9-10980XE (3.0 GHz base frequency, up to 4.8 GHz with Intel® Turbo Boost Technology, 24.75 MB L3 cache, 18 cores); Intel® Xeon® W-2123 (3.6 GHz base frequency, up to 3.9 GHz with Intel® Turbo Boost Technology, 8.25 MB L3 cache, 4 cores); Intel® Xeon® W-2125 (4.0 GHz base frequency, up to 4.5 GHz with Intel® Turbo Boost Technology, 8.25 MB L3 cache, 4 cores); Intel® Xeon® W-2133 (3.6 GHz base frequency, up to 3.9 GHz with Intel® Turbo Boost Technology, 8.25 MB L3 cache, 6 cores); Intel® Xeon® W-2255 (3.7 GHz base frequency, up to 4.7 GHz with Intel® Turbo Boost Technology, 19.25 MB L3 cache, 10 cores); Intel® Xeon® W-2265 (3.5 GHz base frequency, up to 4.8 GHz with Intel® Turbo Boost Technology, 19.25 MB L3 cache, 12 cores); Intel® Xeon® W-2223 (3.6 GHz base frequency, up to 3.9 GHz with Intel® Turbo Boost Technology, 8.25 MB L3 cache, 4 cores); Intel® Xeon® W-2225 (4.1 GHz base frequency, up to 4.6 GHz with Intel® Turbo Boost Technology, 8.25 MB L3 cache, 4 cores); Intel® Xeon® W-2235 (3.8 GHz base frequency, up to 4.6 GHz with Intel® Turbo Boost Technology, 8.25 MB L3 cache, 6 cores); Intel® Xeon® W-2245 (3.9 GHz base frequency, up to 4.5 GHz with Intel® Turbo Boost Technology, 16.5 MB L3 cache, 8 cores) (Configurations with the Intel® Core™ X processors support only a subset of the full features of the Z4 G4 system, including, but not limited to: memory type and maximum memory, PCIe slot configurations, M.2 storage capacity, GbE interface and manageability features. Please refer to the product QuickSpecs for complete details.)
Chipset[26,27]	Intel® C422; Intel® X299
Maximum memory	512 GB DDR4-2933 ECC SDRAM (for Intel® Xeon® configurations); 256 GB DDR4-2933 non-ECC SDRAM (for Intel® Core™ X configurations)[8] Transfer rates up to 2666 MT/s.
Memory slots	8 DIMM
Internal storage	up to 300 GB SAS (15000 rpm)[4,23] 500 GB up to 2 TB SATA (7200 rpm)[4] up to 500 GB SATA SED (7200 rpm)[4] 1 TB up to 8 TB 7200 rpm SATA Enterprise[4] 256 GB up to 2 TB SATA SSD[4] 256 GB up to 512 GB SATA SED Opal 2 SSD[4] 240 GB up to 1920 GB SATA Enterprise SSD[4] 256 GB up to 2 TB HP Z Turbo Drive PCIe® NVMe™ SSD[4] 256 GB up to 2 TB HP Z Turbo Drive PCIe® NVMe™ SED SSD M.2[4] 256 GB up to 8 TB HP Z Turbo Drive Quad Pro PCIe® SSD[4,24] 256 GB up to 4 TB HP Z Turbo Drive Dual Pro PCIe® SSD[4,24]
Additional storage	HP SD 4 Media Card Reader (optional)
Optical drive	HP Slim DVD-ROM; HP Slim Blu-ray Writer; HP Slim DVD-Writer[5,6]
Available Graphics	Entry 3D: NVIDIA® T600 (4 GB GDDR6 dedicated); NVIDIA® T400 (2 GB GDDR6 dedicated); NVIDIA® T400 (4 GB GDDR6 dedicated); AMD Radeon™ Pro W6600 (8 GB GDDR6 dedicated) Mid-range 3D: NVIDIA RTX™ A2000 (12 GB GDDR6 dedicated); NVIDIA® T1000 (8 GB GDDR6 dedicated); NVIDIA® T1000E (8 GB GDDR6 dedicated); AMD Radeon™ Pro WX 3200 (4 GB GDDR5 dedicated); NVIDIA® Quadro® P1000 (4 GB GDDR5 dedicated); AMD Radeon™ Pro WX 3100 Graphics (4 GB GDDR5 dedicated); NVIDIA® T1000 (4 GB GDDR6 dedicated); NVIDIA RTX™ A2000 (6 GB GDDR6 dedicated); NVIDIA RTX™ A2000 12GB High-end 3D: NVIDIA RTX™ A4000 (16 GB GDDR6 dedicated); AMD Radeon™ Pro W6800 (32 GB GDDR6 dedicated); NVIDIA RTX™ A4500 (20 GB GDDR6 dedicated); AMD Radeon™ Pro W6600 (8 GB GDDR5 dedicated) Ultra High-end 3D: NVIDIA® Quadro® SYNC II; NVIDIA® RTX™ A5000 (24 GB GDDR6 dedicated); NVIDIA® RTX™ A6000 (48 GB GDDR6 dedicated)[19]
Expansion slots	1 PCIe 3 x16; 2 M.2 PCIe 3 x4
Ports and Connectors	Front (Premium version): ; Rear: 1 audio-in; 1 audio-out; 1 PS/2 keyboard port; 1 PS/2 mouse port; 1 serial; 2 RJ-45 (1 GbE); 6 USB 3.1 Gen 1 ; (The Intel® Core™ X-Series processor configurations only have one RJ45 port and 5 Rear USB 3.1 Gen 1 ports available. The serial port is optional.)
Input devices	HP PS/2 Business Slim Keyboard; HP 320K Wired Keyboard; HP USB Business Slim Keyboard; USB Premium wired keyboard; USB Smart Card CCID keyboard[10]; 3Dconnexion CAD Mouse; HP USB Optical Mouse; HP PS/2 Mouse; HP USB Hardened Mouse[10];
Communications	LAN: Intel® I210-T1 PCIe® GbE; Intel® I350-T2 dual-port GbE NIC; Intel® X550-T2 dual-port GbE NIC; Intel® X710-DA2 dual-port GbE NIC; Integrated Intel® I219-LM PCIe® GbE; Allied Telesis AT-2911T/2-901 dual-port 1 GbE NIC; Integrated Intel® I210-AT PCIe® GbE; Intel® I350-T4 dual-port GbE NIC; Intel® 10 GbE SFP+ SR transceiver[20]; WLAN: Intel® Dual Band Wireless-AC 8265 802.11 a/b/g/n/ac (2x2) Wi-Fi® and Bluetooth® 4.2 Combo, non-vPro™;
Drive Bays	Two 5.25"; Two 2.5" or 3.5"[16]
Software	ZCentral Remote Boost;[13,31]
Security management	Full volume encryption; HP Keyed Cable Lock Kit; HP Secure Erase; HP Sure Start Gen3; Kensington lock slot; Secure authentication; TPM 2.0 certified; HP Device Access Manager; HP Sure Click; HP BIOSphere Gen3; HP Client Security Manager Gen3; HP MIK/SCCM Gen2; Self Encrypting Drive (SED); HP Wolf Security Pro Edition;[7,14,15,17,18,28]
Power	1000 W internal power supply, up to 90% efficiency, active PFC; 465 W internal power supply, up to 90% efficiency, active PFC; 750 W internal power supply, up to 90% efficiency, active PFC[22]
Dimensions	38.6 x 16.9 x 44.5 cm
Weight	Starting at 10.2 kg; (Exact weight depends on configuration.)
Ecolabels	EPEAT® registered configurations available; TCO Certified configurations available[11,35]
Energy star certified (series fixed)	ENERGY STAR® certified
Sustainable impact specifications	Low halogen[12]
Compatible displays	All HP Z Displays and HP DreamColor Displays are supported.
Warranty	3 year (3-3-3) limited warranty and service offering includes 3 years of parts, labor and on-site repair. Terms and conditions vary by country. Certain restrictions and exclusions apply.

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Accessories and services (not included)

Receive 5 years of next business day onsite HW Support from an HP-qualified technician for your computing device, if the issue cannot be solved remotely.
Product number: U7944E

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Messaging Footnotes

1 Not all features are available in all editions or versions of Windows. Systems may require upgraded and/or separately purchased hardware, drivers, software or BIOS update to take full advantage of Windows® functionality. Windows 10 is automatically updated, which is always enabled. ISP fees may apply and additional requirements may apply over time for updates. See http://www.windows.com .
2 HP Client Security Suite features vary by platform.
4 Multicore is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. Intel's numbering, branding and/or naming is not a measurement of higher performance.
5 Sold separately or as an optional feature.
6 HP Z Premium Front I/O 2xUSB-A 2xUSB-C is sold separately or as an optional feature.
8 Windows 10 Pro is preinstalled. Windows 7 is not supported on the Intel® Core™ X - Series processor configurations. Configurations with the Intel® Core™ X processors support only a subset of the full features of the Z4 G4 system, including, but not limited to: memory type and maximum memory, PCIe slot configurations, M.2 storage capacity, GbE interface and manageability features. Please refer to the product QuickSpecs for complete details.
9 Dual embedded 1 GbE LAN ports on Intel® Xeon® processor configurations; single embedded 1 GbE LAN ports on Intel® Core™ X processor configurations.
10 HP Sure Start Gen 3 is available on HP EliteBook, HP ZBook, and HP Z Workstation products equipped with Intel® 7th generation processors.
Screen image courtesy of Renault Sport Racing.
Screen image courtesy of Chris McLennan.

Technical Specifications Footnotes

1 Not all features are available in all editions or versions of Windows. Systems may require upgraded and/or separately purchased hardware, drivers, software or BIOS update to take full advantage of Windows functionality. Windows is automatically updated and enabled. High speed internet and Microsoft account required. ISP fees may apply and additional requirements may apply over time for updates. See http://www.windows.com .
3 Some Intel® vPro™ functionality of this technology, such as Intel® Active management technology and Intel Virtualization technology, requires additional 3rd party software in order to run. Availability of future "virtual appliances" applications for Intel vPro technology is dependent on 3rd party software providers. Microsoft Windows required. Intel vPro is supported only with Intel® Xeon™ configurations.
4 For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 35GB (for Windows) is reserved for system recovery software.
5 Duplication of copyrighted material is strictly prohibited. Actual speeds may vary. Double Layer media compatibility will widely vary with some home DVD players and DVD-ROM drives. Note that DVD-RAM cannot read or write to 2.6GB Single Sided/5.2 Double Sided-Version 1.0 Media. No support for DVD RAM.
6 With Blu-Ray, certain disc, digital connection, compatibility and/or performance issues may arise, and do not constitute defects in the product. Flawless playback on all systems is not guaranteed. In order for some Blu-ray titles to play, they may require a DVI or HDMI digital connection and your display may require HDCP support. HD-DVD movies cannot be played on this Desktop PC.
7 HP Client Security Manager G3 - Requires Windows and Intel® 7th or 8th generation processors.
8 For systems installed with Microsoft Windows 7 (Ultimate, Enterprise or Professional), the maximum accessible system memory is 192 GB. Windows 7 is not supported on the Intel® Core X TM - Series processor configurations. Windows 7 is not supported on the Intel® Core X TM - Series processor configurations. For systems installed with Microsoft Windows 8.x (Enterprise or Pro), the maximum accessible system memory is 512 GB.
9 Wireless access point and Internet access required. Availability of public wireless access points limited. The specifications for the 802.11ac WLAN are draft specifications and are not final. If the final specifications differ from the draft specifications, it may affect the ability of the notebook to communicate with other 802.11 ac WLAN devices.
10 Optional or add-on feature.
11 Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. Status varies by country. Visit www.epeat.net for more information.
12 External power supplies, power cords, cables and peripherals are not low halogen. Service parts obtained after purchase may not be low halogen. (Note: optional low-halogen power cables are available for some countries in Europe)
13 HP Z Central Remote Boost Sender does not come preinstalled on Z Workstations but can be downloaded and run on all Z desktop and laptops without license purchase through 2022. With non-Z sender devices, purchase of perpetual individual license or perpetual floating license per simultaneously executing versions and purchase of Z Central Remote Boost Software Support is required. Z Central Remote Boost Sender for non-Z Hardware requires a license and Windows 10, RHEL/CentOS (7 or 8), or UBUNTU 18.04 or 20.04 LTS operating systems. macOS (10.14 or newer) operating system and ThinPro 7.2 are only supported on the receiver side. Requires network access. The software is available for download at hp.com/Z CentralRemoteBoost.
14 HP BIOSphere G3 requires Intel® 7th generation processors.
15 HP Secure Erase: For the methods outlined in the National Institute of Standards and Technology Special Publication 800-88 "Clear" sanitation method.
16 Each bay is configurable to 2.5" or 3.5".
17 HP MIK/SCCM - HP Manageability Integration Kit can be downloaded from http://www.hp.com/go/clientmanagement .
18 HP Keyed Cable Lock Kit is available only as an aftermarket option.
19 NVIDIA® Quadro® SYNC II sold separately
20 I210-AT, I219-V are available in Intel® Xeon® configurations only.
21 In accordance with Microsoft's support policy, HP does not support the Windows 8 or Windows 7 operating system on products configured with Intel and AMD 7th generation and forward processors or provide any Windows 8 or Windows 7 drivers on http://www.support.hp.com .
22 465W and 750W power supply options are only available for Intel® Xeon® configurations.
23 Supported only on Intel® Xeon® configurations: Not supported with Intel® Core X TM processor configurations.
24 Available on Intel® Xeon® W processor configurations only.
25 Available on Intel® Core™ i7 X-Series processor configurations only.
26 Choice of Intel Core X processor family will affect other configuration choices and system feature set availability; refer to the product Quickspecs for details.
27 Intel® C422 for Intel® Xeon® configurations, Intel® X299 for Intel® Core™ X configurations.
28 HP Sure Click is available on most HP PCs and supports Microsoft® Internet Explorer, Google Chrome, and Chromium™. Supported attachments include Microsoft Office (Word, Excel, PowerPoint) and PDF files in read only mode, when Microsoft Office or Adobe Acrobat are installed.
29 Intel® Turbo Boost technology requires a PC with a processor with Intel Turbo Boost capability. Intel Turbo Boost performance varies depending on hardware, software and overall system configuration. See www.intel.com/technology/turboboost for more information.
30 Your product does not support Windows 8 or Windows 7. In accordance with Microsoft's support policy, HP does not support the Windows® 8 or Windows 7 operating system on products configured with Intel® and AMD 7th generation and forward processors or provide any Windows® 8 or Windows 7 drivers on http://www.support.hp.com
31 HP Performance Advisor – Internet access required.
32 For detailed Linux® OS/hardware support information, see: http://www.hp.com/linux_hardware_matrix
33 Not all features are available in all editions or versions of Ubuntu. Systems may require upgraded and/or separately purchased hardware, drivers, software or BIOS to take full advantage of Ubuntu functionality. Ubuntu may be automatically updated. ISP fees may apply and additional requirements may apply over time for updates. Ubuntu not yet available for Core X configurations.
34 Multicore is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. Intel's numbering, branding and/or naming is not a measurement of higher performance.
35 TCO Certified configurations available when ENERGY STAR configurations are selected with a USB Type-C® connector. ENERGY STAR available with a combination of high-performance CPU's, high-performance GPU's and select memory configurations.
36 Front entry contain: 1 headset connector; 4 USB 3.1 (1 charging).

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