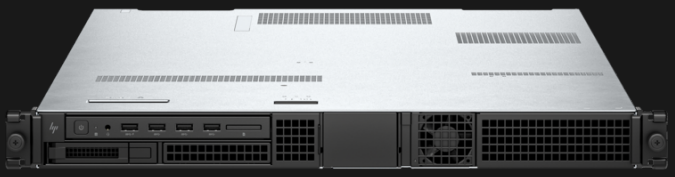
# HP Z4 Rack G5 Workstation

## Compactly Rackable. Uniquely Powerful



**Empower a flexible workforce with Z by HP pro-level performance in a high-density 1U footprint. Specifically designed to pack more units in a single rack, this slim powerhouse delivers the performance your team needs. All with the ability to upgrade and expand as compute demands evolve.**

### Dedicated Workstation Power

Equip your teams to work from anywhere with the powerful Z4 Rack. Access dedicated workstation performance from almost any end point device with HP Anyware.[2] Add the HP Anyware Remote System Controller and manage hardware all from a single interface.[3]

### Workhorse Power. Compact 1U size

This 1U workstation packs impressive power for advanced VFX, 3D modeling, and rendering. Get up to 24 cores in an Intel® Xeon® W-2400 CPU,[4] support for NVIDIA RTX™ 6000 Ada graphics,[5] and up to 256 GB DDR5 memory,[6] all with room to upgrade and expand.

### Comprehensive Security, Trusted Reliability

Get peace of mind with a workstation that's built to endure. The Z4 Rack undergoes 360K hours of rigorous testing and is certified for pro apps. And with HP Wolf Security for Business, it's protected below, in, and above the OS.[7]

### Designed with the planet in mind[8]

At HP, we care about the impact our products have on our people, communities, and the planet. Z products are designed with sustainability at the forefront. So, you can take pride in choosing Z, knowing that you are helping protect our shared future.

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## Operating Systems
Support your unique user needs with a choice of Windows 11 Pro for Workstations,[9] WSL2[10] or Linux® operating systems.

## Intel® Xeon® W-Series Processors
Get the performance and productivity you need to run demanding professional applications with up to a 24-core Intel® Xeon® W-series processor[4] and ECC Memory[11] for data reliability.

## NVIDIA RTX™ Graphics
Tackle advanced visual effects, rendering, and simulation projects with up to one NVIDIA RTX™ 6000 Ada GPU or support for up to two NVIDIA RTX™ 4000 Ada GPUs.[12]

## Memory
Accelerate your workflow and power through memory-intensive workloads with up to 256 GB DDR5 ECC memory[13] for fast visualization, advanced visual effects, and rendering.

## Storage
Get max storage across a variety of device options, including two front-accessible NVMe bays, dual pro PCIe devices, and two onboard M.2 connectors.[14]

## HP Anyware software
Access the power of the Z4 Rack from any device with HP Anyware software,[2] delivering fast responsiveness and image quality, even under varying network connections.

## HP Anyware Remote System Controller
When paired with Z by HP desktops IT managers can perform out-of-band management tasks such as pre-boot access, BIOS updates, and re-imaging —from anywhere.[3]

## Power Supply
With dual power supply,[15] you have power to stay up and running. Choose an aggregated option—combining two 675W power supplies—or a redundant option for critical workflows.

## Expansion Slots
Support the highest performance workflows, today and beyond, with up to three PCIe x16 Gen 5 slots.[16]

## More Units in Your Data Center
Maximize space with this compact 1U workstation. Get 4x the number of units in a standard full-size rack than you would with a HP Z4 G5, and deliver dedicated power to more of your users.

## Rack Kit
The HP Z4 Rack Rail Rack Kit provides 26 inches of travel, allowing the unit to slide completely out of the rack for servicing and installation.[17]

## Long Lifecycle
Designed for simpler IT management, the Z4 Rack is built for longevity with a multi-year lifecycle. Plan for the future and avoid re-qualifying devices yearly, saving you time and money.

# HP Z4 Rack G5 Workstation

## Specifications Table

| | |
|---|---|
| **Available Operating Systems** | Windows 11 Pro for Workstations[1,22]<br>Ubuntu 22.04 LTS<br>Linux® Ready[2]<br>Red Hat® Enterprise Linux® |
| **Processor family[3,4]** | Intel® Xeon® W processor |
| **Available Processors[24]** | Intel® Xeon® W7-2495X (2.5 GHz base frequency, up to 4.6 GHz with Intel® Turbo Boost Technology, 45 MB L3 cache, 24 cores, 48 threads)<br>Intel® Xeon® W7-2475X (2.6 GHz base frequency, up to 4.6 GHz with Intel® Turbo Boost Technology, 37.5 MB L3 cache, 20 cores, 40 threads)<br>Intel® Xeon® W5-2465X (3.1 GHz base frequency, up to 4.5 GHz with Intel® Turbo Boost Technology, 33.75 MB L3 cache, 16 cores, 32 threads)<br>Intel® Xeon® W5-2455X (3.2 GHz base frequency, up to 4.4 GHz with Intel® Turbo Boost Technology, 30 MB L3 cache, 12 cores, 24 threads)<br>Intel® Xeon® W5-2445 (3.1GHz base frequency, up to 4.4 GHz with Intel® Turbo Boost Technology, 26.25 MB L3 cache, 10 cores, 20 threads)<br>Intel® Xeon® W3-2435 (3.1 GHz base frequency, up to 4.3 GHz with Intel® Turbo Boost Technology, 22.5 MB L3 cache, 8 cores, 16 threads)<br>Intel® Xeon® W3-2425 (3.0 GHz base frequency, up to 4.2 GHz with Intel® Turbo Boost Technology,15 MB L3 cache, 6 cores, 12 threads)<br>Intel® Xeon® W3-2423 (2.1 GHz base frequency, up to 4.0 GHz with Intel® Turbo Boost Technology, 15 MB L3 cache, 6 cores, 12 threads) |
| **Chipset** | Intel® W790 |
| **Form factor** | 1U rackable workstation |
| **Maximum memory** | 256 GB DDR5-4800 ECC SDRAM [7]<br>Transfer rates up to 4800 MT/s. |
| **Memory slots** | 4 DIMM |
| **Internal storage** | 1 TB up to 12 TB 7200 rpm SATA Enterprise[5]<br>512 GB up to 4 TB HP Z Turbo Drive PCIe® NVMe™ SSD M.2[5]<br>512 GB up to 4 TB HP Z Turbo Drive PCIe® NVMe™ SED Opal 2 M.2 SSD[5]<br>512 GB up to 4 TB HP Z Turbo Drive Dual Pro PCIe® SSD[5] |
| **Available Graphics** | Ultra High-End:<br>NVIDIA RTX™ A6000 (48 GB GDDR6 dedicated)<br>NVIDIA RTX™ A5000 (24 GB GDDR6 dedicated)<br>AMD Radeon™ Pro W6800 (32 GB GDDR6 dedicated)<br>NVIDIA RTX™ 6000 Ada Generation (48 GB GDDR6 dedicated)<br>NVIDIA RTX™ 5000 Ada Generation (32 GB GDDR6 dedicated)<br>High-End:<br>NVIDIA RTX™ A4500 (20 GB GDDR6 dedicated)<br>NVIDIA RTX™ A4000 (16 GB GDDR6 dedicated)<br>NVIDIA RTX™ A2000 (12 GB GDDR6 dedicated)<br>NVIDIA RTX™ 4000 Ada Generation (20 GB GDDR6 dedicated)<br>NVIDIA RTX™ 2000 Ada Generation (16 GB GDDR6 dedicated)<br>NVIDIA RTX™ 4500 Ada Generation (24 GB GDDR6 dedicated)[23]<br>Mid-Range:<br>NVIDIA® T1000 (8 GB GDDR6 dedicated)<br>Entry:<br>NVIDIA® T400 (4 GB GDDR6 dedicated) |
| **Audio** | Realtek ALC3205-CG |
| **Expansion slots** | 2 M.2 PCIe 4 x4; 1 PCIe 5 x16 mechanical (x8 electrical); 1 PCIe 5 x8 mechanical (x8 electrical); 1 PCIe 5 x16 mechanical (x8 or x16 electrical) (PCIe slots 2 and 3 only come standard if the configuration demands them. Otherwise, they are an optional add-on feature via the Dual Slot Riser, which can be configured CTO or aftermarket.) |
| **Ports and connectors** | Front: 4 USB Type-A 5Gbps signaling rate (1 charging); 1 headset connector ;<br>Rear: 2 USB Type-A 5Gbps signaling rate; 1 RJ-45 ;<br>Optional Ports: Front Premium Version: 1 headset connector; 2 SuperSpeed USB Type-C® 10Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4, HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate (1 charging) |

# HP Z4 Rack G5 Workstation

## Specifications Table

| | |
|---|---|
| **Keyboard** | HP 320K Wired Keyboard[8] |
| **Mouse** | HP Wired Desktop 320M mouse[8] |
| **Communications** | LAN: Intel® Ethernet Network Adapter I225-T1; NVIDIA® Mellanox ConnectX-6 DX Dual Port 10/25GbE SFP28 NIC; Allied Telesis AT-2911T/2-901 dual-port 1GbE NIC; Allied Telesis AT-2914SX/LC PCIe Fiber NIC; Intel® X550-T2 dual-port NIC; HP 1 GbE LC Fiber Flex IO port; HP 10 GBASE-T Flex IO port; HP 2.5 GbE Flex IO port[25]; |
| **Drive Bays** | External: Two 2.5" M.2;<br>Internal: Two 2.5" M.2 or one 3.5" SATA [6] |
| **Software** | HP PC Hardware Diagnostics UEFI<br>HP Performance Advisor<br>HP Support Assistant<br>HP PC Hardware Diagnostics Windows<br>HP Privacy Settings<br>HP Desktop Support Utilities<br>HP Manageability Integration Kit<br>HP Notifications<br>HP Anyware<br>HP Data Science Stack<br>HP Services Scan<br>HP Data Science Stack Manager<br>myHP[8,10,11,12,26,27,30,32] |
| **Available software** | HP Smart Support |
| **Security management** | Full volume encryption; HP Secure Erase; Kensington lock slot; Secure authentication; TPM 2.0 certified; HP BIOSphere; HP Sure Run; HP Sure Click; HP Sure Sense; HP Sure Admin; HP Platform Certificate; HP Sure Start; HP Sure Recover; Self-Encrypted Drives[13,14,15,16,17,18,19,20] |
| **Security Software Licenses** | HP Wolf Pro Security Edition[21] |
| **Management features** | HP Anyware Remote System Controller; HP Client Management Script Library (download); HP Cloud Recovery; HP Driver Packs; HP Image Assistant Gen5 (download)[8,28,29,31] |
| **Power** | 675 W internal power supply, up to 90% efficiency, active PFC; Two 675 W internal redundant power supply, up to 90% efficiency, active PFC; Two 675 W internal aggregated power supply (total 1350W), up to 90% efficiency, active PFC |
| **Dimensions** | 1.69 x 17.25 x 25.8 in (without rack mounting ears); 4.3 x 43.8 x 65.6 cm (without rack mounting ears) |
| **Weight** | Starting at 21.6 lb (without rack rails); Starting at 27.6 lb (with rack rails); Starting at 9.5 kg (without rack rails); Starting at 12.5 kg (with rack rails);<br>(Exact weight depends on configuration.) |
| **Ecolabels** | EPEAT® registered configurations available[9] |
| **Energy star certified** | ENERGY STAR® certified (configurations available) |

# HP Z4 Rack G5 Workstation

## Messaging Footnotes

[1] Substantiation for claim in progress.
[2] Network access required. HP Anyware software and licensing are available through a 1- or 3-year subscription. Renewal is required after the subscription term. HP Anyware subscriptions are based on the number of concurrent PCoIP connections used (pay for the number of host connections, not the software) with a minimum order quantity of 5. For a limited time, an HP Anyware Professional subscription also includes access and support for ZCentral Remote Boost and ZCentral Connect and is available for purchase through an HP reseller or contact sales at hp.com/Anyware. ZCentral Remote Boost Sender requires Windows 10 and 11, 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. ZCentral Connect requires Windows (10 or 11) or Windows Server (2016 or 2019) operating system, Microsoft Active Directory, and Intel Active Management Technology for select features. For system requirements and to install HP Anyware and Anyware Manager, refer to the Admin Guides at: https://docs.teradici.com/find/product/hp-anyware .
[3] HP Anyware Remote System Controller is sold separately and requires internet access. Automation of tasks and viewing system information only available with select Z desktop workstations, see datasheet for details. HP Anyware Integrated Remote System Controller not compatible with Z2 Mini platforms and not recommended for non-Z devices. HP service and support not available for non-Z devices. Full suite of hardware alerts available with select Z desktop workstations. See datasheet for details. HP Anyware Remote System Management must be purchased separately and is required for fleet management and viewing of consolidated reports from all devices. Planned to be available 2H of 2023.
[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] Graphics are sold separately or as an optional feature.
[6] Optional, configurable feature.
[7] HP Wolf Security for Business requires Windows 10 Pro or higher, includes various HP security features and is available on HP Pro, Elite and Workstation products. See product details for included security features and OS requirement.
[8] Applies to HP PCs, Workstations and Displays manufactured after January 2019. Based on most Gold and Silver EPEAT® registrations by meeting all required criteria and achieving 50-74% of the optional points for EPEAT® Silver and 75-100% of the optional points for EPEAT® Gold according to IEEE 1680.1-2018 EPEAT®. Status varies by country. Visit www.epeat.net for more information.
[9] 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 .
[10] WSL2 requires Windows 10 or higher, Intel Core i5 processor or higher and is available on select Z workstations. You must be running Windows 10 version 2004 and higher (Build 19041 and higher) or Windows 11.
[11] Error Correction Code (ECC) memory is only available on Intel® Xeon® processor options.
[12] Graphics are sold separately or as an optional feature. One graphics card can be configured at purchase, additional graphics cards can be purchased as an after-market option.
[13] Optional, configurable feature. Error Correction Code (ECC) memory is only available on Intel® Xeon® processor options.
[14] Optional, configurable features. For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 35GB is reserved for system recovery software.
[15] Second power supply available as configured to order or as an after-market option.
[16] Optional dual slot riser required for additional two PCIe slots.
[17] Rack mounting hardware available as configured to order or after market.

## 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 .
[2] Note: For detailed Linux® OS/hardware support information, see: http://www.hp.com/support/linux_hardware_matrix .
[3] 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.
[4] Intel vPro® requires Windows 10 Pro 64 bit or higher, a vPro supported processor, vPro enabled chipset, vPro enabled wired LAN and/or Wi-Fi 6E WLAN and TPM 2.0. Some functionality requires additional 3rd part software in order to run. Features of vPro® Essentials and Enterprise vary. See http://intel.com/vpro.
[5] For hard drives and solid state drives, 1 GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 35 GB of system disk is reserved for system recovery software.
[6] 3.5" drive bay can be configured with a carrier to support two 2.5" drives. 2.5" drives sold separately. 2.5" drive bays support up to 2 M.2 drives with addition of HP 2.5 in Dual Drive Cage Adapter.
[7] 16 GB, 32 GB, 64 GB 4800 MHz SDRAM are supported.
[8] Optional or add-on feature.
[9] Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. EPEAT® status varies by country. Visit www.epeat.net for more information.
[10] HP Performance Advisor Software - HP Performance Advisor is ready and waiting to help you get the most out of your HP Workstation from day one-and every day after. Learn more or download at: https://www8.hp.com/us/en/workstations/performance-advisor.html .
[11] HP Support Assistant requires Windows and Internet access.
[12] HP Manageability Integration Kit can be downloaded from http://www8.hp.com/us/en/ads/clientmanagement/overview.html .
[13] HP Sure Click requires Windows 10 or 11 Pro or higher. See https://bit.ly/2PrLT6A_SureClick for complete details.
[14] HP Sure Start requires Windows 10 or 11 or higher.
[15] HP Sure Recover Gen4 is available on select HP PCs and requires an open network connection. You must back up important files, data, photos, videos, etc. before using HP Sure Recover to avoid loss of data.
[16] HP Sure Sense requires Windows 10 or 11 Pro or Enterprise and higher.
[17] HP Sure Run Gen5 requires Windows 1o or 11 Pro or higher.
[18] HP Sure Admin requires Windows 10 or higher, HP BIOS, HP Manageability Integration Kit from http://www.hp.com/go/clientmanagement and HP Sure Admin Local Access Authenticator smartphone app from the Android or Apple store.
[19] HP Secure Erase for the methods outlined in the National Institute of Standards and Technology Special Publication 800-88 "Clear"" sanitation method. HP Secure Erase does not support platforms with Intel® Optane™.
[20] HP BIOSphere Gen6 features may vary depending on the platform and configurations.
[21] HP Wolf Pro Security Edition is available preloaded on select SKUs, and, depending on the HP product purchased, includes a license with a term length communicated to you at purchase and in your order confirmation email. The HP Wolf Pro Security Edition software is licensed under the license terms of the HP Wolf Security Software - End-User license Agreement (EULA) that can be found at: https://support.hp.com/us-en/document/ish_3875769-3873014-16 as that EULA is modified by the following: 7. Term. Unless otherwise terminated earlier pursuant to the terms contained in this EULA, the license for the HP Wolf Pro Security Edition is effective upon 4 months after the date the HP Product was shipped by HP and will continue for the term communicated to you at purchase and in your order confirmation email ("Initial Term"). At the end of the Initial Term you may either (a) purchase a renewal license for the HP Wolf Pro Security Edition from HP.com, HP Sales or an HP Channel Partner, or (b) continue using the standard versions of HP Sure Click and HP Sure Sense at no additional cost with no future software updates or HP Support. Notwithstanding the foregoing, the license shall expire no later than one year after the fixed term of the subject license ends.
[22] Note: Windows 7 and Windows 8 operating systems are not supported on this product. No Windows 7 or Windows 8 drivers will be provided on http://www.support.hp.com .
[23] The NVIDIA RTX™ A4000 is supported in a dual graphics configuration, but the second graphics card must be bought aftermarket.
[24] Intel® Turbo Boost performance varies depending on hardware, software and overall system configuration. See www.intel.com/technology/turboboost for more information.
[25] Internet service required and sold separately.
[26] Network access required. HP Anyware software and licensing are available through a 1- or 3-year subscription. Renewal is required after the subscription term. HP Anyware subscriptions are based on the number of concurrent PCoIP connections used (pay for the number of host connections, not the software) with a minimum order quantity of 5. For a limited time, an HP Anyware Professional subscription also includes access and support for ZCentral Remote Boost and ZCentral Connect and is available for purchase through an HP reseller or contact sales at hp.com/Anyware. ZCentral Remote Boost Sender requires Windows 10 and 11, 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. ZCentral Connect requires Windows (10 or 11) or Windows Server (2016 or 2019) operating system, Microsoft Active Directory and Intel Active Management Technology for select features. For system requirements and to install HP Anyware and Anyware Manager, refer to the Admin Guides at: https://docs.teradici.com/find/product/hp-anyware.
[27] Z by HP Data Science Stack Manager requires Windows 10 version 21H2 (Build 19044) and higher or 64-bit Ubuntu 20.04 and is available on select Z workstations.
[28] HP Anyware Remote System Controller is an optional feature.
[29] Internet access required. Automation of tasks and viewing system information only available with select Z desktop workstations, see datasheet for details. Fleet management and viewing of consolidated reports from all devices requires HP Anyware Remote System Management. HP Anyware Integrated Remote System Controller not compatible with Z2 Mini platforms and not recommended for non-Z devices. HP service and support not available for non-Z devices. Full suite of hardware alerts available with select Z desktop workstations. See datasheet for details.
[30] myHP requires Windows OS.
[31] HP Cloud Recovery is available for Z by HP, HP Elite and Pro desktops and laptops PCs with Intel® or AMD processors and requires an open, wired network connection. Note: You must back up important files, data, photos, videos, etc. before use to avoid loss of data. For details, please refer to: https://support.hp.com/us-en/document/c05115630 .
[32] HP Services Scan is provided with Windows Update on select products and will check entitlement on each hardware device to determine if an HP TechPulse-enabled service has been purchased, and will download applicable software automatically. HP TechPulse is a telemetry and analytics platform that provides critical data around devices and applications. For full system requirements or to disable this feature, please visit http://www.hpdaas.com/requirements . Not applicable in China.

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