LINUX HARDWARE MATRIX

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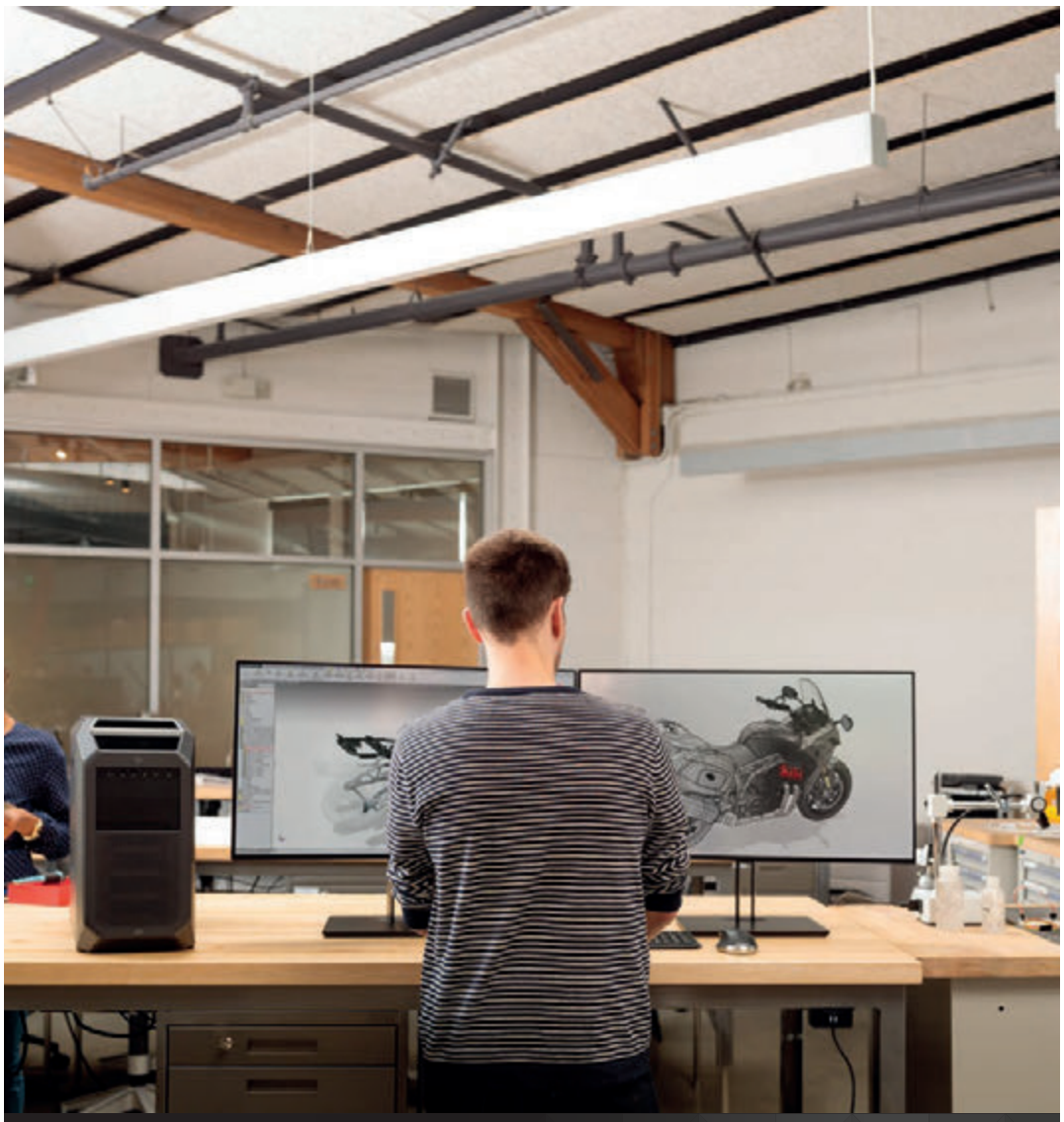

GENERAL NOTES THAT APPLY TO ALL PLATFORMS

PURPOSE OF THE LINUX HARDWARE MATRIX

The HP Workstations Linux Hardware Matrix provides per-platform advisory information about the functionality of HP Workstations and the hardware components applicable to them, under several Linux distributions such as Red Hat Enterprise Linux (RHEL), SUSE Linux Enterprise Desktop (SLED), and Ubuntu LTS.

For similar information about Linux component support in older HP Workstations, please refer to the Archive Linux Hardware Matrix. You can find this by searching for the platform at **www.hp.com/go/workstationsupport** and choosing the Manuals content.

The Linux Hardware Matrix does not represent the issue support that you can expect from the Linux OS distributor. Please see the section below entitled "Important Information about OS Support."

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ABOUT LINUX OS RELEASE STREAMS

As technology advances, newer releases of Linux distributions are more likely to have sufficient support for new hardware (processors and chipset architectures, storage controllers, etc.) than are older releases in the same streams. **"As a result, it is not often reasonable to expect older releases in the stream to enable newer platforms."**

The Linux Hardware Matrix shows information for releases that provide reasonably complete functionality for the platform and components, using drivers that are part of the distribution, unless noted to the contrary. The releases shown are typically the most current at the time that the platform was launched, but in some cases an already-existing release may provide good functionality. It is advisable to apply the distributor's most recent maintenance updates in order to get defect and security fixes (and in some cases, additional hardware enablement).

IMPORTANT INFORMATION ABOUT OS SUPPORT

Distributors of enterprise-class Linux releases have certification processes that verify that a particular platform is functional and supportable. Most distributors will not support issues that arise on non-certified platforms. Therefore, it is important that you consult the vendor's certification website to verify certification for the OS release you are planning to use.

Here are the sites for distributions covered in this document:
SUSE: **https://www.suse.com/yessearch/Search.jsp**
RED HAT: **https://access.redhat.com/ecosystem/search/#/ecosystem**
UBUNTU: **http://www.ubuntu.com/certification/desktop**

HOW TO USE THIS DOCUMENT

Please remember that the general notes on this page apply to all platforms in this Linux Hardware Matrix. If you print out platform pages, be sure to print this one also.

The platform-specific pages in this matrix are formatted as follows:

- The platform is identified at the top of the page. For some platforms, the original releases on which the platform was certified by Linux distributors are noted. However, the Linux vendor certification site is always the authoritative source.
- Built-in (onboard) and optional components are listed in the left-hand column. This set of components initially represents what was listed as available at the time the platform was launched. The list may be updated periodically as new options are added. However, it is not an authoritative list of product options. Please see the platform specification (QuickSpecs), available at **www.hp.com**, for the most up-to-date list.
- One or more OS distribution columns are shown to the right of the components column. The headers of these columns identify the OSes for which functionality has been evaluated by HP. In some cases, these columns have been updated since the platform was launched. Component functionality is expected to be retained later in the same OS release stream, and some missing functionality might be added. For example, a component might be usable in RHEL 6.1 "or later," implying RHEL 6.2, 6.3... (See the note above entitled "About Linux OS Release Streams.")
- A solid circle in a cell represents usable functionality with the combination of OS release shown in the column header and the component, using drivers that are part of the distribution.
- A blank cell represents absence of functionality with default drivers. This does not mean that the component is necessarily useless–you may have to download and possibly build a driver from another source, such as the component manufacturer's website or an open source community site. Or, as mentioned, the support might have been added in a subsequent release in the same OS stream, or an available update.
- A number represents a reference to a footnote. Footnotes are located at the bottom of the page.
- If a version of enterprise Linux is not shown on a platform's page, it should be interpreted as that particular version cannot be supported on the system. This may often be the case comparing one generation of system to the newer generation(i.e. N vs N+1).

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LINUX HARDWARE MATRIX FOR HP WORKSTATIONS

HP ZBOOK FURY 17 G7

Certified on Ubuntu 20.04
Enterprise-class Linux releases older than those listed do not enable the Intel® Comet Lake architecture used in this system.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 8.3 or later (x86_64)	Ubuntu 18.04.5 (x86_64)	Ubuntu 20.04 (x86_64)
HP Workstation Base System			
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•
All Supported Processors			
All support Intel® 10th generation Core™ i5, i7, i9 and Xeon® processors	•	•	•
Graphics Card (Video Card)			
Intel® UHD integrated graphics	•	•	•
AMD Radeon™ RX 5500M (4 GB of GDDR6 memory)			
AMD Radeon™ Pro W5500M (4 GB of GDDR6 memory)			
NVIDIA® Quadro® T1000® w/Max-Q design (4 GB of GDDR6 memory)	1	2	2
NVIDIA® Quadro® T2000 w/Max-Q design (4 GB of GDDR6 memory)	1	2	2
NVIDIA® Quadro® RTX3000 (6 GB of GDDR6 memory)	1	2	2
NVIDIA® Quadro® RTX4000 w/Max-Q Design (8 GB of GDDR6 memory)	1	2	2
NVIDIA® Quadro® RTX5000 w/Max-Q Design (16 GB of GDDR6 memory)	1	2	2
System RAM			
Minimum (GB)	4 GB	4 GB	4 GB
Maximum (GB)	64 GB ECC 128 GB non-ECC	64 GB ECC 128 GB non-ECC	64 GB ECC 128 GB non-ECC
Display-internal panel			
17.3" diagonal FHD (1920 x 1080) IPS eDP anti-glare WLED-backlit and ambient light sensor 300 nits 72% CG	•	•	•
17.3" diagonal UHD (3840 x 2160) IPS eDP1.4 + PSR2 anti-glare WLED-backlit and ambient light sensor 550 nits 100% DCI-P3	•	•	•
17.3" diagonal UHD (3840 x 2160) IPS HDR 400 eDP1.4 + PSR2 anti-glare WLED-backlit and ambient light sensor 550 nits 100% DCI-P3 Next Gen HP Dream Color display	•	•	•
17.3" diagonal UHD (3840 x 2160) IPS HDR 400 eDP1.4 + PSR2 WLED-backlit touch screen with Corning® Gorilla® Glass 5 and ambient light sensor 550 nits 100% DCI-P3	3	3	3
Hard Disks			
All supported 2.5" AHCI SATA Drives	•	•	•
All Supported M.2 Solid State Drives	•	•	•
All Supported M.2 SATA SED Solid State Drives	•	•	•
Onboard Components			
Wired LAN - Intel® i219LM Gigabit Ethernet (vPro® and non-vPro® configurations)	•	•	•
Onboard Audio	4	4	4
Onboard SATA RAID	•	•	•
Intel® Wi-Fi 6 AX201(2x2) and Bluetooth® 5 combo (vPro® & non-vPro®)	•	•	•
Wireless WAN - Intel® XMM™ 7360 LTE Advanced CAT 9			
720p HD webcam	•	•	•
720p HD webcam with IR	5	5	5
USB 3.1 gen 2 / Thunderbolt 3™ ports	•	•	•
USB 3.1 gen 1 ports	•	•	•
Function hot key functionality	•	•	•

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HP ZBOOK FURY 17 G7 (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 8.3 or later (x86_64)	Ubuntu 18.04.5 (x86_64)	Ubuntu 20.04 (x86_64)
Input/Output Devices			
Touchpad/touchpad keys/joystick/	•	•	•
Fingerprint sensor			
NFC controller module			
TPM Module	6	6	6
Smart Card	•	•	•
SD 4.0 Media Card Reader	•	•	•
External HDMI 2.0b port	•	•	•
External mini DisplayPort 1.4 port	•	•	•
Dock options			
ZBook dock with Thunderbolt 3™	•	•	•

[1] HP recommends use of NVIDIA® driver 450.55(or newer) on NVIDIA® graphics options.
[2] Canonical regularly releases an NVIDIA® driver that can be applied by the Ubuntu software update mechanism. HP recommends using this driver and update method on Ubuntu 18.04 and 20.04.
[3] As of this edition of the table, only basic touch capability was available in most Linux desktops.
[4] The left channel for audio output works, while the right channel does not at this time.
[5] IR camera not supported in Linux at this time.
[6] Support for the TPM or other security devices varies by OS distribution. Any use of the TPM module may require additional software from the distribution being used.

LINUX HARDWARE MATRIX

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HP ZBOOK 17 G6 WORKSTATION

Certified on RHEL 8.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 7.6 or later (x86_64)	RHEL 8.0 or later (x86_64)	Ubuntu 16.04.5 or later (x86_64)	Ubuntu 18.04.2 or later (x86_64)	Ubuntu 20.04 or later (x86_64)
HP Workstation Base System					
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•	•	•
HP Localization Kit	1	1	1	1	1
All Supported Processors					
All support Intel® 9th generation Core™ i5, i7, i9 and Xeon® processors	•	•	•	•	•
Graphics Card (Video Card)					
Intel® UHD integrated 630 graphics on Core™ i5/i7/i9 processors	•	•	•	•	•
Intel® UHD integrated P630 graphics on Xeon® processors	•	•	•	•	•
NVIDIA® Quadro® T1000 (4 GB GDDR5 Frame buffer)	2	2	2	2	2
NVIDIA® Quadro® T2000 (4 GB GDDR5 Frame buffer)	2	2	2	2	2
NVIDIA® Quadro® RTX3000 (6 GB GDDR6 Frame buffer)	2	2	2	2	2
NVIDIA® Quadro® RTX4000 (8 GB GDDR6 Frame buffer)	2	2	2	2	2
NVIDIA® Quadro® RTX5000 (16 GB GDDR6 Frame buffer)	2	2	2	2	2
System RAM					
Minimum (GB)	4 GB	4 GB	4 GB	4 GB	4 GB
Maximum ECC SDRAM (GB)	64 GB	64 GB	64 GB	64 GB	64 GB
Maximum non-ECC SDRAM (GB)	128 GB	128 GB	128 GB	128 GB	128 GB
Display-internal panel					
HP DreamColor display 17.3" diagonal UHD anti-glare WLED-backlit 400 nits, 100% Adobe RGB (3840 X 2160)	•	•	•	•	•
17.3" diagonal FHD eDP anti-glare WLED-backlit 300 nits, 72% sRGB (1920 x 1080) with Ambient Light Sensor	•	•	•	•	•
Touch-enabled Display-internal panel					
17.3" diagonal UHD eDP + PSR anti-glare WLED-backlit Corning® Gorilla® Glass 5 touch, 400 nits, 95% sRGB with Ambient Light Sensor (3840 x 2160)	3	3	3	3	3
Hard Disks					
All Supported M.2 SSD's	•	•	•	•	•
All Supported SATA Disk Drives	•	•	•	•	•
All Supported Z Turbo NVMe PCIe SSD's	•	•	•	•	•
Storage acceleration					
16 GB PCIe® NVMe™ Intel® Optane™ Memory for storage acceleration	4	4	4	4	4
Integrated Components					
Wired LAN - Intel® i219LM Gigabit Ethernet (vPro® & non-vPro® versions)	•	•	•	•	•
Wireless LAN -Intel® Dual Band Wi-Fi 6 AX200 (2x2) and Bluetooth® 5 combo, vPro®	5	5	5	5	•
Wireless LAN -Intel® Dual Band Wi-Fi 6 AX200 (2x2) and Bluetooth® 5 combo, non-vPro®	5	5	5	5	•
Intel® XMM 7360 LTE-Advanced mobile broadband module					
NFC optional module					
Onboard Audio (Realtek codec)	11	11	11	11	•
1080p FHD webcam with IR camera	•	•	•	•	•
720p HD webcam	•	•	•	•	•

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HP ZBOOK 17 G6 WORKSTATION (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 7.6 or later (x86_64)	RHEL 8.0 or later (x86_64)	Ubuntu 16.04.5 or later (x86_64)	Ubuntu 18.04.2 or later (x86_64)	Ubuntu 20.04 or later (x86_64)
Onboard Intel® integrated SATA RAID (0/1)	•	•	•	•	•
USB 3.0 Type A ports	•	•	•	•	•
USB 3.1 G2 Type-C™ ports (USB 3.1 Gen 2, PCIe Gen 3, DisplayPort 1.3, Thunderbolt™ 3)	•	•	•	•	•
TPM 2.0 Module	6	6	6	6	6
Input/Output Devices					
Trackpad + buttons	•	•	9	•	•
Smart Card reader	•	•	•	•	•
HP Media Card Reader	•	•	•	•	•
External HDMI port	7	7	7	7	7
Fingerprint sensor	10	10	10	10	10
Dock options					
HP ZBook Dock with Thunderbolt™ 3 G2	8	8	8	8	8

1 Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

2 HP recommends the following minimum revision of the NVIDIA® driver: 418.56 (or newer).

3 Touch is only supported as equivalent to a single button pointer device. Any multi-touch/gesture capability supported by Linux desktops must be programmed by the user within the desktop environment.

4 Intel® Optane™ cache memory modules are not supported by Linux at this time.

5 The Ax200 wireless solution is not yet supported by Linux distributions. The Bluetooth® controller should be functional.

6 Support for the TPM or other security devices varies by OS distribution. Any use of the TPM module may require additional software from the distribution.

7 With NVIDIA®-based configurations, it is recommended to use the NVIDIA® closed-source driver when using externally connected displays.

8 The speaker and volume controls in the audio module are functional, but the telephony controls are not.

9 The trackpad is not functional with 16.04.x so it is necessary to use an external mouse/pointer device until the system can complete updates from Canonical repositories post-installation.

10 The fingerprint sensor device is recognized/enumerated by the kernel. However, all of the setup and configuration to use the sensor for authenticate must be done by the user. FYI: The required software is not typically installed by enterprise distributions.

11 Audio output via speakers function. Audio input via built-in microphone is currently not functional due to a missing driver. Please check with your distro vendor for the availability of the snd-sof-pci driver in ALSA.

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HP ZBOOK 17 G5 MOBILE WORKSTATION

Certified on Ubuntu 18.04
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 7.5 or later (x86_64)	RHEL 8.0 or later (x86_64)	Ubuntu 16.04.4 or later (x86_64)	Ubuntu 18.04 or later (x86_64)
HP Workstation Base System				
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•	•
HP Localization Kit	1	1	1	1
All Supported Processors				
All support Intel® 8th generation Core™ i5, i7 and Xeon® processors	•	•	•	•
Graphics Card (Video Card)				
Intel® UHD integrated 630 graphics on Core™ i5/i7 processors	•	•	•	•
Intel® UHD integrated P630 graphics on Core™ i5/i7 and Xeon® processor	•	•	•	•
AMD Radeon™ Pro WX 4170 (4 GB Frame buffer)	2, 4, 5	2, 5	2, 4, 5	2, 5
NVIDIA® Quadro® P1000 (4 GB Frame buffer)	3, 5	3, 5	3, 5	3, 5
NVIDIA® Quadro® P2000 (4 GB Frame buffer)	3, 5	3, 5	3, 5	3, 5
NVIDIA® Quadro® P3200 (6 GB Frame buffer)	3, 5	3, 5	3, 5	3, 5
NVIDIA® Quadro® P4200 (8 GB Frame buffer)	3, 5	3, 5	3, 5	3, 5
NVIDIA® Quadro® P5200 (16 GB Frame buffer)	3, 5	3, 5	3, 5	3, 5
System RAM				
Minimum (GB)	4 GB	4 GB	4 GB	4 GB
Maximum (GB)	64 GB	64 GB	64 GB	64 GB
Display - internal panel				
17.3" diagonal HD+ IPS eDP anti-glare, 220 nits (1600x900)	•	•	•	•
17.3" diagonal FHD IPS eDP anti-glare, 300 nits with ambient light sensor (1920x1080)	•	•	•	•
17.3" diagonal UDH IPS + PSR Touch-screen, 400 nits w/ ambient light sensor (3840x2160)	•	•	•	•
17.3" diagonal HP DreamColor Technology, UHD IPS eDP + PSR, anti-glare, 400 nits, 100% Adobe RGB with 10 bit color (3840x2160)	•	•	•	•
Hard Disks				
All Supported M.2 SSD's	•	•	•	•
Intel® Optane™ Cache memory	9	9	9	9
All Supported SATA Disk Drives	•	•	•	•
All Supported Z Turbo NVMe PCIe SSD's	•	•	•	•
HP 3D DriveGuard	9	9	9	9
Integrated Components				
Wired LAN - Intel® i219LM Gigabit Ethernet	•	•	•	•
Wireless LAN - Intel® dual-band wireless-AC 9560 802.11ac (2x2) Wi-Fi and Bluetooth® 5.0 combo, vPro®	•	•	6	6
Wireless LAN - Intel® dual-band wireless-AC 9560 802.11ac (2x2) Wi-Fi and Bluetooth® 5.0 combo, non- vPro®	•	•	6	6
Intel® XMM 7360 LTE-Advanced mobile broadband module				
Intel® lt4132 LTE/HSPA+ 4G mobile broadband module				
NFC Mirage WNC XRAV-1				
Onboard Audio (Conexant codec)	•	•	•	•
HP Webcam	•	•	•	•
Onboard Intel® integrated SATA RAID (0/1)	•	•	•	•
USB 3.0 Type A ports	•	•	•	•
USB 3.1 G2 Type C™ ports (USB 3.1 Gen 2, PCIe Gen 3, DisplayPort 1.3, Thunderbolt™ 3)	•	•	•	•

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HP ZBOOK 17 G5 MOBILE WORKSTATION (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 7.5 or later (x86_64)	RHEL 8.0 or later (x86_64)	Ubuntu 16.04.4 or later (x86_64)	Ubuntu 18.04 or later (x86_64)
USB 2.0/3/1 G1 internal ports	•	•	•	•
TPM 2.0 Module	7	7	7	7
Input/Output Devices				
Trackpad + buttons	•	•	8	•
Smart Card reader	•	•	•	•
HP Media Card Reader	•	•	•	•
External HDMI port	10	10	10	10
Removable CD/DVD Media				
HP DVD RW Supermulti Drive	•	•	•	•
Dock options				
HP ZBook Dock with Thunderbolt™ 3	•	•	•	•
HP ZBook Dock with Thunderbolt™ 3 G2 with optional audio module	11	11	11	11
HP USB Type-C™ Elite dock	•	•	•	•

1 Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

2 AMD Radeon™ Pro graphics cards are now supported in Linux by the amdgpu open source driver. OS streams are supported at specific release version levels, starting with these: RHEL 7.5, Ubuntu 16.04.4 and 18.04.

3 HP recommends the following minimum revision of the NVIDIA® driver: 410.101 (or newer).

4 At the time this document was published, AMD® had not yet released a pro version of their driver for these enterprise Linux distributions. Please check at a later time or check the availability of a released driver at the hp.com/support/workstations support website.

5 For installation, HP recommends setting the BIOS gfx mode to 'discrete'. It may be necessary to boot with the 'nomodeset' option for installation to work around issues with the inbox gfx driver.

6 The current supported Linux distros have the correct iwlwifi driver, but may lack the latest Intel® 9560 firmware to properly operate the wifi solution. Check with your distribution vendor for updates.

7 Support for the TPM or other security devices varies by OS distribution. Any use of the TPM module may require additional software from the distribution.

8 On Ubuntu 16.04.4 the trackpad has issues initially after installation that require manual work-arounds in the /etc/X11/xorg.conf file. See HP support website for documentation on how to accomplish this. Until this issue is worked around, the desktop user experience is very poor, as the cursor randomly jumps into "follow" mode.

9 This option is not supported on Linux distributions.

10 With NVIDIA®-based configurations, it is recommended to use the NVIDIA® closed source driver when using externally connected displays. It is not currently recommended to use externally connected displays with AMD® graphics options at this time.

11 The speaker and volume controls in the audio module are functional, but the telephony controls are not.

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HP ZBOOK 17 G4 MOBILE WORKSTATION

RHEL 7 certifications pending. As of this edition of this matrix, some Enterprise-class Linux releases enable the Intel® architecture used in this system. HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 7.3 or later (x86_64)	Ubuntu 16.04.1 or later (x86_64)
HP Workstation Base System		
Base system includes: Chassis, System Board, Power Supply, etc.	•	•
HP Localization Kit	1	1
All Supported Processors		
All supported 7th generation Intel® Core™ i7, i5 and Xeon® processors	•	•
System RAM		
Minimum (GB)	4 GB	4 GB
Maximum (GB)	64 GB	64 GB
Graphics Card (Video Card)		
Intel® HD integrated graphics 630 on Core™ i7 processors	5	5
Intel® HD integrated graphics P630 on Xeon® processors	5	5
AMD® WX4170 with 4 GB of graphics memory		
NVIDIA® Quadro® M1200 with 4 GB of graphics memory	6	6, 11
NVIDIA® Quadro® M2200 with 4 GB of graphics memory	6	6, 11
NVIDIA® Quadro® P3000 with 6 GB of graphics memory	6	6, 11
NVIDIA® Quadro® P4000 with 8 GB of graphics memory	6	6, 11
NVIDIA® Quadro® P5000 with 16 GB of graphics memory	6	6, 11
Display - internal panel		
17.3" diagonal FHD UWVA IPS eDP anti-glare. LED backlit (1920x1080)	•	•
17.3" diagonal LED backlit HD+ SVA anti-glare (1600x900)	•	•
17.3" diagonal UHD UWVA IPS LED anti-glare DreamColor (3840x2160)	•	•
17.3" diagonal Touch LED-backlit FHD UWVA IPS (1920x1080)	7	7
Hard Disks		
All supported 2.5" AHCI SATA Drives	•	•
All Supported M.2 Solid State Drives	•	•
All Supported HP Z Turbo Drive NVMe PCIe-attached storage	•	•
All Supported M.2 SATA SED Solid State Drives	8	8
Onboard Components		
Wired LAN - Intel® i219LM Gigabit Ethernet	•	•
Onboard Audio (Conexant codec)	•	•
Onboard SATA RAID	2	2
Intel® dual-band wireless AC 8265 802.11 AC/a/b/g/n (2x2) Wi-Fi + Bluetooth® (vPro® & non-vPro®)	•	•
Mobile Broadband - HP lt4120 Qualcomm Snapdragon X5 LTE mobile broadband		
Mobile Broadband - HP lt4132, LTE/HSPA+ 4G w/GPS		
Mobile Broadband - HP s3210 HSPA+ Intel® Mobile Broadband Module		
HP webcam	•	•
Thunderbolt™ 3 ports	3	3
USB 3.0 ports	•	•
Input/Output Devices		
Touchpad	•	•
TPM Module	4	4
Smart Card	•	•
HP Media Card Reader	•	•

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HP ZBOOK 17 G4 MOBILE WORKSTATION (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 7.3 or later (x86_64)	Ubuntu 16.04.1 or later (x86_64)
External HDMI port	•	•
External VGA port	•	•
Dock Options		
ZBook dock with Thunderbolt™ 3	9, 11	10, 11
HP USB Type-C™ Elite dock		

1 Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

2 Hardware RAID is not supported on SATA drives. Software RAID is available in most Linux OSes and can be used with SATA or PCIe storage devices.

3 Newer Linux kernels may provide device functionality through the Thunderbolt™ ports. Such kernels are likely to be available in leading-edge distributions, but inclusion of the support with any Enterprise Linux distribution is at the distributor's discretion.

4 Support for the TPM or other security devices varies by OS distribution.

5 The Intel® HD graphics works with the in-box frame-buffer drivers. Support for the "native" Intel® driver on v7 processors (Kaby lake) is not available for most release streams as of this edition of the table.

6 HP recommends use of NVIDIA® driver 375.66 (or newer) on NVIDIA® graphics options.

7 As of this edition of the table, only basic touch capability was available in most Linux desktop managers and no desktops are optimized for a satisfactory touch experience.

8 SED drives work with Linux. There is, however, no Linux support available for manipulating encryption settings via the Opal API.

9 The Thunderbolt™ dock is compatible with RHEL 7 on this ZBook model, starting with RHEL 7.3.

10 The Thunderbolt™ dock is compatible with Ubuntu 16.04, starting with 16.04.1. The one known limitation is that the audio headphone jack does not work.

11 With NVIDIA®-based configurations, it is recommended to use the NVIDIA® closed source driver when using externally connected displays. It is not currently recommended to use the dock with AMD® graphics options at this time.

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HP ZBOOK 17 G3 MOBILE WORKSTATION

RHEL 7 certifications pending. RHEL 6 certifications unlikely.
As of this edition of this matrix, some Enterprise-class Linux releases enable the Intel® architecture used in this system. HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 6.8 or later	RHEL 7.2 or later (x86_64)	Ubuntu 16.04.1 or later
HP Workstation Base System			
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•
HP Localization Kit	1	1	1
All Supported Processors			
All Supported Processors (single-CPU configs)	•	•	•
Hyperthreading	•	•	•
System RAM			
Minimum (GB)	4 GB	4 GB	4 GB
Maximum (GB)	64 GB	64 GB	64 GB
Graphics Card (Video Card)			
Intel® HD integrated graphics 530	5	5	5
Intel® HD integrated graphics P530	5	5	5
Intel® HD integrated pro graphics P580 (available 1H16)	5	5	5
AMD® W6150M with 4 GB of graphics memory	•	•	•
NVIDIA® Quadro® M1000M with 2 GB of graphics memory	6	6	6, 11
NVIDIA® Quadro® M2000M with 4 GB of graphics memory	6	6	6, 11
NVIDIA® Quadro® M3000M with 4 GB of graphics memory	6	6	6, 11
NVIDIA® Quadro® M4000M with 4 GB of graphics memory	6	6	6, 11
NVIDIA® Quadro® M5000M with 8 GB of graphics memory	6	6	6, 11
Display - internal panel			
17.3" diagonal FHD UWVA IPS eDP anti-glare. LED backlit (1920x1080)	•	•	•
17.3" diagonal LED backlit HD+ SVA eDP anti-glare (1600x900)	•	•	•
17.3" diagonal UHD UWVA IPS LED anti-glare DreamColor (3840x2160) (available in 1H16)	•	•	•
17.3" diagonal Touch LED-backlit FHD UWVA IPS (1920x1080) (available in 1H16)	7	7	7
Hard Disks			
All supported 2.5" AHCI SATA Drives	•	•	•
All Supported M.2 Solid State Drives	•	•	•
All Supported HP Z Turbo Drive NVMe PCIe-attached storage	•	•	•
All Supported M.2 SATA SED Solid State Drives	8	8	8
Onboard Components			
Wired LAN - Intel® i219LM Gigabit Ethernet	•	•	•
Onboard Audio (Conexant codec)	•	•	•
Onboard SATA RAID	2	2	2
Intel® dual-band wireless AC 8260 802.11 AC/a/b/g/n (2x2) Wi-Fi + Bluetooth® (vPro® & non-vPro®)	10	10	10
Wireless WAN - lt4120 Qualcomm Snapdragon X5 LTE mobile broadband capability			
Wireless WAN - hs3110 HSPA+ Intel® mobile broadband capability			
HP webcam	•	•	•
Thunderbolt™ 3 ports		3	•
USB 3.0 ports	•	•	•

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP ZBOOK 17 G3 MOBILE WORKSTATION (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 6.8 or later	RHEL 7.2 or later (x86_64)	Ubuntu 16.04.1 or later
Input/Output Devices			
Touchpad	•	•	•
TPM Module	4	4	4
Smart Card	•	•	•
HP Media Card Reader		•	•
External HDMI port	•	•	•
External VGA port	•	•	•
Dock Options			
ZBook dock with Thunderbolt™ 3		9, 13	12, 13
HP USB Type-C™ Elite dock			

1 Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

2 Hardware RAID is not supported on SATA drives. Software RAID is available in most Linux OSes and can be used with SATA or PCIe storage devices. Software RAID may not support RAID of the boot volume.

3 Newer Linux kernels may provide device functionality through the Thunderbolt™ ports. Such kernels are likely to be available in leading-edge distributions, but inclusion of the support with any Enterprise Linux distribution is at the distributor's discretion.

4 Support for the TPM or other security devices varies by OS distribution.

5 The Intel® HD graphics works with the in-box frame-buffer drivers. Support for the "native" Intel® driver on v5 processors (Skylake) is not available for most release streams as of this edition of the table.

6 HP recommends use of NVIDIA® driver 361.28 (or newer) for configurations with NVIDIA® graphics.

7 As of this edition of the table, only basic touch capability was available in most Linux desktops and no desktops are optimized for a satisfactory touch experience.

8 SED drives work with Linux. There is, however, no Linux support available for manipulating encryption settings via the Opal API.

9 The Thunderbolt™ dock is compatible with RHEL 7 on this ZBook model, starting with RHEL 7.3.

10 As of this edition, the Bluetooth® functionality of this "combo" device has not been enabled in any tested distribution. However, the wireless LAN capability is functional.

11 In order to install Ubuntu 16.04.1 on this graphics option, HP recommends that you change the graphics mode in BIOS to use the 'discrete' setting. You may also need to add 'nomodeset' to the boot line during installation.

12 The Thunderbolt™ dock is compatible with Ubuntu 16.04, starting with 16.04.1. The one known limitation is that the audio headphone jack does not work.

13 With NVIDIA®-based configurations, it is recommended to use the NVIDIA® closed source driver when using externally connected displays. It is not currently recommended to use the dock with AMD® graphics options at this time.

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP ZBOOK FURY 15 G7 WORKSTATION

Certified on Ubuntu 20.04
Enterprise-class Linux releases older than those listed do not enable the Intel® Comet Lake architecture used in this system.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 8.3 or later (x86_64)	Ubuntu 18.04.5 (x86_64)	Ubuntu 20.04 (x86_64)
HP Workstation Base System			
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•
All Supported Processors			
All Supported Intel® 10th generation Core™ i5, i7, i9 and Xeon® processors	•	•	•
Graphics Card (Video Card)			
Intel® UHD integrated graphics	•	•	•
AMD Radeon™ RX 5500M (4 GB of GDDR6 memory)			
AMD Radeon™ Pro W5500M (4 GB of GDDR6 memory)			
NVIDIA® Quadro® T1000 w/Max-Q design (4 GB of GDDR6 memory)	1	2	2
NVIDIA® Quadro® T2000 w/Max-Q design (4 GB of GDDR6 memory)	1	2	2
NVIDIA® Quadro® RTX3000 (6 GB of GDDR6 memory)	1	2	2
NVIDIA® Quadro® RTX4000 w/Max-Q Design (8 GB of GDDR6 memory)	1	2	2
NVIDIA® Quadro® RTX5000 w/Max-Q Design (16 GB of GDDR6 memory)	1	2	2
System RAM			
Minimum (GB)	4 GB	4 GB	4 GB
Maximum (GB)	64 GB ECC 128 GB non-ECC	64 GB ECC 128 GB non-ECC	64 GB ECC 128 GB non-ECC
Display-internal panel			
15.6" diagonal FHD (1920 x 1080) IPS eDP1.2 anti-glare WLED-backlit and ambient light sensor 250 nits 45% CG	•	•	•
15.6" diagonal FHD (1920 x 1080) IPS eDP1.3 + PSR anti-glare WLED-backlit and ambient light sensor 400 nits 72% CG	•	•	•
15.6" diagonal FHD (1920 x 1080) IPS eDP1.3 + PSR anti-glare WLED-backlit and ambient light sensor 1000 nits 72% CG Next Gen HP SureView Reflect	•	•	•
15.6" diagonal UHD (3840 x 2160) IPS HDR 400 eDP1.4 + PSR2 anti-glare BV LED-backlit and ambient light sensor 600 nits 100% DCI-P3 Next Gen HP Dream Color display	•	•	•
15.6" diagonal UHD (3840 x 2160) IPS HDR 400 eDP1.4 + PSR2 WLED-backlit touch screen with Corning® Gorilla® Glass 5 and ambient light sensor 600 nits 100% DCI-P3	3	3	3
Hard Disks			
All supported 2.5" AHCI SATA Drives	•	•	•
All Supported M.2 Solid State Drives	•	•	•
All Supported M.2 SATA SED Solid State Drives	•	•	•
Onboard Components			
Wired LAN - Intel® i219LM Gigabit Ethernet (vPro® and non-vPro® configurations)	•	•	•
Onboard Audio (Conexant codec)	4	4	4
Onboard SATA RAID	•	•	•
Intel® Wi-Fi 6 AX201(2x2) and Bluetooth® 5 combo (vPro® & non-vPro®)	•	•	•
Wireless WAN - Intel® XMM™ 7360 LTE Advanced CAT 9			
720p HD webcam	•	•	•
720p HD webcam with IR	5	5	5
USB 3.1 gen 2 / Thunderbolt 3™ ports	•	•	•
USB 3.1 gen 1 ports	•	•	•
Function hot key functionality	•	•	•

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP ZBOOK FURY 15 G7 WORKSTATION (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 8.3 or later (x86_64)	Ubuntu 18.04.5 (x86_64)	Ubuntu 20.04 (x86_64)
Input/Output Devices			
Touchpad + joystick	•	•	•
Fingerprint sensor			
NFC controller module			
TPM Module	6	6	6
Smart Card	•	•	•
SD 4.0 Media Card Reader	•	•	•
External HDMI 2.0b port	•	•	•
External mini DisplayPort 1.4 port	•	•	•
Dock options			
ZBook dock with Thunderbolt 3™	•	•	•

[1] HP recommends use of NVIDIA® driver 450.55 (or newer) on NVIDIA® graphics options.
[2] Canonical regularly releases an NVIDIA® driver that can be applied by the Ubuntu software update mechanism. HP recommends using this driver and update method on Ubuntu 18.04 and 20.04.
[3] As of this edition of the table, only basic touch capability was available in most Linux desktops.
[4] The left channel for audio output works, while the right channel does not at this time.
[5] IR camera not supported in Linux at this time.
[6] Support for the TPM or other security devices varies by OS distribution. Any use of the TPM module may require additional software from the distribution being used.

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP ZBOOK POWER G7 WORKSTATION

No certifications are pending
Enterprise-class Linux releases older than those listed do not enable the Intel® Comet Lake architecture used in this system.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 8.3 or later (x86_64)	Ubuntu 18.04.5 (x86_64)	Ubuntu 20.04 (x86_64)
HP Workstation Base System			
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•
All Supported Processors			
All Supported Intel® 10th generation Core™ i5, i7, i9 and Xeon® processors	•	•	•
Graphics Card (Video Card)			
Intel® UHD integrated graphics	•	•	•
NVIDIA® Quadro® P620 (4 GB of GDDR6 memory)	1	2	2
NVIDIA® Quadro® T1000 with Max-Q Design (4 GB of GDDR6 memory)	1	2	2
NVIDIA® Quadro® T2000 with Max-Q Design (4 GB of GDDR6 memory)	1	2	2
System RAM			
Minimum (GB)	4 GB	4 GB	4 GB
Maximum (GB)	32 GB with ECC 64 GB non-ECC	32 GB with ECC 64 GB non-ECC	32 GB with ECC 64 GB non-ECC
Display-internal panel			
15.6" diagonal FHD IPS eDP1.2 anti-glare bent WLED-backlit and ambient light sensor 250 nits 45% NTSC (1920 x 1080)	•	•	•
15.6" diagonal FHD Low Power IPS eDP1.4 + PSR2 anti-glare bent WLED-backlit and ambient light sensor 400 nits 100% sRGB 1920 x 1080)	•	•	•
15.6" diagonal UHD Low Power IPS eDP 1.4 + PSR2 +PSR anti-glare bent WLED-backlit and ambient light sensor 400 nits 100% sRGB (3840 x 2160)	•	•	•
15.6" diagonal FHD IPS eDP1.2 anti-glare bent WLED-backlit Touch On Cell screen with ambient light sensor 250 nits 45% NTSC (1920 x 1080)	3	3	3
Hard Disks			
All Supported M.2 Solid State Drives	•	•	•
All Supported M.2 SATA SED Solid State Drives	•	•	•
Onboard Components			
Onboard Audio	•	•	•
Intel® Wi-Fi 6 AX201(2x2) and Bluetooth® 5 combo (vPro® & non-vPro®)	•	•	•
WWAN Intel® XMM™ 7360 LTE Advanced CAT 9			
WWAN Intel® XMM™ 7560 LTE-Advanced Pro Cat 16			
720p HD webcam	•	•	•
720p HD webcam with IR	4	4	4
USB 3.1 gen 2 / Thunderbolt 3™ ports	•	•	•
Function hot key functionality	•	•	•

CONTENTS & NAVIGATION

HP ZBOOK POWER G7 WORKSTATION (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 8.3 or later (x86_64)	Ubuntu 18.04.5 (x86_64)	Ubuntu 20.04 (x86_64)
Input/Output Devices			
Touchpad + Keys	•	•	•
TPM Module	5	5	5
Fingerprint sensor			
SD 4.0 Media Card Reader	•	•	•
External HDMI 1.4b port	•	•	•
Dock options			
ZBook dock with Thunderbolt 3™	•	•	•

[1] HP recommends use of NVIDIA® driver 450.55 (or newer) on NVIDIA® graphics options.
[2] Canonical regularly releases an NVIDIA® driver that can be applied by the Ubuntu software update mechanism. HP recommends using this driver and update method on Ubuntu 18.04 and 20.04.
[3] The left channel for audio output works, while the right channel does not at this time.
[4] IR camera not supported in Linux at this time.
[5] Support for the TPM or other security devices varies by OS distribution. Any use of the TPM module may require additional software from the distribution being used.

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP ZBOOK 15 G6 MOBILE WORKSTATION

Certified on RHEL 8.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 7.6 or later (x86_64)	RHEL 8.0 or later (x86_64)	Ubuntu 16.04.5 or later (x86_64)	Ubuntu 18.04.2 or later (x86_64)	Ubuntu 20.04 or later (x86_64)
HP Workstation Base System					
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•	•	•
HP Localization Kit	1	1	1	1	1
All Supported Processors					
All support Intel® 9th generation Core™ i5, i7, i9 and Xeon® processors	•	•	•	•	•
Graphics Card (Video Card)					
Intel® UHD integrated 630 graphics on Core™ i5/i7/i9 processors	•	•	•	•	•
Intel® UHD integrated P630 graphics on Xeon® processors	•	•	•	•	•
NVIDIA® Quadro® T1000 (4GB GDDR5 Frame buffer)	2	2	2	2	2
NVIDIA® Quadro® T2000 (4GB GDDR5 Frame buffer)	2	2	2	2	2
NVIDIA® Quadro® RTX3000 (6GB GDDR6 Frame buffer)	2	2	2	2	2
System RAM					
Minimum (GB)	4 GB	4 GB	4 GB	4 GB	4 GB
Maximum ECC SDRAM (GB)	64 GB	64 GB	64 GB	64 GB	64 GB
Maximum non-ECC SDRAM (GB)	128 GB	128 GB	128 GB	128 GB	128 GB
Display - internal panel					
HP SureView Integrated Privacy Display Gen 3 15.6" diagonal FHD eDP + PSR anti-glare WLED-backlit 1000 nits 72% sRGB (1920 x 1080)	10	10	10	10	10
HP Dream Color display 15.6" diagonal UHD anti-glare WLED-backlit 600 nits 100% DCI P3 (3840 x 2160)	•	•	•	•	•
15.6" diagonal UHD eDP+ PSR anti-glare WLED-backlit 400 nits 72% sRGB (3840 x 2160)	•	•	•	•	•
15.6" diagonal FHD eDP + PSR anti-glare WLED-backlit 400 nits 72% sRGB (1920 x 1080)	•	•	•	•	•
15.6" diagonal FHD eDP anti-glare WLED-backlit 250 nits 45% sRGB (1920 x 1080)	•	•	•	•	•
Touch-enabled Display - internal panel					
HP SureView Integrated Privacy Display Gen 3 15.6" diagonal FHD eDP + PSR anti-glare WLED-backlit touch screen with Corning® Gorilla® Glass 5 1000 nits 72% sRGB (1920 x 1080)	3, 10	3, 10	3, 10	3, 10	3, 10
15.6" diagonal UHD eDP + PSR anti-glare WLED-backlit touch screen with Corning® Gorilla® Glass 5 and ambient light sensor 400 nits 72% sRGB (3840 x 2160)	3	3	3	3	3
Hard Disks					
All Supported M.2 SSD's	•	•	•	•	•
All Supported SATA Disk Drives	•	•	•	•	•
All Supported Z Turbo NVMe PCIe SSD's	•	•	•	•	•
Storage acceleration					
16 GB PCIe® NVMe™ Intel® Optane™ Memory for storage acceleration	4	4	4	4	4
Integrated Components					
Wired LAN - Intel® i219LM Gigabit Ethernet (vPro® & non-vPro® versions)	•	•	•	•	•
Wireless LAN -Intel® Dual Band Wi-Fi 6 AX200 (2x2) and Bluetooth® 5 combo, vPro®	5	5	5	5	•
Wireless LAN -Intel® Dual Band Wi-Fi 6 AX200 (2x2) and Bluetooth® 5 combo, non-vPro®	5	5	5	5	•
Intel® XMM 7360 LTE-Advanced mobile broadband module					
NFC optional module					
Onboard Audio (Realtek codec)	11	11	11	11	•
Webcam	•	•	•	•	•
Onboard Intel® integrated SATA RAID (0/1)	•	•	•	•	•

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP ZBOOK 15 G6 MOBILE WORKSTATION (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 7.6 or later (x86_64)	RHEL 8.0 or later (x86_64)	Ubuntu 16.04.5 or later (x86_64)	Ubuntu 18.04.2 or later (x86_64)	Ubuntu 20.04 or later (x86_64)
USB 3.0 Type A ports	•	•	•	•	•
USB 3.1 G2 Type-C™ ports (USB 3.1 Gen 2, PCIe Gen 3, DisplayPort 1.3, Thunderbolt™ 3)	•	•	•	•	•
TPM 2.0 Module	6	6	6	6	6
Input/Output Devices					
Trackpad + buttons	•	•	9	•	•
Smart Card reader	•	•	•	•	•
HP Media Card Reader	•	•	•	•	•
External HDMI port	7	7	7	7	7
Fingerprint sensor	9	9	9	9	9
Dock options					
HP ZBook Dock with Thunderbolt™ 3 G2	8	8	8	8	8

1 Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

2 HP recommends the following minimum revision of the NVIDIA® driver: 418.56 (or newer).

3 Touch is only supported as equivalent to a single button pointer device. Any multi-touch/gesture capability supported by Linux desktops must be programmed by the user within the desktop environment.

4 Intel® Optane™ cache memory modules are not supported by Linux at this time

5 The Ax200 wireless solution is not yet supported by Linux distributions. The Bluetooth® controller should be functional.

6 Support for the TPM or other security devices varies by OS distribution. Any use of the TPM module may require additional software from the distribution.

7 With NVIDIA®-based configurations, it is recommended to use the NVIDIA® closed-source driver when using externally connected displays.

8 The speaker and volume controls in the audio module are functional, but the telephony controls are not.

9 The fingerprint sensor device is recognized/enumerated by the kernel. However, all of the setup and configuration to use the sensor for authentication must be completed by the user. FYI: The required sofware to do this is not typically installed by enterprise distributions.

10 Basic Control of SureView capabilities works under Linux with select function keys. There is no on-screen control of SureView with Linux.

11 Audio output via speakers function. Audio input via built-in microphone is currently not functional due to a missing driver. Please check with your distro vendor for the availability of the snd-sof-pci driver in ALSA.

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP ZBOOK 15 G5 MOBILE WORKSTATION

As of this edition of this matrix, some Enterprise-class Linux releases enable the Intel® architecture used in this system.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 7.5 or later (x86_64)	RHEL 8.0 or later (x86_64)	Ubuntu 16.04.4 or later (x86_64)	Ubuntu 18.04 or later (x86_64)
HP Workstation Base System				
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•	•
HP Localization Kit	1	1	1	1
All Supported Processors				
All support Intel® 8th generation Core™ i7, i5 and Xeon® processors	•	•	•	•
Graphics Card (Video Card)				
Intel® UHD integrated 630 graphics on Core™ i5/i7 processors	•	•	•	•
Intel® UHD integrated P630 graphics on Xeon® processors	•	•	•	•
AMD Radeon™ Pro WX 4150 (4 GB Frame buffer)	2, 4, 5	2, 5	2, 4, 5	2, 5
NVIDIA® Quadro® P1000 (4 GB Frame buffer)	3, 5	3, 5	3, 5	3, 5
NVIDIA® Quadro® P2000 (4 GB Frame buffer)	3, 5	3, 5	3, 5	3, 5
System RAM				
Minimum (GB)	4 GB	4 GB	4 GB	4 GB
Maximum (GB)	64 GB	64 GB	64 GB	64 GB
Display - internal panel				
15.6" diagonal FHD IPS eDP anti-glare, 220 nits (1920x1080)	•	•	•	•
15.6" diagonal FHD IPS eDP + PSR anti-glare, 400 nits with ambient light sensor (1920x1080)	•	•	•	•
15.6" diagonal HP Sure View FHD IPS eDP+PSR Touch-screen with Corning® Gorilla® Glass 4 650 nits (1920x1080)	•	•	•	•
15.6" diagonal UHD IPS eDP + PSR anti-glare, 400 nits with ambient light sensor (3840x2160)	•	•	•	•
15.6" diagonal UHD IPS eDP + PSR Touch-screen with Corning® Gorilla® Glass 4 400 nits with ambient light sensor (3840x2160)	•	•	•	•
15.6" diagonal HP DreamColor Technology, UHD IPS eDP + PSR anti-glare, 600 nits, 100% Adobe RGB with 10-bit color (3840x2160)	•	•	•	•
Hard Disks				
All Supported M.2 SSD's	•	•	•	•
Intel® Optane™ Cache memory	9	9	9	9
All Supported SATA Disk Drives	•	•	•	•
All Supported Z Turbo NVMe PCIe SSD's	•	•	•	•
HP 3D DriveGuard	9	9	9	9
Integrated Components				
Wired LAN - Intel® i219LM Gigabit Ethernet	•	•	•	•
Wireless LAN - Intel® dual-band wireless-AC 9560 802.11ac (2x2) Wi-Fi and Bluetooth® 5.0 combo, vPro®	•	•	•	•
Wireless LAN - Intel® dual-band wireless-AC 9560 802.11ac (2x2) Wi-Fi and Bluetooth® 5.0 combo, non-vPro®	•	•	•	•
Intel® XMM 7360 LTE-Advanced mobile broadband module				
Intel® lt4132 LTE/HSPA+ 4G mobile broadband module				
NFC Mirage WNC XRAV-1				
Onboard Audio (Conexant codec)	•	•	•	•
HP Webcam	•	•	•	•
Onboard Intel® integrated SATA RAID (0/1)	•	•	•	•
USB 3.0 Type A ports	•	•	•	•

CONTENTS & NAVIGATION

HP ZBOOK 15 G5 MOBILE WORKSTATION (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 7.5 or later (x86_64)	RHEL 8.0 or later(x86_64)	Ubuntu 16.04.4 or later (x86_64)	Ubuntu 18.04 or later (x86_64)
USB 3.1 G2 Type-C™ ports (USB 3.1 Gen 2, PCIe Gen 3, DisplayPort 1.3, Thunderbolt™ 3)	•	•	•	•
USB 2.0/3/1 G1 internal ports	•	•	•	•
TPM 2.0 Module	7	7	7	7
Input/Output Devices				
Trackpad + buttons	•	•	8	•
Smart Card reader	•	•	•	•
HP Media Card Reader	•	•	•	•
External HDMI port	10	10	10	10
Removable CD/DVD Media				
HP DVD RW Supermulti Drive	•	•	•	•
Dock options				
HP ZBook Dock with Thunderbolt™ 3	•	•	•	•
HP ZBook Dock with Thunderbolt™ 3 G2 with optional audio module	11	11	11	11
HP USB Type-C™ Elite dock	•	•	•	•

1 Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

2 AMD Radeon™ Pro graphics cards are now supported in Linux by the amdgpu open source driver. OS streams are supported at specific release version levels, starting with these: RHEL 7.5, Ubuntu 16.04.4 and 18.04.

3 HP recommends the following minimum revision of the NVIDIA® driver: 390.67 (or newer).

4 At the time this document was published, AMD® had not yet released a pro version of their driver for these enterprise Linux distributions. Please check at a later time or check the availability of a released driver at the hp.com/support/workstations support website.

5 For installation, HP recommends setting the BIOS gfx mode to 'discrete'. It may be necessary to boot with the 'nomodeset' option for installation to work around issues with the inbox gfx driver.

6 The current supported Linux distros have the correct iwlwifi driver but may lack the latest Intel® 9560 firmware to properly operate the Wi-Fi solution. Check with your distribution vendor for updates.

7 Support for the TPM or other security devices varies by OS distribution. Any use of the TPM module may require additional software from the distribution.

8 On Ubuntu 16.04.4 the trackpad has issues initially after installation that require manual work-arounds in the /etc/X11/xorg.conf file. See HP support website for documentation on how to accomplish this. Until this issue is worked around, the desktop user experience is very poor, as the cursor randomly jumps into "follow" mode.

9 This option is not supported on Linux distributions.

10 With NVIDIA®-based configurations, it is recommended to use the NVIDIA® closed source driver when using externally connected displays. It is not currently recommended to use externally connected monitors with AMD® graphics options.

11 The speaker and volume controls in the audio module are functional, but the telephony controls are not.

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP ZBOOK 15 G4 MOBILE WORKSTATION

As of this edition of this matrix, some Enterprise-class Linux releases enable the Intel® architecture used in this system.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 7.3 or later (x86_64)	Ubuntu 16.04.1 or later (x86_64)
HP Workstation Base System		
Base system includes: Chassis, System Board, Power Supply, etc.	•	•
HP Localization Kit	1	1
All Supported Processors		
All supported 7th generation Intel® Core™ i7, i5 and Xeon® processors	•	•
System RAM		
Minimum (GB)	4 GB	4 GB
Maximum (GB)	64 GB	64 GB
Graphics Card (Video Card)		
Intel® HD integrated graphics 630 on Core™ i7 processors	5	5
Intel® HD integrated graphics P630 on Xeon® processors	5	5
AMD® WX4150 with 4 GB of graphics memory		
NVIDIA® Quadro® M1200 with 4 GB of graphics memory	6	6
NVIDIA® Quadro® M2200 with 4 GB of graphics memory	6	6
Display - internal panel		
15.6" diagonal LED-backlet FHD UWVA IPS eDP anti-glare + panel self refresh (PSR) (1920x1080)	•	•
15.6" diagonal LED backlit FHD SVA eDP anti-glare + panel self refresh (PSR) (1920x1080)	•	•
15.6" diagonal LED UHD UWVA IPS LED anti-glare DreamColor (3840x2160)	•	•
15.6" diagonal Touch LED-backlit FHD UWVA IPS (1920x1080)	7	7
Hard Disks		
All supported 2.5" AHCI SATA Drives	•	•
All Supported M.2 Solid State Drives	•	•
All Supported HP Z Turbo Drive NVMe PCIe-attached storage	•	•
All Supported M.2 AHCI SED Solid State Drives	8	8
Onboard Components		
Wired LAN - Intel® i219LM Gigabit Ethernet	•	•
Onboard Audio (Conexant codec)	•	•
Onboard SATA RAID	2	2
Intel® dual-band wireless AC 8265 802.11 AC/a/b/g/n (2x2) Wi-Fi + Bluetooth® (vPro® * non-vPro®)	•	•
Mobile Broadband - HP lt4120 Qualcomm Snapdragon X5 LTE mobile broadband		
Mobile Broadbad - HP lt4132, LTE/HSPA+ 4G w/GPS		
Mobile Broadband - HP s3210 HSPA+ Intel® Mobile Broadband Module		
HP webcam	•	•
Thunderbolt™ 3 ports	3	3
USB 3.0 ports	•	•
Input/Output Devices		
Touchpad	•	•
TPM Module	4	4
Smart Card	•	•
HP Media Card Reader	•	•
External HDMI port	•	•
External VGA port	•	•

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HP ZBOOK 15 G4 MOBILE WORKSTATION (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 7.3 or later (x86_64)	Ubuntu 16.04.1 or later (x86_64)
Dock Options		
ZBook dock with Thunderbolt™ 3	9, 11	10, 11
HP USB Type-C™ Elite dock		

1 Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

2 Hardware RAID is not supported on SATA drives. Software RAID is available in most Linux OSes and can be used with SATA or PCIe storage devices.

3 Newer Linux kernels may provide device functionality through the Thunderbolt™ ports. Such kernels are likely to be available in leading-edge distributions, but inclusion of the support with any Enterprise Linux distribution is at the distributor's discretion.

4 Support for the TPM or other security devices varies by OS distribution.

5 The Intel® HD graphics works with the in-box frame-buffer drivers. Support for the "native" Intel® driver on v7 processors (Kabylake) is not available for most release streams as of this edition of the table.

6 HP recommends use of NVIDIA® driver 375.66 (or newer) on NVIDIA® graphics options.

7 As of this edition of the table, only basic touch capability was available in most Linux desktop managers and no desktops are optimized for a satisfactory touch experience.

8 SED drives work with Linux. There is, however, no Linux support available for manipulating encryption settings via the Opal API.

9 The Thunderbolt™ dock is compatible with RHEL 7 on this ZBook model, starting with RHEL 7.3.

10 The Thunderbolt™ dock is compatible with Ubuntu 16.04, starting with 16.04.1. The one known limitation is that the audio headphone jack does not work.

11 With NVIDIA®-based configurations, it is recommended to use the NVIDIA® closed source driver when using externally connected displays. It is not currently recommended to use the dock with AMD® graphics options at this time.

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP ZBOOK 15 G3 MOBILE WORKSTATION

RHEL 7 certifications pending. RHEL 6 certifications unlikely.
As of this edition of this matrix, some Enterprise-class Linux releases enable the Intel® architecture used in this system.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 6.8 or later	RHEL 7.2 or later (x86_64)	Ubuntu 16.04.1 or later
HP Workstation Base System			
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•
HP Localization Kit	1	1	1
All Supported Processors			
All Supported Processors (single-CPU configs)	•	•	•
Hyperthreading	•	•	•
System RAM			
Minimum (GB)	4 GB	4 GB	4 GB
Maximum (GB)	64 GB	64 GB	64 GB
Graphics Card (Video Card)			
Intel® HD integrated graphics 530	5	5	5
Intel® HD integrated graphics P530	5	5	5
Intel® HD integrated pro graphics P580 (available 1H16)	5	5	5
AMD® W5170M with 2 GB of graphics memory	•	•	•
NVIDIA® Quadro® M1000M with 2 GB of graphics memory	6	6	6, 10
NVIDIA® Quadro® M2000M with 4 GB of graphics memory	6	6	6, 10
Display - internal panel			
15.6" diagonal LED-backlit FHD UWVA IPS eDP anti-glare + panel self refresh (PSR) (1920x1080)	•	•	•
15.6" diagonal LED backlit FHD SVA eDP anti-glare (1920x1080)	•	•	•
15.6" diagonal LED UHD UWVA IPS LED anti-glare DreamColor (3840x2160) (available in 1H16)	•	•	•
15.6" diagonal Touch LED-backlit FHD UWVA IPS (1920x1080) (available in 1H16)	7	7	7
Hard Disks			
All supported 2.5" AHCI SATA Drives	•	•	•
All Supported M.2 Solid State Drives	•	•	•
All Supported HP Z Turbo Drive NVMe PCIe-attached storage	•	•	•
All Supported M.2 AHCI SED Solid State Drives	13	13	13
Onboard Components			
Wired LAN - Intel® i219LM Gigabit Ethernet	•	•	•
Onboard Audio (Conexant codec)	•	•	•
Onboard SATA RAID	2	2	2
Intel® dual-band wireless AC 8260 802.11 AC/a/b/g/n (2x2) WiFi + Bluetooth® (vPro® & non-vPro®)	9	9	9
Wireless WAN - lt4120 Qualcomm Snapdragon X5 LTE mobile broadband capability			
Wireless WAN - hs3110 HSPA+ Intel® mobile broadband capability			
HP webcam	•	•	•
Thunderbolt™ 3 ports		3	•
USB 3.0 ports	•	•	•

CONTENTS & NAVIGATION

HP ZBOOK 15 G3 MOBILE WORKSTATION (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 6.8 or later	RHEL 7.2 or later (x86_64)	Ubuntu 16.04.1 or later
Input/Output Devices			
Touchpad	•	•	•
TPM Module	4	4	4
Smart Card	•	•	•
HP Media Card Reader		•	•
External HDMI port	•	•	•
External VGA port	•	•	•
Dock Options			
ZBook dock with Thunderbolt™ 3		8, 12	11, 12
HP USB Type-C™ Elite dock			

1 Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

2 Hardware RAID is not supported on SATA drives. Software RAID is available in most Linux OSes and can be used with SATA or PCIe storage devices. Software RAID may not support RAID of the boot volume.

3 Newer Linux kernels may provide device functionality through the Thunderbolt™ ports. Such kernels are likely to be available in leading-edge distributions, but inclusion of the support with any Enterprise Linux distribution is at the distributor's discretion.

4 Support for the TPM or other security devices varies by OS distribution.

5 The Intel® HD graphics works with the in-box frame-buffer drivers. Support for the "native" Intel® driver on v5 processors (Skylake) is not available for most release streams as of this edition of the table.

6 HP recommends use of NVIDIA® driver 361.28 (or newer) for configurations with NVIDIA® graphics.

7 As of this edition of the table, only basic touch capability was available in most Linux desktops and no desktops are optimized for a satisfactory touch experience.

8 The Thunderbolt™ dock is compatible with RHEL 7 on this ZBook model, starting with RHEL 7.3.

9 As of this edition, the Bluetooth® functionality of this "combo" device has not been enabled in any tested distribution. However, the wireless LAN capability is functional.

10 In order to install Ubuntu 16.04.1 (or later versions) on this graphics option, HP recommends that you change the graphics mode in BIOS to use the 'discrete' setting. You may also need to add 'nomodeset' to the boot line during installation.

11 The Thunderbolt™ dock is compatible with Ubuntu 16.04, starting with 16.04.1. The one known limitation is that the audio headphone jack does not work.

12 With NVIDIA®-based configurations, it is recommended to use the NVIDIA® closed source driver when using externally connected displays. It is not currently recommended to use the dock with AMD® graphics options at this time.

13 SED drives work with Linux. There is, however, no Linux support available for manipulating encryption settings via the Opal API.

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP ZBOOK STUDIO/CREATE G7 WORKSTATION

Certified on Ubuntu 20.04
Enterprise-class Linux releases older than those listed do not enable the Intel® Comet Lake architecture used in this system.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 8.3 or later (x86_64)	Ubuntu 18.04.5 (x86_64)	Ubuntu 20.04 (x86_64)
HP Workstation Base System			
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•
All Supported Processors			
All Supported Intel® 10th generation Core™ i5, i7, i9 and Xeon® processors	•	•	•
Graphics Card (Video Card)			
Intel® UHD integrated graphics	•	•	•
System RAM			
Minimum (GB)	4 GB	4 GB	4 GB
Maximum (GB)	32 GB non-ECC	32 GB non-ECC	32 GB non-ECC
Create Graphics Options			
NVIDIA® GeForce® RTX 2070 with Max-Q Design (8 GB GDDR6 dedicated)	1	2	2
NVIDIA® GeForce® RTX 2070 Super with Max-Q Design (8 GB GDDR6 dedicated)	1	2	2
NVIDIA® GeForce® RTX 2080 Super with Max-Q Design (8 GB GDDR6 dedicated)	1	2	2
Studio Graphics Options			
NVIDIA® Quadro® T1000 w/Max-Q design (4 GB of GDDR6 memory)	1	2	2
NVIDIA® Quadro® T2000 w/Max-Q design (4 GB of GDDR6 memory)	1	2	2
NVIDIA® Quadro® RTX 3000 (6 GB of GDDR6 memory)	1	2	2
NVIDIA® Quadro® RTX 4000 w/Max-Q Design (8 GB of GDDR6 memory)	1	2	2
NVIDIA® Quadro® RTX 5000 w/Max-Q Design (16 GB of GDDR6 memory)	1	2	2
Display-internal panel			
15.6" diagonal 4K UHD (3840 x 2160) IPS eDP+ PSR anti-glare, 100% DCI-P3, 600 nitsVESA DisplayHDR 400Certified Next Gen HP DreamColorPanel	•	•	•
15.6" diagonal FHD (1920 x 1080) IPS eDP + PSR anti-glare, 100% sRGB at 400 nits (1W) low powerpanel	•	•	•
15.6" diagonal FHD(1920 x 1080) IPS eDP + PSR anti-glare, 72% NTSC at 1000 nits HP Sure View Reflect Integrated Privacy Panel	•	•	•
15.6" diagonal 4K UHD (3840 x 2160) UWVA eDP + PSR Brightview 100% DCI-P3, 400 nits OLED VESA DisplayHDR 500 True Black Certified panel with Corning®Gorilla®Glass 6 Touch Screen	3	3	3
Hard Disks			
All Supported M.2 Solid State Drives	•	•	•
All Supported M.2 SATA SED Solid State Drives	•	•	•
Onboard Components			
Onboard Audio	4	4	4
Intel® Wi-Fi 6 AX201(2x2) and Bluetooth® 5 combo (vPro® & non-vPro®)	•	•	•
720p HD with Temporal Noise Reduction webcam with IR	5	5	5
USB 3.1 gen 1 port	•	•	•
USB 3.1 gen 2 / Thunderbolt 3™ ports	•	•	•
Function hot key functionality	•	•	•

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP ZBOOK STUDIO/CREATE G7 WORKSTATION (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 8.3 or later (x86_64)	Ubuntu 18.04.5 (x86_64)	Ubuntu 20.04 (x86_64)
Input/Output Devices			
Touchpad	•	•	•
TPM Module	6	6	6
Fingerprint sensor			
SD 4.0 Media Card Reader	•	•	•
HDMI 2.0 port(non-RTX configs)	•	•	•
External mini DisplayPort 1.4 port (RTX configs)	•	•	•
Dock options			
ZBook dock with Thunderbolt 3™	•	•	•

1 HP recommends use of NVIDIA® driver 450.55 (or newer) on NVIDIA® graphics options.
2 Canonical regularly releases an NVIDIA® driver that can be applied by the Ubuntu software update mechanism. HP recommends using this driver and update method on Ubuntu 18.04 and 20.04.
3 As of this edition of the table, only basic touch capability was available in most Linux desktops.
4 The left channel for audio output works, while the right channel does not at this time.
5 IR camera not supported in Linux at this time.
6 Support for the TPM or other security devices varies by OS distribution. Any use of the TPM module may require additional software from the distribution being used.

LINUX HARDWARE MATRIX

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HP ZBOOK STUDIO G5 MOBILE WORKSTATION

Certified on RHEL 8.0.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 7.5 or later (x86_64)	RHEL 8.0 or later (x86_64)	Ubuntu 16.04.4 or later (x86_64)	Ubuntu 18.04 or later (x86_64)	Ubuntu 20.04 or later (x86_64)
HP Workstation Base System					
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•	•	•
HP Localization Kit	1	1	1	1	1
All Supported Processors					
All support Intel® 8th generation Core™ i5, i7 and Xeon® processors	•	•	•	•	•
Graphics Card (Video Card)					
Intel® UHD integrated 630 graphics on Core™ i5/i7 processors	•	•	•	•	•
Intel® UHD integrated P630 graphics on Xeon® processors	•	•	•	•	•
NVIDIA® Quadro® P1000 (4 GB Frame buffer)	3, 5	3, 5	3, 5	3, 5	3, 5
System RAM					
Minimum (GB)	4 GB	4 GB	4 GB	4 GB	4 GB
Maximum (GB)	32 GB	32 GB	32 GB	32 GB	32 GB
Display - internal panel					
15.6" diagonal FHD IPS eDP + PSR anti-glare, 400 nits with ambient light sensor (1920x1080)	•	•	•	•	•
15.6" diagonal HP Sure View FHD IPS eDP+PSR anit-glare, 650 nits (1920x1080)	•	•	•	•	•
15.6" diagonal UHD IPS eDP + PSR anti-glare, 400 nits with ambient light sensor (3840x2160)	•	•	•	•	•
15.6" diagonal HP DreamColor Technology, UHD IPS eDP + PSR anti-glare, 600 nits, 100% Adobe RGB with 10-bit color (3840x2160)	•	•	•	•	•
Hard Disks					
All Supported M.2 SSD's	•	•	•	•	•
Intel® Optane™ Cache memory	9	9	9	9	9
All Supported Z Turbo NVMe PCIe SSD's	•	•	•	•	•
HP 3D DriveGuard	9	9	9	9	9
Integrated Components					
Wireless LAN - Intel® dual-band wireless-AC 9560 802.11ac (2x2) Wi-Fi and Bluetooth® 5.0 combo,vPro®	6	6	6	6	•
Wireless LAN - Intel® dual-band wireless-AC 9560 802.11ac (2x2) Wi-Fi and Bluetooth® 5.0 combo, non-vPro®	6	6	6	6	•
Intel® XMM 7360 LTE-Advanced mobile broadband module					
Intel® lt4132 LTE/HSPA+ 4G mobile broadband module					
NFC Mirage WNC XRAV-1					
Onboard Audio (Conexant codec)	•	•	•	•	•
HP Webcam	•	•	•	•	•
Onboard Intel® integrated SATA RAID (0/1)	•	•	•	•	•
USB 3.0 Type A ports	•	•	•	•	•
USB 3.1 G2 Type C™ ports (USB 3.1 Gen 2, PCIe Gen 3, DisplayPort 1.3, Thunderbolt™ 3)	•	•	•	•	•

CONTENTS & NAVIGATION

HP ZBOOK STUDIO G5 MOBILE WORKSTATION (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 7.5 or later (x86_64)	RHEL 8.0 or later (x86_64)	Ubuntu 16.04.4 or later (x86_64)	Ubuntu 18.04 or later (x86_64)	Ubuntu 20.04 or later (x86_64)
USB 2.0/3/1 G1 internal ports	•	•	•	•	•
TPM 2.0 Module	7	7	7	7	7
Input/Output Devices					
Trackpad + buttons	8	8	8	8	•
Smart Card reader	•	•	•	•	•
HP Media Card Reader	•	•	•	•	•
External HDMI port	10	10	10	10	10
Dock options					
HP ZBook Dock with Thunderbolt™ 3	•	•	•	•	•
HP ZBook Dock with Thunderbolt™ 3 G2 with optional audio module	11	11	11	11	11
HP USB Type-C™ Elite dock	•	•	•	•	•

1 Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

2 AMD Radeon™ Pro graphics cards are now supported in Linux by the amdgpu open source driver. OS streams are supported at specific release version levels, starting with these: RHEL 7.5, Ubuntu 16.04.4 and 18.04.

3 HP recommends the following minimum revision of the NVIDIA® driver: 390.67 (or newer).

4 At the time this document was published, AMD® had not yet released a pro version of their driver for these enterprise Linux distributions. Please check at a later time or check the availability of a released driver at the hp.com/support/workstations support website.

5 For installation, HP recommends setting the BIOS gfx mode to 'discrete'. It may be necessary to boot with the 'nomodeset' option for installation to work around issues with the inbox gfx driver.

6 The current supported Linux distros have the correct iwlwifi driver, but may lack the latest Intel® 9560 firmware to properly operate the wifi solution. Check with your distribution vendor for updates.

7 Support for the TPM or other security devices varies by OS distribution. Any use of the TPM module may require additional software from the distribution.

8 The trackpad is not functional out of the box with any of these distributions at this time. To use the G5 Studio, one will have to use an external USB pointer device until such time as a work-around is found or a permanent solution is available. Please check with your distribution vendor.

9 This option is not supported on Linux distributions.

10 With NVIDIA®-based configurations, it is recommended to use the NVIDIA® closed source driver when using externally connected displays.

11 The speaker and volume controls in the audio module are functional, but the telephony controls are not.

LINUX HARDWARE MATRIX

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HP ZBOOK STUDIO G4 MOBILE WORKSTATION

RHEL 7 certifications pending.
As of this edition of this matrix, some Enterprise-class Linux releases enable the Intel® architecture used in this system.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 7.3 or later (x86_64)	Ubuntu 16.04.1 or later (x86_64)
HP Workstation Base System		
Base system includes: Chassis, System Board, Power Supply, etc.	•	•
HP Localization Kit	1	1
All Supported Processors		
All supported 7th generation Intel® Core™ i7, i5 and Xeon® processors	•	•
System RAM		
Minimum (GB)	4 GB	4 GB
Maximum (GB)	32 GB	32 GB
Graphics Card (Video Card)		
Intel® HD integrated graphics 630 on Core™ i7 processors	5	5
Intel® HD integrated graphics P630 on Xeon® processors	5	5
NVIDIA® Quadro® M1200 with 4 GB of graphics memory	6	6
Display - internal panel		
15.6" diagonal LED-backlet FHD UWVA IPS eDP anti-glare + panel self refresh (PSR) (1920x1080)	•	•
15.6" diagonal UHD UWVA IPS LED anti-glare (3840x2160)	•	•
15.6" diagonal Touch LED-backlit FHD UWVA IPS (1920x1080)	7	7
Hard Disks		
All Supported M.2 AHCI Solid State Drives	•	•
All Supported HP Z Turbo Drive NVMe PCIe-attached storage	•	•
All Supported M.2 AHCI SED Solid State Drives	8	8
Onboard Components		
Wired LAN - Intel® i219LM Gigabit Ethernet	•	•
Onboard Audio (Conexant codec)	•	•
Onboard SATA RAID	2	2
Intel® dual-band wireless AC 8265 802.11 AC/a/b/g/n (2x2) Wi-Fi + Bluetooth® (vPro® & non-vPro®)	•	•
HP webcam	•	•
Thunderbolt™ 3 ports	3	3
USB 3.0 ports	•	•
Input/Output Devices		
Touchpad	11	•
TPM Module	4	4
External HDMI port	•	•
Dock Options		
ZBook Dock with Thunderbolt™ 3	9, 10	10, 12
HP USB Type-C™ Elite dock		

CONTENTS & NAVIGATION

HP ZBOOK STUDIO G4 MOBILE WORKSTATION (CONTINUED)

1 Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

2 Hardware RAID is not supported on SATA drives. Software RAID is available in most Linux OSes and can be used with SATA or PCIe storage devices.

3 Newer Linux kernels may provide device functionality through the Thunderbolt™ module. Such kernels are likely to be available in leading-edge distributions, but inclusion of the support with any Enterprise Linux distribution is at the distributor's discretion.

4 Support for the TPM or other security devices varies by OS distribution.

5 The Intel® HD graphics works with the in-box frame-buffer drivers. Support for the "native" Intel® driver on v7 processors (Kabylake) is not available for most release streams as of this edition of the table.

6 HP recommends use of NVIDIA® driver 375.66 (or newer) on NVIDIA® graphics options.

7 As of this edition of the table, only basic touch capability was available in most Linux desktops and no desktops are optimized for a satisfactory touch experience.

8 SED drives work with Linux. There is, however, no Linux support available for manipulating encryption settings via the Opal API.

9 The Thunderbolt™ dock is compatible with RHEL 7 on this ZBook model, starting with RHEL 7.3.

10 With NVIDIA®-based configurations, it is recommended to use the NVIDIA® closed source driver when using externally connected displays.

11 The Touchpad requires a post RHEL 7.3 z-stream update. A simple work-around can also be used in lieu of the z-stream fix by adding the boot option 'module_blacklist=i2c-hid' to the boot command line.

12 The Thunderbolt™ dock is compatible with Ubuntu 16.04, starting with 16.04.1. The one known limitation is that the audio headphone jack does not work.

LINUX HARDWARE MATRIX

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HP ZBOOK STUDIO G3 MOBILE WORKSTATION

RHEL 7 certifications pending. RHEL 6 certifications unlikely.
As of this edition of this matrix, some Enterprise-class Linux releases enable the Intel® architecture used in this system.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 6.8 or later	RHEL 7.2 or later (x86_64)	Ubuntu 16.04.1 or later
HP Workstation Base System			
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•
HP Localization Kit	1	1	1
All Supported Processors			
All Supported Processors (single-CPU configs)	•	•	•
Hyperthreading	•	•	•
System RAM			
Minimum (GB)	4 GB	4 GB	4 GB
Maximum (GB)	32 GB	32 GB	32 GB
Graphics Card (Video Card)			
Intel® HD integrated graphics 530	5	5	5
Intel® HD integrated graphics P530	5	5	5
Intel® HD integrated pro graphics P580 (available 1H16)	5	5	5
NVIDIA® Quadro® M1000M with 2 GB of graphics memory	6	6	6, 12
NVIDIA® Quadro® M2000M with 4 GB of graphics memory	6	6	6, 12
Display - internal panel			
15.6" diagonal LED-backlit FHD UWVA IPS eDP anti-glare + panel self refresh (PSR) (1920x1080)	•	•	•
15.6" diagonal LED backlit FHD SVA eDP anti-glare (1920x1080)	•	•	•
15.6" diagonal LED UHD UWVA IPS LED anti-glare DreamColor (3840x2160) (available in 1H16)	•	•	•
15.6" diagonal Touch LED-backlit FHD UWVA IPS (1920x1080) (available in 1H16)	7	7	7
Hard Disks			
All Supported M.2 AHCI Solid State Drives	•	•	•
All Supported HP Z Turbo Drive NVMe PCIe-attached storage	•	•	•
All Supported M.2 AHCI SED Solid State Drives	8	8	8
Onboard Components			
Wired LAN - Intel® i219LM Gigabit Ethernet	•	•	•
Onboard Audio (Conexant codec)	•	•	•
Onboard SATA RAID	2	2	2
Intel® dual-band wireless AC 8260 802.11 AC/a/b/g/n (2x2) Wi-Fi + Bluetooth® (vPro® & non-vPro®)	10	10	10
HP webcam	•	•	•
Thunderbolt™ 3 ports		3	•
USB 3.0 ports	•	•	•
Input/Output Devices			
Touchpad	•	11	•
TPM Module	4	4	4
External HDMI port	•	•	•
Dock Options			
ZBook Dock with Thunderbolt™ 3		9	9

CONTENTS & NAVIGATION

HP ZBOOK STUDIO G3 MOBILE WORKSTATION (CONTINUED)

1 Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

2 Hardware RAID is not supported on SATA drives. Software RAID is available in most Linux OSes and can be used with SATA or PCIe storage devices. Software RAID may not support RAID of the boot volume.

3 Newer Linux kernels may provide device functionality through the Thunderbolt™ module. Such kernels are likely to be available in leading-edge distributions, but inclusion of the support with any Enterprise Linux distribution is at the distributor's discretion.

4 Support for the TPM or other security devices varies by OS distribution.

5 The Intel® HD graphics works with the in-box frame-buffer drivers. Support for the "native" Intel® driver on v5 processors (Skylake) is not available for most release streams as of this edition of the table.

6 HP recommends use of NVIDIA® driver 361.28 (or newer) for configurations with NVIDIA® graphics.

7 As of this edition of the table, only basic touch capability was available in most Linux desktops and no desktops are optimized for a satisfactory touch experience.

8 SED drives work with Linux. There is, however, no Linux support available for manipulating encryption settings via the Opal API.

9 As of this edition, the docking station has not been tested for compatibility with Linux distributions. The supported state of the various I/O ports will be updated as new information becomes available over time.

10 As of this edition, the Bluetooth® functionality of this "combo" device has not been enabled in any tested distribution. However, the wireless LAN capability is functional.

11 Red Hat introduced a regression in RHEL 7.3 in which the Touchpad ceases to function. Adding the option "module_blacklist=i2c_hid" to the kernel boot line will work around this issue. Red Hat is working on an errata to fix this issue prior to the release of 7.4.

12 In order to install Ubuntu 16.04.1 on this graphics option, HP recommends that you change the graphics mode in BIOS to use the 'discrete' setting. You may also need to add 'nomodeset' to the boot line during installation.

LINUX HARDWARE MATRIX

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HP ZBOOK FIREFLY 14/15 G7 WORKSTATION

No certifications pending
Enterprise-class Linux releases older than those listed do not enable the Intel® Comet Lake architecture used in this system.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements..

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 8.3 or later (x86_64)	Ubuntu 18.04.5 (x86_64)	Ubuntu 20.04 (x86_64)
HP Workstation Base System			
Base system includes: Laptop, Power Supply, etc..	•	•	•
All Supported Processors			
All Supported Intel® 10th generation Core™ i5, i7 processors	•	•	•
Graphics Card (Video Card)			
Intel® UHD integrated graphics	•	•	•
NVIDIA® Quadro® P520 (4 GB of GDDR6 memory)	1	2	2
System RAM			
Minimum (GB)	4 GB	4 GB	4 GB
Maximum (GB)	64 GB non-ECC	64 GB non-ECC	64 GB non-ECC
Display-internal panel			
15.6" diagonal FHD IPS eDP + PSR anti-glare, 100% sRGB at 400 nits with ambient light sensor (1920 x 1080)	•	•	•
15.6" diagonal FHD IPS eDP anti-glare, 45% NTSC at 250 nits (1920 x 1080)	•	•	•
15.6" diagonal 4K UHD IPS eDP + PSR anti-glare, 100% sRGB, 400 nits with ambient light sensor (3840 x 2160)	•	•	•
15.6" diagonal FHD IPS eDP anti-glare touch screen, 45% NTSC at 250 nits (1920 x 1080)	3	3	3
14" diagonal FHD IPS eDP + PSR anti-glare, 100% sRGB at 400 nits with ambient light sensor (1920 x 1080)	•	•	•
14" diagonal FHD IPS eDP anti-glare, 45% NTSC at 250 nits (1920 x 1080)	•	•	•
HP Sure View Reflect Integrated Privacy Display 14" diagonal FHD IPS eDP + PSR anti-glare, 72% NTSC at 1000 nits (1920 x 1080)	•	•	•
14" diagonal 4K UHD HDR-400 IPS eDP 1.4 + PSR anti-glare, 95% sRGB, 550 nits with ambient light sensor (3840 x 2160)	•	•	•
14" diagonal FHD IPS eDP touch screen 45% NTSC at 250 nits (1920 x 1080)	3	3	3
Hard Disks			
All Supported M.2 Solid State Drives	•	•	•
All Supported M.2 SATA SED Solid State Drives	•	•	•
Onboard Components			
Onboard Audio	4	7	4
Intel® Wi-Fi 6 AX201(2x2) and Bluetooth® 5 combo (vPro® & non-vPro®)	•	8	•
WWAN Intel® XMM™ 7360 LTE Advanced CAT 9			
WWAN Intel® XMM™ 7560 LTE-Advanced Pro Cat 16			
720p HD webcam	•	•	•
720p HD webcam with IR	5	5	5
USB 3.1 gen 2 / Thunderbolt 3™ ports	•	•	•
Function hot key functionality	•	•	•

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP ZBOOK FIREFLY 14/15 G7 WORKSTATION (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 8.3 or later (x86_64)	Ubuntu 18.04.5 (x86_64)	Ubuntu 20.04 (x86_64)
Input/Output Devices			
Touchpad + Keys	•	•	•
TPM Module	6	6	6
Fingerprint sensor			
SD 4.0 Media Card Reader	•	•	•
External HDMI 1.4b port	•	•	•
Dock options			
ZBook dock with Thunderbolt 3™	•	•	•

1 HP recommends use of NVIDIA® driver 450.55 (or newer) on NVIDIA® graphics options.
2 Canonical regularly releases an NVIDIA® driver that can be applied by the Ubuntu software update mechanism. HP recommends using this driver and update method on Ubuntu 18.04 and 20.04.
3 As of this edition of the table, only basic touch capability was available in most Linux desktops.
4 The left channel for audio output works, while the right channel does not at this time.
5 IR camera not supported in Linux at this time.
6 Support for the TPM or other security devices varies by OS distribution. Any use of the TPM module may require additional software from the distribution being used.
7 In 18.04.5, the audio components do not function. There are updates available in 18.04 repos which will enable audio once installed.
8 18.04.5, the wifi/bt solution is not functional. There are updates available in 18.04 repos which will enable wifi and bt.

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP ZBOOK 14U/15U G6 WORKSTATION

At this time, the Linux distributions listed are supported by HP but none are officially certified with the listed distribution.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 7.6 or later (x86_64)	RHEL 8.0 or later (x86_64)	Ubuntu 16.04.5 or later (x86_64)	Ubuntu 18.04.2 or later (x86_64)	Ubuntu 20.04 or later (x86_64)
HP Workstation Base System					
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•	•	•
HP Localization Kit	1	1	1	1	1
All Supported Processors					
All support Intel® 7th/8th generation Core™ i5, i7 processors	•	•	•	•	•
Graphics Card (Video Card)					
Intel® UHD integrated 630 graphics on Core™ 8th generation processors	•	•	•	•	•
Intel® HD integrated 620 graphics on Core™ 7th generation processors	•	•	•	•	•
AMD Radeon™ Pro WX3200 (4 GB GDDR5 Frame buffer)	•	•	•	•	•
System RAM					
Minimum (GB)	4 GB	4 GB	4 GB	4 GB	4 GB
Maximum non-ECC SDRAM (GB)	32 GB	32 GB	32 GB	32 GB	32 GB
Display-internal panel, non-touch					
HP SureView Integrated Privacy Display [9] (15.6") diagonal FHD IPS eDP + PSR anti-glare, 100% sRGB at 700 nits (1920x1080)	7	7	7	7	7
15.6" diagonal UHD IPS eDP + PSR anti-glare, 100% sRGB at 400 nits with ambient light sensor (3840x 2160)	•	•	•	•	•
15.6" diagonal FHD IPS eDP + PSR anti-glare, 100% sRGB at 400 nits with ambient light sensor (1920x1080)	•	•	•	•	•
15.6" diagonal FHD IPS eDP anti-glare, 67% sRGB at 250 nits (1920x1080)	•	•	•	•	•
15.6" diagonal FHD IPS eDP touch screen with Corning® Gorilla® Glass 3, 67% sRGB at 220 nits (1920x1080)	•	•	•	•	•
HP SureView Integrated Privacy Display [9] 35.6 cm (14.0") diagonal FHD IPS eDP + PSR Anti-Glare LED-backlit, 950 cd/m², 100% sRGB (1920 x 1080)	7	7	7	7	7
35.6 cm (14.0") diagonal UHD IPS 100% Adobe RGB eDP + PSR Anti-Glare LED-backlit, 600 cd/m² (3840 x 2160)	•	•	•	•	•
35.6 cm (14.0") diagonal UHD IPS eDP + PSR Anti-Glare LED-backlit, 400 cd/m², 100% sRGB (3840 x 2160)	•	•	•	•	•
35.6 cm (14.0") diagonal FHD IPS eDP + PSR Anti-Glare LED-backlit 400 cd/m², 100% sRGB (1920 x 1080)	•	•	•	•	•
35.6 cm (14.0") diagonal FHD IPS eDP Anti-Glare LED-backlit, 250 cd/m², 67% sRGB (1920 x 1080)	•	•	•	•	•
Display - internal panel with touch					
15.6" diagonal FHD IPS eDP On-Cell touch screen with Corning® Gorilla® Glass 3, 67% sRGB at 250 nits (1920x1080)	2	2	2	2	2
HP SureView Integrated Privacy Display9 35.6cm (14.0") diagonal FHD IPS Anti-Glare LED-backlit On-Cell Touch with Corning® Gorilla® Glass 3, 900 cd/m2, 100% sRGB (1920 x 1080)	2, 7	2, 7	2, 7	2, 7	2, 7
35.6 cm (14.0") diagonal FHD IPS eDP Anti-Glare LED-backlit On-Cell Touch with Corning® Gorilla® Glass 3, 250 cd/m², 67% sRGB (1920 x 1080)	2	2	2	2	2
35.6 cm (14.0") diagonal FHD IPS eDP eDP + PSR Edge-to-Edge Touch Glass LED-backlit with Corning® Gorilla® Glass 3, 250 cd/m², 67% sRGB (1920 x 1080)	2	2	2	2	2

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP ZBOOK 14U/15U G6 WORKSTATION (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 7.6 or later (x86_64)	RHEL 8.0 or later (x86_64)	Ubuntu 16.04.5 or later (x86_64)	Ubuntu 18.04.2 or later (x86_64)	Ubuntu 20.04 or later (x86_64)
Hard Disks					
All Supported M.2 SSD's	•	•	•	•	•
All Supported SATA Disk Drives	•	•	•	•	•
All Supported Z Turbo NVMe PCIe SSD's	•	•	•	•	•
Integrated Components					
Wired LAN - Intel® i219-LM Gigabit Ethernet (vPro®)	•	•	•	•	•
Wired LAN - Intel® i219-V Gigabit Ethernet (non-vPro® versions)	•	•	•	•	•
Intel® Dual Band Wireless 6 AX200 802.11a/b/g/n/ac/ax (2x2) Wi-Fi® and Bluetooth® 5.0 Combo, vPro®	3	3	3	3	•
Intel® Dual Band Wireless-AC 9560 802.11a/b/g/n/ac (2x2) Wi-Fi® and Bluetooth® 5 Combo, vPro® & non-vPro®	•	•	•	•	•
Intel®XMM 7560 LTE-Advanced mobile broadband module					
Intel® XMM 7360 LTE-Advanced mobile broadband module					
Intel®XMM 7262 LTE-Advanced mobile broadband module					
NFC - NXP NPC300 option module					
Miracast support					
Onboard Audio	8	8	8	8	8
720 HD Webcam (with and without IR option)	•	•	•	•	•
USB 3.1 Gen 1 (Type A) ports	•	•	•	•	•
USB 3.1 Gen 2 (Type-C™) port - USB 3.1 Gen 2, PCIe Gen 3, DisplayPort 1.3, Thunderbolt™ 3	•	•	•	•	•
TPM 2.0 Module	4	4	4	4	4
Input/Output Devices					
Trackpad + buttons	•	6	•	6	•
Smart Card reader	•	•	•	•	•
External HDMI port	•	•	•	•	•
Dock options					
HP ZBook Dock with Thunderbolt™ 3 G2	5	5	5	5	5

1 Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

2 Touch is only supported as equivalent to a single button pointer device. Any multi-touch/gesture capability supported by Linux desktops must be programmed by the user within the desktop environment.

3 The Ax200 wireless solution is not yet supported by Linux distributions. The Bluetooth® controller should be functional.

4 Support for the TPM or other security devices varies by OS distribution. Any use of the TPM module may require additional software from the distribution.

5 The speaker and volume controls in the audio module are functional, but the telephony controls are not.

6 This distribution's Gnome desktop does not enable the virtual right mouse button of the trackpad by default. One must execute this command to enable it: "gsettings set org.gnome.desktop.peripherals.touchpad click-method 'areas' ".

7 Basic Control of SureView capabilities works under Linux with select function keys. There is no on-screen control of SureView with Linux.

8 Audio output via speakers function. Audio input via built-in microphone is currently not functional due to a missing driver. Please check with your distro vendor for the availability of the snd-sof-pci driver in ALSA.

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP ZBOOK 14U/15U G5 WORKSTATION

At this time, the Linux distributions listed are supported by HP but none are officially certified with the listed distribution. HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 7.6 or later (x86_64)	RHEL 8.0 or later (x85_64)	Ubuntu 16.04.5 or later (x86_64)	Ubuntu 18.04.2 or later (x86_64)
HP Workstation Base System				
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•	•
HP Localization Kit	1	1	1	1
All Supported Processors				
All support Intel® 7th/8th generation Core™ i5, i7 processors	•	•	•	•
Graphics Card (Video Card)				
Intel® UHD integrated 630 graphics on Core™ 8th generation processors	•	•	•	•
Intel® HD integrated 620 graphics on Core™ 7th generation processors	•	•	•	•
AMD Radeon™ Pro WX3100 (2 GB GDDR5 Frame buffer)	•	•	•	•
System RAM				
Minimum (GB)	4 GB	4 GB	4 GB	4 GB
Maximum non-ECC SDRAM (GB)	32 GB	32 GB	32 GB	32 GB
Display - internal panel				
15.6" diagonal FHD IPS eDP anti-glare, 67% sRGB at 220 nits (1920x1080)	•	•	•	•
15.6" diagonal FHD IPS eDP + PSR anti-glare, 100% sRGB at 400 nits with ambient light sensor (1920x1080)	•	•	•	•
15.6" diagonal UHD IPS eDP + PSR anti-glare, 100% sRGB at 400 nits with ambient light sensor (3480x 2160)	•	•	•	•
HP SureView Integrated Privacy Display 15.6" diagonal FHD IPS eDP + PSR anti-glare 100% sRGB at 650 nits (1920x1080)	6	6	6	6
15.6" diagonal FHD IPS eDP touch screen with Corning® Gorilla® Glass 3, 67% sRGB at 220 nits (1920x1080)	•	•	•	•
14.0" diagonal LED backlit FHD UWVA eDP anti-glare (1920 x 1080)	•	•	•	•
14.0" diagonal LED backlit FHD UWVA eDP+PSR anti-glare (1920 x 1080)	•	•	•	•
14.0" diagonal Touch LED-backlit FHD UWVA eDP (1920 x 1080)	•	•	•	•
14.0" diagonal Touch LED-backlit FHD UWVA eDP+PSR, anti-glare + SureView Privacy filter (1920 x 1080)	6	6	6	6
14.0" diagonal LED backlit UHD UWVA eDP+PSR (3840 x 2160)	•	•	•	•
Hard Disks				
All Supported M.2 SSD's	•	•	•	•
All Supported SATA Disk Drives	•	•	•	•
All Supported Z Turbo NVMe PCIe SSD's	•	•	•	•
Integrated Components				
Wired LAN - Intel® i219-LM Gigabit Ethernet (vPro®)	•	•	•	•
Wired LAN - Intel® i219-V Gigabit Ethernet (non-vPro® versions)	•	•	•	•
Wireless LAN - Intel® Dual Band Wireless-AC 8265 802.11 AC (2x2) WiFi + Bluetooth® 4.2 Combo Adaptor* (vPro® & non-vPro®)	•	•	•	•
Wireless LAN - Realtek RTL8822BE 802.11ac 2x2 Wi-Fi and Bluetooth® 4.2 combo adapter	•	•	•	•
Wireless 4G (LTE) mobile broadband module support				
NFC - NXP NPC300 option module				
Miracast				
Onboard Audio (Conexant codec)	•	•	•	•
720 HD Webcam(with and without IR option)	•	•	•	•
USB 3.1 Gen 1 (Type A) ports	•	•	•	•
USB 3.1 Gen 2 (Type-C™) ports - USB 3.1 Gen 2, PCIe Gen 3, DisplayPort 1.3, Thunderbolt Corning® Gorilla® 3	•	•	•	•
TPM 2.0 Module	3	3	3	3

CONTENTS & NAVIGATION

HP ZBOOK 14U/15U G5 WORKSTATION (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 7.6 or later (x86_64)	RHEL 8.0 or later (x85_64)	Ubuntu 16.04.5 or later (x86_64)	Ubuntu 18.04.2 or later (x86_64)
Input/Output Devices				
Trackpad + buttons	•	5	•	5
Smart Card reader	•	•	•	•
HP Media Card Reader	•	•	•	•
External HDMI port	•	•	•	•
Dock options				
HP ZBook Dock with Thunderbolt™ 3 G2	4	4	4	4

1 Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

2 Intel® Optante™ cache memory modules are not supported by Linux at this time.

3 Support for the TPM or other security devices varies by OS distribution. Any use of the TPM module may require additional software from the distribution.

4 The speaker and volume controls in the audio module are functional, but the telephony controls are not.

5 This distribution's Gnome desktop does not enable the virtual right mouse button of the trackpad by default. One must execute this command to enable it: "gsettings set org.gnome.desktop.peripherals.touchpad click-method 'areas' ".

6 Basic Control of SureView capabilities works under Linux with select function keys. There is no on-screen control of SureView with Linux.

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP Z1 G6 ENTRY TOWER

RHEL 7, SLED 12 and Ubuntu 16.04 are not HP supportable on Z1 G6.
As of this edition of this matrix, some Enterprise-class Linux releases enable the Intel architecture used in this system.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 8.3 or later (x86_64)	Ubuntu 18.04.2 or later (x86_64)	Ubuntu 20.04.2 or later (x86_64)
HP Workstation Base System			
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•
HP Localization Kit	1	1	1
All Supported Processors			
10th generation Intel® Core™ i9/i7/i5/i3/Pentium® processors	•	•	•
Graphics Card (Video Card) (See footnote 2)			
No Graphics Card	•	•	•
Intel® UHD Graphics 630 (on v10 Core™ Pentium® Gold G6600/ G6500/i3/i5/i7/i9-10xxx processors)	2, 10	2, 10	2, 10
Intel® UHD Graphics 610 for v10 Pentium® Gold G6400 processors	2, 10	2, 10	2, 10
AMD Radeon™ RX 550X (4 GB HDMI)	3	3	3
AMD Radeon™ R7 430 (2 GDDR5 DP+VGA)	3	3	3
AMD Radeon™ R4 430 (2 GB GDDR5 2DP)	3	3	3
NVIDIA® GeForce® consumer graphics cards	4	4	4
NVIDIA® P400 (2 GB Frame buffer)	4	4	4
NVIDIA® P620 (2 GB Frame buffer)	4	4	4
NVIDIA® P1000 (4 GB Frame buffer)	4	4	4
NVIDIA® P2200 (5 GB Frame buffer)	4	4	4
NVIDIA® Quadro® RTX 4000 (8 GB Frame buffer)	4	4	4
NVIDIA® Quadro® RTX 5000 (16 GB Frame buffer)	4	4	4
System RAM			
Minimum (GB)	4 GB	4 GB	4 GB
Maximum (GB)	128 GB	128 GB	128 GB
Storage			
All Supported Solid State Drives	•	•	•
All Supported SATA Disk Drives	•	•	•
All Supported PCIe NVMe SSD's	•	•	•
HP Media Card Reader	•	•	•
Network Cards			
Intel Ethernet Network Adapter i210-T1 1 Gb NIC	•	•	•
Integrated Components			
Wired LAN - Intel i219LM Gigabit Ethernet	•	•	•
Intel® AMT functionality on Wired LAN	8	8	8
Intel® AX201 Wireless LAN (802.11 a/b/g/n/ac/ax) and BT5	•	•	•
Realtek RTL8822CE 2x2 wireless LAN (802.11ac)+ BT5			
Onboard Audio	•	•	•
Onboard Intel® integrated SATA RAID (0/1/5/10)	9	9	9
Serial port (RS-232)	•	•	•
USB 3.2 G1 Type A ports (5Gbps)	•	•	•
USB 3.2 G2 Type A and Type-C™ ports (10Gbps)	•	•	•
Flexible I/O port options (including DP 1.4, HDMI 2.0a, VGA, USB)	•	•	•
Removable CD/DVD Media			
HP DVD-ROM Drive	•	•	•
HP DVD RW Supermulti Drive	5	5	5
HP BD-RE (Blu-Ray writer)	5	5	5

CONTENTS & NAVIGATION

HP Z1 G6 ENTRY TOWER (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 8.3 or later (x86_64)	Ubuntu 18.04.2 or later (x86_64)	Ubuntu 20.04.2 or later (x86_64)
Input/Output Devices			
HP USB mouse options	•	•	•
HP USB keyboard options	•	•	•
HP Printers	6	6	6
All Supported Monitors	•	•	•
TPM Module / SmartCard	7	7	7
HP Serial Port Adapter	•	•	•

[1] Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

[2] The Intel® HD graphics works with the in-box frame buffer drivers. Support for the "native" Intel® driver and modesetting driver on v10 processors (CometLake) is not available for some release streams as of this edition of the table.

[3] AMD Radeon™ Pro graphics are supported by the amdgpu-pro driver stack. An 18.10 or later driver is recommended for this platform. Some OS distributions may have the amdgpu-open driver built in.

[4] HP recommends use of NVIDIA® driver 460.73.01 (or newer) on NVIDIA® graphics options.

[5] Linux growisofs supports DVD+RW and Blu-ray media on the listed OSes.

[6] For more info about Linux driver support for HP printers, please visit http://www.hplip.net.

[7] Support for the TPM or other security devices varies by OS distribution. Any use of the TPM module requires additional software.

[8] Intel® support for AMT varies by distribution and requires additional software packages be added to the base OS. Please check with the distribution vendor you have interest in.

[9] For SATA device support, older Linux kernels may not carry hardware IDs to recognize the Intel Comet Lake-S PCH chipset for AHCI in RAID-mode. Disabling the default RAID-mode for the storage controller in the "System Options" section of the F10 Setup menu for BIOS will enable proper AHCI SATA support for most kernels.

[10] Integrated Intel® HD graphics are enabled by default in factory default BIOS settings regardless of additional graphics cards. If your Linux distribution cannot support simultaenous mixed-mode graphics and drivers, then disable the integrated video options under the Advanced settings tab in F10 Setup menus for built-in options. This will hide integrated graphics devices when discrete graphics cards are also installed.

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP Z1 G5 ENTRY TOWER

As of this edition of this matrix, some Enterprise-class Linux releases enable the Intel® architecture used in this system.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 7.5 or later (x86_64)	RHEL 8.0 or later (x86_64)	Ubuntu 16.04.5 or later (x86_64)	Ubuntu 18.04.1 or later (x86_64)	Ubuntu 20.04 or later (x86_64)
HP Workstation Base System					
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•	•	•
HP Localization Kit	1	1	1	1	1
All Supported Processors					
8th and 9th generation Intel® Core™ i7/i5/i3/Pentium® processors	•	•	•	•	•
Graphics Card (Video Card)					
No Graphics Card	•	•	•	•	•
Intel® UHD Graphics 630 & 610 (on v8 Core™ i3/i5/i7/Pentium® processors)	•	•	•	•	•
Intel® UHD Graphics 630 for (on v9 Core™ i3/i5/i7/Pentium® processors)	•	•	•	•	•
AMD® Consumer graphics cards	2	2	2	2	2
NVIDIA® Consumer graphics cards	2	2	2	2	2
NVIDIA® Quadro® P400 (2 GB Frame buffer)	3	3	3	3	3
NVIDIA® Quadro® P620 (2 GB Frame buffer)	3	3	3	3	3
System RAM					
Minimum (GB)	4 GB	4 GB	4 GB	4 GB	4 GB
Maximum (GB) X-series processor/W processor	64 GB	64 GB	64 GB	64 GB	64 GB
Hard Disks					
All Supported Solid State Drives	•	•	•	•	•
All Supported SATA Disk Drives <= 2 TB	•	•	•	•	•
All Supported SATA Disk Drives > 2 TB	4	4	4	4	4
Storage acceleration					
Intel® Optane™ 16 GB memory module					
Network Cards					
Intel® i210-T1 PCIe Single Port 1Gb NIC	•	•	•	•	•
Integrated Components					
Wired LAN - Intel® i219LM Gigabit Ethernet	•	•	•	•	•
Intel® AMT functionality on Wired LAN	7	7	7	7	7
Intel® AX200 802.11 a/b/g/n/ac/ax (Wi-Fi 6) WLAN + Bluetooth® 5 PCIe NIC	8	8	8	8	•
Intel® 9560 Wireless LAN (802.11 a/b/g/n/ac) and Bluetooth® 5 Module	•	•	•	•	•
Realtek RTL8822BE/8821CE (802.11ac) with Bluetooth®	•	•	•	•	•
Onboard Audio (Conexant CX20632)	•	•	•	•	•
Onboard Intel® integrated SATA RAID (0/1)	•	•	•	•	•
USB 3.1 G1 Type A ports	•	•	•	•	•
USB 3.1 G2 Type-C™ ports	•	•	•	•	•
Flexible I/O port options (including Thunderbolt™ 3 options)	•	•	•	•	•
Removable CD/DVD Media					
HP 9.5 mm Slim DVD-ROM Drive	•	•	•	•	•
HP 9.5 mm Slim DVD Writer Drive	•	•	•	•	•
HP 9.5 mm Slim Blu-Ray writer Drive	•	•	•	•	•
Input/Output Devices (no spaceball support)					
HP USB mouse options	•	•	•	•	•
HP USB keyboard options	•	•	•	•	•
HP Media Card Reader	•	•	•	•	•
HP Printers	5	5	5	5	5
TPM Module / SmartCard	6	6	6	6	6
HP Serial Port Adapter	•	•	•	•	•
HP Serial Port + Parallel Port Adapter	•	•	•	•	•

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP Z1 G5 ENTRY TOWER (CONTINUED)

1 Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

2 Support for consumer grade graphics cards is provided directly from the graphics vendor. HP does not provide software support for consumer cards.

3 For NVIDIA® Professional Quadro® cards, HP recommends using the 418.56 (or newer) driver.

4 Single drives or volumes larger than 2.2 TB can only be fully accessed using GPT formatting. The OS's listed can create GPT formatted storage drives/volumes but this requires installation of the OS in UEFI mode.
Once formatted and installed, the OS can access the entirety of storage drives/volumes.

5 For more info about Linux driver support for HP printers, please visit http://www.hplip.net.

6 Support for the TPM or other security devices varies by OS distribution. Any use of the TPM module requires additional software.

7 Intel® support for AMT varies by distribution and requires additional software packages be added to the base OS. Please check with the distribution vendor you have interest in.

8 The AX200 Wi-Fi/bt solution may not yet be supported in existing distributions unless they are quite recent. Please check with your distribution provider for details.

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP Z2 MINI G5 WORKSTATION

Certified on Ubuntu 20.04 and RHEL 8.3
As of this edition of this matrix, some Enterprise-class Linux releases enable the Intel® architecture used in this system.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	SLED 15/SP2 or later (x86_64)	RHEL 8.3 or later (x86_64)	Ubuntu 18.04.5 or later (x86_64)	Ubuntu 20.04 or later (x86_64)
HP Workstation Base System				
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•	•
HP Localization Kit	1	1	1	1
All Supported Processors				
10th generation Intel® Core™ i7/i5/i3 and Xeon® processors	•	•	•	•
Graphics Card (Video Card) (See footnote 2)				
Intel® HD Graphics 630 (on v10 Core™ i3/i5/i7-10xxx processors)	2	2	2	2
Intel® HD Graphics P630 for v10 Xeon® W processors based on Unified Memory Architecture	2	2	2	2
AMD Radeon™ Pro WX 3200 with 4 GB of graphics memory	3	3	3	3
NVIDIA® Quadro® P620 with 4 GB of graphics memory	4, 7	4, 7	4, 7	4, 7
NVIDIA® Quadro® T1000 with 4 GB of graphics memory	4, 7	4, 7	4, 7	4, 7
NVIDIA® Quadro® T2000 with 4 GB of graphics memory	4, 7	4, 7	4, 7	4, 7
NVIDIA® Quadro® RTX 3000 with 6 GB frame buffer	4, 7	4, 7	4, 7	4, 7
System RAM				
Minimum (GB)	4GB	4GB	4GB	4GB
Maximum (GB)	64GB	64GB	64GB	64GB
Hard Disks				
All Supported 2.5" AHCI SATA Drives	9	9	9	9
All Supported SATA Solid State Drives	9	9	9	9
HP Z Turbo Drive G2 PCIe® NVMe™ SSD storage	•	•	•	•
Integrated Components				
Wired LAN - Intel® i219LM Gigabit Ethernet	•	•	•	•
Intel® AMT functionality on Wired LAN	8	8	8	8
Intel® AX201 Wireless LAN (802.11 a/b/g/n/ac/ax) and Bluetooth® 5 Module	•	•	•	•
Onboard Audio (Realtek ALC3601)	•	•	•	•
USB 3.1 G1 Type A ports	•	•	•	•
USB 3.1 G2 Type-C™ ports	•	•	•	•
Flexible I/O port options (including Thunderbolt™ 3 options)	•	•	•	•
Input/Output Devices (no spaceball support)				
HP USB mouse options	•	•	•	•
HP USB keyboard options	•	•	•	•
HP Printers	6	6	6	6
All Supported Monitors	•	•	•	•
TPM Module / SmartCard	5	5	5	5
HP Serial Port Adapter	•	•	•	•

CONTENTS & NAVIGATION

HP Z2 MINI G5 WORKSTATION (CONTINUED)

[1] Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

[2] The Intel® HD graphics works with the in-box frame buffer drivers. Support for the "native" Intel driver and modesetting driver on v[10] processors (CometLake) is not available for some release streams as of this edition of the table.

[3] AMD Radeon™ Pro graphics are supported by the amdgpu-pro driver stack. An 18.10 or later driver is recommended for this platform. Some OS distributions may have the amdgpu-open driver built in.

[4] HP recommends use of NVIDIA® driver 460.67 (or newer) on NVIDIA® graphics options.

[5] Usability of the TPM or other security devices varies by OS distribution. Any use of the TPM module requires additional software.

[6] For more info about Linux driver support for HP printers, please visit http://www.hplip.net.

[7] On the performance model, the NVIDIA® and AMD® gpus support a maximum of only four DisplayPort outputs in any combination of connections (one of which may require an adapter to accommodate displays). Heterogenous use of the Intel® graphics port is not recommended until general improvements are made in Linux for heterogeneous GPU support.

[8] Intel® support for AMT varies by distribution and requires additional software packages be added to the base OS. Please check with the distribution

[9] For SATA device support, older Linux kernels may not carry hardware IDs to recognize the Intel® CometLake-H PCH chipset for AHCI in RAID-mode. Disabling the default RAID-mode for the storage controller in the "System Options" section of the F10 Setup menu for BIOS will enable proper AHCI SATA support for most kernels.

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP Z2 MINI G4 WORKSTATION PERFORMANCE & ENTRY MODELS

Certified on RHEL 7.5, RHEL 8.0, SLES 12/SP4+WE and SLES/SLED 15.
As of this edition of this matrix, some Enterprise-class Linux releases enable the Intel® architecture used in this system.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	SLED 12/ SP4 or later (x86_64)	SLED 15 or later (x86_64)	RHEL 7.5 or later (x86_64)	RHEL 8.0 or later (x86_64)	Ubuntu 16.04.5 or later (x86_64)	Ubuntu 18.04.1 or later (x86_64)	Ubuntu 20.04 or later (x86_64)
HP Workstation Base System							
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•	•	•	•	•
HP Localization Kit	1	1	1	1	1	1	1
All Supported Processors							
8th generation Intel® Core™ i7/i5/i3 and Xeon® processors	•	•	•	•	•	•	•
Graphics Card (Video Card) (See footnote 2)							
Intel® HD Graphics 630 (on v8 Core™ i3/i5/i7-8xxx processors)	2	2	2	2	2	2	•
Intel® HD Graphics P630 for v8 Xeon® E processors based on Unified Memory Architecture	2	2	2	2	2	2	•
AMD Radeon™ Pro WX 3200 (4 GB GDDR5 Frame buffer)	3, 10	3, 10	3, 10	3, 10	3, 10	3, 10	3, 10
AMD Radeon™ Pro WX 4150 with 4 GB of graphics memory	3	3	3	3	3	3	•
NVIDIA® Quadro® P600 with 4 GB of graphics memory	4, 7	4, 7	4, 7	4, 7	4, 7	4, 7	4, 7
NVIDIA® Quadro® P1000 with 4 GB of graphics memory	4, 7	4, 7	4, 7	4, 7	4, 7	4, 7	4, 7
System RAM							
Minimum (GB)	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB
Maximum (GB)	32 GB	32 GB	32 GB	32 GB	32 GB	32 GB	32 GB
Hard Disks							
All Supported 2.5" AHCI SATA Drives	•	•	•	•	•	•	•
All Supported SATA Solid State Drives	•	•	•	•	•	•	•
HP Z Turbo Drive G2 PCIe® NVMe™ SSD storage	•	•	•	•	•	•	•
Integrated Components							
Wired LAN - Intel® i219LM Gigabit Ethernet	•	•	•	•	•	•	•
Intel® AMT functionality on Wired LAN	9	9	9	9	9	9	9
Intel® 9560 Wireless LAN (802.11 a/b/g/n/ac) and Bluetooth® 5 Module	•	•	•	•	8	•	•
Onboard Audio (Conexant CX20632)	•	•	•	•	•	•	•
USB 3.1 G1 Type A ports	•	•	•	•	•	•	•
USB 3.1 G2 Type C™ ports	•	•	•	•	•	•	•
Flexible I/O port options (including Thunderbolt™ 3 options)	•	•	•	•	•	•	•
Input/Output Devices (no spaceball support)							
HP USB mouse options	•	•	•	•	•	•	•
HP USB keyboard options	•	•	•	•	•	•	•
HP Printers	6	6	6	6	6	6	6
All Supported Monitors	•	•	•	•	•	•	•
TPM Module / SmartCard	5	5	5	5	5	5	5
HP Serial Port Adapter	•	•	•	•	•	•	•

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP Z2 MINI G4 WORKSTATION PERFORMANCE & ENTRY MODELS (CONTINUED)

1 Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

2 The Intel® HD graphics works with the in-box frame buffer drivers. Support for the "native" Intel® driver and modesetting driver on v8 processors (CoffeeLake) is not available for most release streams as of this edition of the table.

3 AMD Radeon™ Pro graphics are supported by the amdgpu-pro driver stack. An 18.10 or later driver is recommended for this platform. Some OS distributions may have the amdgpu-open driver built in. AMD® Pro driver support for Ubuntu 18.04 is pending.

4 Canonical provides up-to-date versions of the Nvidia® proprietary driver in their software repositories. HP recommends customer use one of the choices provided by Canonical as well as use their software update tool.

5 Support for the TPM or other security devices varies by OS distribution. Any use of the TPM module requires additional software.

6 For more info about Linux driver support for HP printers, please visit http://www.hplip.net

7 On the performance model, the NVIDIA® and AMD® gpus support a maximum of only four DisplayPort outputs in any combination of connections (one of which may require an adapter to accommodate displays). Heterogenous use of the Intel® graphics port is not recommended until general improvements are made in Linux for heterogeneous GPU support.

8 Intel® 9560 Wireless support for WLAN on Ubuntu 16.04.5 is currently not functional due to firmware version incompatibility (although Bluetooth® is supported on this release). The Ubuntu 18.04 LTS release stream is fully functional for integrated WLAN and Bluetooth®.

9 Intel® support for AMT varies by distribution and requires additional software packages be added to the base OS. Please check with the distribution vendor you have interest in.

10 It may be necessary to use the 'nomodeset' option at install time if the distribution's install does not function properly with this card.

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP Z2 MINI G3 WORKSTATION PERFORMANCE & ENTRY MODELS

Officially certified on RHEL 7.4, SLED 12/SP2, and SLED 12/SP3.
No certification on Ubuntu 16.04 is planned at this time, but HP is supporting use of 16.04.1 (or newer) on this platform.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 6.8 or later (x86_64)	RHEL 7.5 or later (x86_64)	SLED 12/SP2 or later (x86_64)	Ubuntu 16.04.1 (x86_64)
HP Workstation Base System				
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•	•
HP Localization Kit	1	1	1	1
All Supported Processors				
All supported 7th generation Intel® Core™ i7, i5 and Xeon® processors	•	•	•	•
Hyperthreading	•	•	•	•
Graphics Card (Video Card)				
Intel® HD Graphics 530 (on v5 Core™ i3/i5/i7-6xxx processors)	2, 5	2, 5	2, 5	2, 5
Intel® HD Graphics P530 for v5 Xeon® E3 processors based on Unified Memory Architecture (UMA)	2, 5	2, 5	2, 5	2, 5
Intel® HD Graphics 630 (on v6 Core™ i3/i5/i7-6xxx processors)	2, 5	2, 5	2, 5	2, 5
Intel® HD Graphics P630 for v6 Xeon® E3 processors based on Unified Memory Architecture (UMA)	2, 5	2, 5	2, 5	2, 5
NVIDIA® Quadro® M620 with 2 GB of graphics memory	3, 5	3, 5	3, 5	3, 5, 6
System RAM				
Minimum (GB)	4 GB	4 GB	4 GB	4 GB
Maximum (GB)	32 GB	32 GB	32 GB	32 GB
Hard Disks				
All supported 2.5" AHCI SATA Drives	•	•	•	•
All Supported SATA SSD's	•	•	•	•
All Supported HP Z Turbo Drive NVMe PCIe-attached storage	•	•	•	•
Onboard Components				
Wired LAN - Intel® i219LM Gigabit Ethernet	•	•	•	•
Onboard Audio (Realtek HD ALC221-VB)	•	•	•	•
Intel® 8265 Wireless LAN (802.11ac) and Bluetooth® 4.2 Module	7	7	7	7
USB 3.1 ports (premium model only)	•	•	•	•
USB 3.0 ports	•	•	•	•
Input/Output Devices (no spaceball support)				
TPM Module	4	4	4	4
HP Serial Port Adapter	•	•	•	•

1 Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

2 The Intel® HD graphics works with the in-box frame-buffer drivers. Support for the "native" Intel® driver on v5 processors (Skylake) is not available for most release streams as of this edition of the table.

3 HP recommends use of NVIDIA® driver 375.20 (or newer) on NVIDIA® graphics options.

4 Support for the TPM or other security devices varies by OS distribution.

5 On the performance model, at this time only the 3 DP outputs associated with the NVIDIA® Quadro® M620 will be usable with Linux distros. You can enable the 4th DP port for the Intel® graphics, but it does not currently operate well in conjunction with the NVIDIA® option. HP recommends that customers not use the Intel® port until general improvements are made in Linux for heterogeneous GPU support.

6 In order to install Ubuntu 16.04.1 with the NVIDIA® Quadro® M620 graphics option, you will need to add 'nomodeset' to the boot line during installation and again post installation with the installed kernel.

7 SUSE added support for the 8265 wlan/bt option in SLED 12/SP2. Kernel update 4.4.74-92.29.1 is required for the proper driver.

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP Z2 TOWER G8 WORKSTATION

Certified on RHEL 8.3 and Ubuntu 20.04.2.
RHEL 7, SLED 12 and Ubuntu 18.04 are not HP supportable on Z2 G8.
As of this edition of this matrix, some Enterprise-class Linux releases enable the Intel architecture used in this system.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	SLED 15/SP3 or later (x86_64)	RHEL 8.3 or later (x86_64)	Ubuntu 20.04.2 or later (x86_64)
HP Workstation Base System			
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•
HP Localization Kit	1	1	1
All Supported Processors			
11th generation Intel Core™ i9/i7/i5 and Xeon® W processors	•	•	•
Graphics Card (Video Card) (See footnote 2)			
No Graphics Card	•	•	•
Intel® UHD Graphics 750 (on v11 Core™ i5/i7/i9-11xxx processors)	2, 13	2, 13	2, 13
Intel® UHD Graphics P750 for v11 Xeon® W processors based on Unified Memory Architecture	2, 13	2, 13	2, 13
NVIDIA® Consumer graphics cards	3	3	3
AMD Radeon™ Pro WX 3200 (4 GB Frame buffer)	4	4	4
AMD Radeon™ Pro W5500 (8 GB Frame buffer)	4	4	4
AMD Radeon™ Pro W5700 (8 GB Frame buffer)	4	4	4
NVIDIA® T400 (2 GB Frame buffer)	5	5	5
NVIDIA® T600 (4 GB Frame buffer)	5	5	5
NVIDIA® T1000 (4 GB Frame buffer)	5	5	5
NVIDIA® RTX™ A4000 (16 GB Frame buffer)	5	5	5
NVIDIA® RTX™ A5000 (24 GB Frame buffer)	5	5	5
System RAM			
Minimum (GB)	4 GB	4 GB	4 GB
Maximum (GB)	128 GB	128 GB	128 GB
Hard Disks			
All HP-configurable Solid State Drives	12	12	12
All HP-configurable SATA Disk Drives <= 2 TB	12	12	12
All HP-configurable SATA Disk Drives > 2 TB	6, 12	6, 12	6, 12
HP Z Turbo Drive PCIe® NVMe™ SSD storage	•	•	•
Network Cards			
Intel® i350-T2 PCIe Dual Port 1Gb NIC	•	•	•
Intel® i350-T4 PCIe Quad Port 1 Gb NIC	•	•	•
Aquantia® AQN-108 Single-Port 5GbE NIC	7	7	7
Intel® X550 10GbE Dual Port Adapter	•	•	•
Intel® Ethernet Network Adapter i225-T1 2.5 Gb NIC	•	•	•
HP 10GbE SFP+ SR Transceiver	•	•	•
Integrated Components			
Wired LAN - Intel® i219LM Gigabit Ethernet	•	•	•
Intel® AMT functionality on Wired LAN	11	11	11
Intel® AX201 Wireless LAN (802.11 a/b/g/n/ac/ax) and Bluetooth® 5 Module	•	•	•
Onboard Audio (Realtek ALC3205)	•	•	•
Onboard Intel® integrated SATA RAID (0/1)	•	•	•
USB 3.2 G1 Type A ports (5Gbps)	•	•	•
USB 3.2 G2 Type A and Type-C™ ports (10Gbps)	•	•	•
USB 3.2 G2x2 Type-C™ ports (20Gbps)	•	•	•
Flexible I/O port options (including Thunderbolt™ 3 options)	•	•	•

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP Z2 TOWER G8 WORKSTATION (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 8.3 or later (x86_64)	Ubuntu 18.04.2 or later (x86_64)	Ubuntu 20.04.2 or later (x86_64)
Removable CD/DVD Media			
HP DVD-ROM Drive	12	12	12
HP DVD RW Supermulti Drive	8, 12	8, 12	8, 12
HP BD-RE (Blu-Ray writer)	8, 12	8, 12	8, 12
Input/Output Devices			
HP USB mouse options	14	14	4
HP USB keyboard options	•	•	•
HP Media Card Reader	•	•	•
HP Printers	9	9	9
All HP-configurable Monitors	•	•	•
TPM Module / SmartCard	10	10	10
HP Serial Port Adapter	•	•	•

[1] Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

[2] The Intel® HD graphics works with the in-box frame buffer drivers. Support for the "native" Intel® driver and modesetting driver on v11 processors (RocketLake) is not available for some release streams as of this edition of the table.

[3] Support for consumer grade graphics cards is provided directly from the graphics vendor. HP does not provide software support for consumer cards.

[4] AMD Radeon™ Pro graphics are supported by AMD with the amdgpu-pro driver stack.

[5] HP recommends use of NVIDIA® driver 460.84 (or newer) on NVIDIA® graphics options.

[6] Single drives or volumes larger than 2.2 TB can only be fully accessed using GPT formatting. The OS's listed can create GPT formatted storage drives/volumes but this requires installation of the OS in UEFI mode. Once formatted and installed, the OS can access the entirety of storage drives/volumes.

[7] The driver for the Aquantia Nbase-T AQN-108 aftermarket NIC is not in-box for most of the listed Linux streams. Driver source can be found at the Aquantia site www.aquantia.com/driver-download/.

[8] Linux open-source toolset (growisofs) supports DVD+RW and Blu-ray media on the listed OSes.

[9] For more info about Linux open-source driver support for HP printers, please visit http://www.hplip.net.

[10] Open-source support for the TPM or other security devices varies by OS distribution. Any use of the TPM module requires additional software supported by your preferred Linux distributor.

[11] Intel® support for AMT varies by distribution and requires additional software packages be added to the base OS. Please check with the distribution vendor you have interest in.

[12] For SATA device enablement, older Linux kernels may not carry hardware IDs to recognize the Intel RocketLake-S PCH chipset for AHCI in RAID-mode. Disabling the default RAID-mode for the storage controller in the "System Options" section of the F10 Setup menu for BIOS will enable proper AHCI SATA support for most kernels.

[13] Integrated Intel® HD graphics are enabled by default in factory default BIOS settings regardless of additional graphics cards. If your Linux distribution cannot support simultaenous mixed-mode graphics and drivers, then disable the integrated video options under the Advanced settings tab in F10 Setup menus for built-in options. This will hide integrated graphics devices when discrete graphics cards are also installed.

[14] Spaceball input devices require drivers that may or may not be compatible with your Linux distribution or version. Please refer to the manufacturer site for additional support of these devices.

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP Z2 SFF G8 WORKSTATION

Certified on RHEL 8.3 and Ubuntu 20.04.2.
RHEL 7, SLED 12 and Ubuntu 18.04 are not HP supportable on Z2 G8.
As of this edition of this matrix, some Enterprise-class Linux releases enable the Intel architecture used in this system.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	SLED 15/SP3 or later (x86_64)	RHEL 8.3 or later (x86_64)	Ubuntu 20.04.2 or later (x86_64)
HP Workstation Base System			
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•
HP Localization Kit	1	1	1
All Supported Processors			
11th generation Intel® Core™ i9/i7/i5 and Xeon® W processors	•	•	•
Graphics Card (Video Card) (See footnote 2)			
No Graphics Card	•	•	•
Intel® UHD Graphics 750 (on v11 Core™ i5/i7/i9-11xxx processors)	2, 12	2, 12	2, 12
Intel® UHD Graphics P750 for v11 Xeon® W processors based on Unified Memory Architecture	2, 12	2, 12	2, 12
AMD Radeon™ Pro WX 3200 (4 GB Frame buffer)	3	3	3
NVIDIA® T400 (2 GB Frame buffer)	4	4	4
NVIDIA® T600 (4 GB Frame buffer)	4	4	4
NVIDIA® T1000 (4 GB Frame buffer)	4	4	4
NVIDIA® Quadro® RTX 3000 (6 GB Frame buffer)	4	4	4
System RAM			
Minimum (GB)	4 GB	4 GB	4 GB
Maximum (GB)	128 GB	128 GB	128 GB
Hard Disks			
All HP-configurable Solid State Drives	11	11	11
All HP-configurable SATA Disk Drives <= 2 TB	11	11	11
All HP-configurable SATA Disk Drives > 2 TB	5, 11	5, 11	5, 11
HP Z Turbo Drive PCIe® NVMe™ SSD storage	•	•	•
Network Cards			
Intel i350-T2 PCIe Dual Port 1Gb NIC	•	•	•
Intel i350-T4 PCIe Quad Port 1 Gb NIC	•	•	•
Aquantia® AQN-108 Single-Port 5GbE NIC	6	6	6
Intel X550 10GbE Dual Port Adapter	•	•	•
Intel Ethernet Network Adapter i225-T1 2.5 Gb NIC	•	•	•
HP 10GbE SFP+ SR Transceiver	•	•	•
Integrated Components			
Wired LAN - Intel i219LM Gigabit Ethernet	•	•	•
HP Z Turbo Drive PCIe® NVMe™ SSD storage	10	10	10
Intel® AX201 Wireless LAN (802.11 a/b/g/n/ac/ax) and Bluetooth 5 Module	•	•	•
Onboard Audio (Realtek ALC3205)	•	•	•
Onboard Intel integrated SATA RAID (0/1)	•	•	•
USB 3.2 G1 Type A ports (5Gbps)	•	•	•
USB 3.2 G2 Type A and Type-C™ ports (10Gbps)	•	•	•
USB 3.2 G2x2 Type-C™ ports (20Gbps)	•	•	•
Flexible I/O port options (including Thunderbolt™ 3 options)	•	•	•
Removable CD/DVD Media			
HP DVD-ROM Drive	11	11	11
HP DVD RW Supermulti Drive	7, 11	7, 11	7, 11
HP BD-RE (Blu-Ray writer)	7, 11	7, 11	7, 11

CONTENTS & NAVIGATION

HP Z2 SFF G8 WORKSTATION (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 8.3 or later (x86_64)	Ubuntu 18.04.2 or later (x86_64)	Ubuntu 20.04.2 or later (x86_64)
Input/Output Devices			
HP USB mouse options	13	13	13
HP USB keyboard options	•	•	•
HP Media Card Reader	•	•	•
HP Printers	8	8	8
All HP-configurable Monitors	•	•	•
TPM Module / SmartCard	10	10	10
HP Serial Port Adapter	•	•	•

[1] Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

[2] The Intel® HD graphics works with the in-box frame buffer drivers. Support for the "native" Intel® driver and modesetting driver on v11 processors (RocketLake) is not available for some release streams as of this edition of the table.

[3] AMD Radeon™ Pro graphics are supported by AMD with the amdgpu-pro driver stack.

[4] HP recommends use of NVIDIA® driver 460.84 (or newer) on NVIDIA® graphics options.

[5] Single drives or volumes larger than 2.2 TB can only be fully accessed using GPT formatting. The OS's listed can create GPT formatted storage drives/volumes but this requires installation of the OS in UEFI mode. Once formatted and installed, the OS can access the entirety of storage drives/volumes.

[6] The driver for the Aquantia Nbase-T AQN-108 aftermarket NIC is not in-box for most of the listed Linux streams. Driver source can be found at the Aquantia site www.aquantia.com/driver-download/.

[7] Linux open-source toolset (growisofs) supports DVD+RW and Blu-ray media on the listed OSes.

[8] For more info about Linux open-source driver support for HP printers, please visit http://www.hplip.net.

[9] Open-source support for the TPM or other security devices varies by OS distribution. Any use of the TPM module requires additional software supported by your preferred Linux distributor.

[10] Intel® support for AMT varies by distribution and requires additional software packages be added to the base OS. Please check with the distribution vendor you have interest in.

[11] For SATA device enablement, older Linux kernels may not carry hardware IDs to recognize the Intel RocketLake-S PCH chipset for AHCI in RAID-mode. Disabling the default RAID-mode for the storage controller in the "System Options" section of the F10 Setup menu for BIOS will enable proper AHCI SATA support for most kernels.

[12] Integrated Intel® HD graphics are enabled by default in factory default BIOS settings regardless of additional graphics cards. If your Linux distribution cannot support simultaenous mixed-mode graphics and drivers, then disable the integrated video options under the Advanced settings tab in F10 Setup menus for built-in options. This will hide integrated graphics devices when discrete graphics cards are also installed.

[13] Spaceball input devices require drivers that may or may not be compatible with your Linux distribution or version. Please refer to the manufacturer site for additional support of these devices.

LINUX HARDWARE MATRIX

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HP Z2 SFF G5 WORKSTATION

Certified on RHEL 8.3 and Ubuntu 20.04
RHEL 7, SLED 12 and Ubuntu 16.04 are not supported on Z2 G5. As of this edition of this matrix, some Enterprise-class Linux releases enable the Intel® architecture used in this system. HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	SLED 15/SP2 or later (x86_64)	RHEL 8.3 or later (x86_64)	Ubuntu 18.04.5 or later (x86_64)	Ubuntu 20.04 or later (x86_64)
HP Workstation Base System				
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•	•
HP Localization Kit	1	1	1	1
All Supported Processors				
10th generation Intel® Core™ i7/i5/i3 and Xeon® processors	•	•	•	•
Graphics Card (Video Card) (See footnote 2)				
No Graphics Card	•	•	•	•
Intel® HD Graphics 630 (on v10 Core™ i3/i5/i7-10xxx processors)	2	2	2	2
Intel® HD Graphics P630 for v10 Xeon® W processors based on Unified Memory Architecture	2	2	2	2
AMD Radeon™ Pro WX 3200 (4 GB Frame buffer)	3	3	3	3
NVIDIA® Quadro® P400 (2 GB Frame buffer)	4	4	12	12
NVIDIA® Quadro® P620 (2 GB Frame buffer)	4	4	12	12
NVIDIA® Quadro® P1000 (4 GB Frame buffer)	4	4	12	12
NVIDIA® Quadro® T1000 (4 GB Frame buffer)	4	4	12	12
NVIDIA® Quadro® RTX 3000 (6 GB Frame buffer)	4	4	12	12
System RAM				
Minimum (GB)	4GB	4GB	4GB	4GB
Maximum (GB)	64GB	64GB	64GB	64GB
Hard Disks				
All Supported Solid State Drives	11	11	11	11
All Supported SATA Disk Drives <= 2 TB	11	11	11	11
All Supported SATA Disk Drives > 2 TB	5,11	5,11	5,11	5,11
Intel® Optane™ 905p Series AIC SSD (up to 480 GB)	•	•	•	•
HP Z Turbo Drive G2 PCIe® NVMe™ SSD storage	•	•	•	•
Network Cards				
Intel® i350-T2 PCIe Dual Port 1Gb NIC	•	•	•	•
Intel® i350-T4 PCIe Quad Port 1 Gb NIC	•	•	•	•
Aquantia® AQN-108 Single-Port 5GbE NIC	6	6	6	6
Intel® X550 10GbE Dual Port Adapter	•	•	•	•
Intel® X710-DA2 10GbE Dual Port Adapter (and HP SFP+ SR Transceiver)	•	•	•	•
HP 10GbE SFP+ SR Transceiver	•	•	•	•
Allied Telesis AT-2914SX/LC-901 1Gb Fiber NIC	•	•	•	•
Integrated Components				
Wired LAN - Intel® i219LM Gigabit Ethernet	•	•	•	•
Intel® AMT functionality on Wired LAN	10	10	10	10
Intel® AX201 Wireless LAN (802.11 a/b/g/n/ac/ax) and Bluetooth 5 Module	•	•	•	•
Onboard Audio (Realtek ALC3601)	•	•	•	•
Onboard Intel integrated SATA RAID (0/1)	•	•	•	•
USB 3.1 G1 Type A ports	•	•	•	•
USB 3.1 G2 Type-C™ ports	•	•	•	•
Flexible I/O port options (including Thunderbolt™ 3 options)	•	•	•	•
Removable CD/DVD Media				
HP DVD-ROM Drive	11	11	11	11
HP DVD RW Supermulti Drive	7,11	7,11	7,11	7,11

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HP Z2 SFF G5 WORKSTATION (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	SLED 15/SP2 or later (x86_64)	RHEL 8.3 or later (x86_64)	Ubuntu 18.04.5 or later (x86_64)	Ubuntu 20.04 or later (x86_64)
HP BD-RE (Blu-Ray writer)	7,11	7,11	7,11	7,11
Input/Output Devices (no spaceball support)				
HP USB mouse options	•	•	•	•
HP USB keyboard options	•	•	•	•
HP Media Card Reader	•	•	•	•
HP Printers	8	9	9	9
All Supported Monitors	•	•	•	•
TPM Module / SmartCard	9	10	10	10
HP Serial Port Adapter	•	•	•	•

[1] Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

[2] The Intel® HD graphics works with the in-box frame buffer drivers. Support for the "native" Intel® driver and modesetting driver on v10 processors (CometLake) is not available for some release streams as of this edition of the table.

[3] AMD Radeon™ Pro graphics are supported by the amdgpu-pro driver stack. An 18.10 or later driver is recommended for this platform. Some OS distributions may have the amdgpu-open driver built in.

[4] HP recommends use of NVIDIA® driver 460.67 (or newer) on NVIDIA® graphics options.

[5] Single drives or volumes larger than 2.2 TB can only be fully accessed using GPT formatting. The OS's listed can create GPT formatted storage drives/volumes but this requires installation of the OS in UEFI mode. Once formatted and installed, the OS can access the entirety of storage drives/volumes.

[6] The driver for the Aquantia Nbase-T AQN-108 aftermarket NIC is not in-box for most of the listed Linux streams. Driver source can be found at the Aquantia site www.aquantia.com/driver-download/.

[7] Linux growisofs supports DVD+RW and Blu-ray media on the listed OSes.

[8] For more info about Linux driver support for HP printers, please visit http://www.hplip.net.

[9] Usability of the TPM or other security devices varies by OS distribution. Any use of the TPM module requires additional software

[10] Intel support for AMT varies by distribution and requires additional software packages be added to the base OS. Please check with the distribution vendor you have interest in.

[11] For SATA device support, older Linux kernels may not carry hardware IDs to recognize the Intel® CometLake-H PCH chipset for AHCI in RAID-mode. Disabling the default RAID-mode for the storage controller in the "System Options" section of the F10 Setup menu for BIOS will enable proper AHCI SATA support for most kernels.

[12] Canonical provides up-to-date versions of the NVIDIA® proprietary driver in their software repositories. HP recommends customer use one of the offered choices provided by Canonical as well as use their software update tool.

LINUX HARDWARE MATRIX

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HP Z2 SFF G4 WORKSTATION

Certified on RHEL 7.5, RHEL 8.0, SLES 12/SP4+WE and SLES/SLED 15
As of this edition of this matrix, some Enterprise-class Linux releases enable the Intel® architecture used in this system.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	SLED 12/ SP4 or later (x86_64)	SLED 15 or later (x86_64)	RHEL 7.5 or later (x86_64)	RHEL 8.0 or later (x86_64)	Ubuntu 16.04.5 or later (x86_64)	Ubuntu 18.04.1 or later (x86_64)	Ubuntu 20.04 or later (x86_64)
HP Workstation Base System							
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•	•	•	•	•
HP Localization Kit	1	1	1	1	1	1	1
All Supported Processors							
8th generation Intel® Core™ i7/i5/i3 and Xeon® processors	•	•	•	•	•	•	•
Graphics Card (Video Card) (See footnote 2)							
No Graphics Card	•	•	•	•	•	•	•
Intel® HD Graphics 630 (on v8 Core™ i3/i5/i7-8xxx processors)	2	2	2	2	2	2	•
Intel® HD Graphics P630 for v8 Xeon® E processors based on Unified Memory Architecture	2	2	2	2	2	2	•
AMD FirePro WX 3100 (4 GB Frame buffer)	3	3	3	3	3	3	•
AMD FirePro WX 3200 (4 GB Frame Buffer)	3	3	3	3	3	3	•
AMD FirePro WX 4100 (4 GB Frame buffer)	3	3	3	3	3	3	•
NVIDIA® Quadro® P400 (2 GB Frame buffer)	4	4	4	4	13	13	13
NVIDIA® Quadro® P620 (2 GB Frame buffer)	4	4	4	4	13	13	13
NVIDIA® Quadro® P1000 (4 GB Frame buffer)	4	4	4	4	13	13	13
System RAM							
Minimum (GB)	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB
Maximum (GB)	646 GB	646 GB	646 GB	646 GB	646 GB	646 GB	646 GB
Hard Disks							
All Supported Solid State Drives	•	•	•	•	•	•	•
All Supported SATA Disk Drives <= 2 TB	•	•	•	•	•	•	•
All Supported SATA Disk Drives > 2 TB	5	5	5	5	5	5	5
Intel® Optane™ 905p Series AIC SSD (up to 480 GB)	•	•	•	•	•	•	•
HP Z Turbo Drive G2 PCIe® NVMe™ SSD storage	12	12	12	12	12	12	12
Network Cards							
Intel® I350-T2 PCIe Dual Port 1Gb NIC	•	•	•	•	•	•	•
Intel® I350-T4 PCIe Quad Port 1 Gb NIC	•	•	•	•	•	•	•
Aquantia® AQN-108 Single-Port 5 GbE NIC	6	6	6	6	6	6	6
Intel® X550 10 GbE Dual Port Adapter	•	•	•	•	•	•	•
Intel® X710-DA2 10 GbE Dual Port Adapter (and HP SFP+ SR Transceiver)	•	•	•	•	•	•	•
HP 10GbE SFP+ SR Transceiver	•	•	•	•	•	•	•
Integrated Components							
Wired LAN - Intel® i219LM Gigabit Ethernet	•	•	•	•	•	•	•
Intel® AMT functionality on Wired LAN	11	11	11	11	11	11	11
Intel® 9560 Wireless LAN (802.11 a/b/g/n/ac) and Bluetooth® 5 Module	•	•	•	•	7	•	•
Onboard Audio (Conexant CX20632)	•	•	•	•	•	•	•
Onboard Intel® integrated SATA RAID (0/1)	•	•	•	•	•	•	•
USB 3.1 G1 Type A ports	•	•	•	•	•	•	•
USB 3.1 G2 Type C™ ports	•	•	•	•	•	•	•
Flexible I/O port options (including Thunderbolt™ 3 options)	•	•	•	•	•	•	•

LINUX HARDWARE MATRIX

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HP Z2 SFF G4 WORKSTATION (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	SLED 12/ SP4 or later (x86_64)	SLED 15 or later (x86_64)	RHEL 7.5 or later (x86_64)	RHEL 8.0 or later (x86_64)	Ubuntu 16.04.5 or later (x86_64)	Ubuntu 18.04.1 or later (x86_64)	Ubuntu 20.04 or later (x86_64)
Removable CD/DVD Media							
HP DVD-ROM Drive	•	•	•	•	•	•	•
HP DVD RW Supermulti Drive	8	8	8	8	8	8	8
HP BD-RE (Blu-Ray writer)	8	8	8	8	8	8	8
Input/Output Devices (no spaceball support)							
HP USB mouse options	•	•	•	•	•	•	•
HP USB keyboard options	•	•	•	•	•	•	•
HP Media Card Reader	•	•	•	•	•	•	•
HP Printers	9	9	9	9	9	9	9
All Supported Monitors	•	•	•	•	•	•	•
TPM Module / SmartCard	10	10	10	10	10	10	10
HP Serial Port Adapter	•	•	•	•	•	•	•

1 Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

2 The Intel® HD graphics works with the in-box frame buffer drivers. Support for the "native" Intel® driver and modesetting driver on v8 processors (CoffeeLake) is not available for most release streams as of this edition of the table.

3 AMD Radeon™ Pro graphics are supported by the amdgpu-pro driver stack. An 18.10 or later driver is recommended for this platform. Some OS distributions may have the amdgpu-open driver built in.

4 HP recommends using NVIDIA® driver 440.100 or newer for NVIDIA® graphics on this platform.

5 Single drives or volumes larger than 2.2 TB can only be fully accessed using GPT formatting. The OS's listed can create GPT formatted storage drives/volumes but this requires installation of the OS in UEFI mode. Once formatted and installed, the OS can access the entirety of storage drives/volumes.

6 The driver for the Aquantia Nbase-T AQN-108 aftermarket NIC is not in-box for most of the listed Linux streams. Driver source can be found at the Aquantia site www.aquantia.com/driver-download/.

7 Intel® 9560 Wireless support for WLAN on Ubuntu 16.04.5 is currently not functional due to firmware version incompatibility (although Bluetooth® is supported on this release). The Ubuntu 18.04 LTS release stream is fully functional for integrated WLAN and Bluetooth®.

8 Linux growisofs supports DVD+RW and Blu-ray media on the listed OSes.

9 For more info about Linux driver support for HP printers, please visit http://www.hplip.net.

10 Support for the TPM or other security devices varies by OS distribution. Any use of the TPM module requires additional software.

11 Intel® support for AMT varies by distribution and requires additional software packages be added to the base OS. Please check with the distribution vendor you have interest in.

12 There are currently issues installing enterprise Linux distros on M.2 and Z Turbo options when the system is running in legacy BIOS mode. HP recommends using the system in its default UEFI BIOS mode when using these storage devices.

13 Canonical provides up-to-date versions of the NVIDIA® proprietary driver in their software repositories. HP recommends customer use one of the choices provided by Canonical as well as use their software update tool.

LINUX HARDWARE MATRIX

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HP Z2 TOWER G5 WORKSTATION

Certified on RHEL 8.3 and Ubuntu 20.04
RHEL 7, SLED 12 and Ubuntu 16.04 are not supported on Z2 G5.
As of this edition of this matrix, some Enterprise-class Linux releases enable the Intel® architecture used in this system.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	SLED 15/SP2 or later (x86_64)	RHEL 8.3 or later (x86_64)	Ubuntu 18.04.5 or later (x86_64)	Ubuntu 20.04 or later (x86_64)
HP Workstation Base System				
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•	•
HP Localization Kit	1	1	1	1
All Supported Processors				
10th generation Intel® Core™ i7/i5/i3 and Xeon® processors	•	•	•	•
Graphics Card (Video Card) (See footnote 2)				
No Graphics Card	•	•	•	•
Intel® HD Graphics 630 (on v10 Core™ i3/i5/i7-10xxx processors)	2	2	2	2
Intel® HD Graphics P630 for v10 Xeon® W processors based on Unified Memory Architecture	2	2	2	2
NVIDIA® Consumer graphics cards	3	3	3	3
AMD Radeon™ Pro WX 3200 (4 GB Frame buffer)	4	4	4	4
AMD Radeon™ Pro W5500 (8 GB Frame buffer)	4	4	4	4
AMD Radeon™ Pro W5700 (8 GB Frame buffer)	4	4	4	4
NVIDIA® Quadro® P400 (2 GB Frame buffer)	5	5	13	13
NVIDIA® Quadro® P620 (2 GB Frame buffer)	5	5	13	13
NVIDIA® Quadro® P1000 (4 GB Frame buffer)	5	5	13	13
NVIDIA® Quadro® T1000 4 GB Frame buffer)	5	5	13	13
NVIDIA® Quadro® P2200 5 GB Frame buffer)	5	5	13	13
NVIDIA® Quadro® RTX 4000 (8 GB Frame buffer)	5	5	13	13
NVIDIA® Quadro® RTX 5000 (16 GB Frame buffer)	5	5	13	13
NVIDIA® Quadro® RTX 6000 (24 GB Frame buffer)	5	5	13	13
NVIDIA® RTX™ A4000 (16 GB Frame Buffer)	5	5	13	13
System RAM				
Minimum (GB)	4GB	4GB	4GB	4GB
Maximum (GB)	64GB	64GB	64GB	64GB
Hard Disks				
All Supported Solid State Drives	12	12	12	12
All Supported SATA Disk Drives <= 2 TB	12	12	12	12
All Supported SATA Disk Drives > 2 TB	6,12	6,12	6,12	6,12
Intel® Optane™ 905p Series AIC SSD (up to 480 GB)	•	•	•	•
HP Z Turbo Drive G2 PCIe® NVMe™ SSD storage	•	•	•	•
Network Cards				
Intel® i350-T2 PCIe Dual Port 1Gb NIC	•	•	•	•
Intel® i350-T4 PCIe Quad Port 1 Gb NIC	•	•	•	•
Aquantia® AQN-108 Single-Port 5GbE NIC	7	7	7	7
Intel® X550 10GbE Dual Port Adapter	•	•	•	•
Intel® X710-DA2 10GbE Dual Port Adapter (and HP SFP+ SR Transceiver)	•	•	•	•
HP 10GbE SFP+ SR Transceiver	•	•	•	•
Allied Telesis AT-2914SX/LC-901 1Gb Fiber NIC	•	•	•	•
Integrated Components				
Wired LAN - Intel® i219LM Gigabit Ethernet	•	•	•	•
Intel® AMT functionality on Wired LAN	11	11	11	11
Intel® AX201 Wireless LAN (802.11 a/b/g/n/ac/ax) and Bluetooth® 5 Module	•	•	•	•
Onboard Audio (Realtek ALC3601)	•	•	•	•
Onboard Intel® integrated SATA RAID (0/1)	•	•	•	•
USB 3.1 G1 Type A ports	•	•	•	•

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HP Z2 TOWER G5 WORKSTATION (CONTINUED)

USB 3.1 G2 Type-C™ ports	•	•	•	•
Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	**SLED 15/SP2 or later (x86_64)**	**RHEL 8.3 or later (x86_64)**	**Ubuntu 18.04.5 or later (x86_64)**	**Ubuntu 20.04 or later (x86_64)**
Flexible I/O port options (including Thunderbolt™ 3 options)	•	•	•	•
Removable CD/DVD Media				
HP DVD-ROM Drive	12	12	12	12
HP DVD RW Supermulti Drive	8, 12	8, 12	8, 12	8, 12
HP BD-RE (Blu-Ray writer)	8, 12	8, 12	8, 12	8, 12
Input/Output Devices (no spaceball support)				
HP USB mouse options	•	•	•	•
HP USB keyboard options	•	•	•	•
HP Media Card Reader	•	•	•	•
HP Printers	9	9	9	9
All Supported Monitors	•	•	•	•
TPM Module / SmartCard	10	10	10	10
HP Serial Port Adapter	•	•	•	•

[1] Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

[2] The Intel HD graphics works with the in-box frame buffer drivers. Support for the "native" Intel driver and modesetting driver on v10 processors (CometLake) is not available for some release streams as of this edition of the table.

[3] Support for consumer grade graphics cards is provided directly from the graphics vendor. HP does not provide software support for consumer cards.

[4] AMD Radeon™ Pro graphics are supported by the amdgpu-pro driver stack. An 18.10 or later driver is recommended for this platform. Some OS distributions may have the amdgpu-open driver built in.

[5] HP recommends use of NVIDIA® driver 460.84 (or newer) on NVIDIA® graphics options.

[6] Single drives or volumes larger than 2.2 TB can only be fully accessed using GPT formatting. The OS's listed can create GPT formatted storage drives/volumes but this requires installation of the OS in UEFI mode. Once formatted and installed, the OS can access the entirety of storage drives/volumes.

[7] The driver for the Aquantia Nbase-T AQN-108 aftermarket NIC is not in-box for most of the listed Linux streams. Driver source can be found at the Aquantia site www.aquantia.com/driver-download/.

[8] Linux growisofs supports DVD+RW and Blu-ray media on the listed OSes.

[9] For more info about Linux driver support for HP printers, please visit http://www.hplip.net.

[10] Usability of the TPM or other security devices varies by OS distribution. Any use of the TPM module requires additional software

[11] Intel support for AMT varies by distribution and requires additional software packages be added to the base OS. Please check with the distribution vendor you have interest in.

[12] For SATA device support, older Linux kernels may not carry hardware IDs to recognize the Intel CometLake-H PCH chipset for AHCI in RAID-mode. Disabling the default RAID-mode for the storage controller in the "System Options" section of the F10 Setup menu for BIOS will enable proper AHCI SATA support for most kernels.

[13] Canonical provides up-to-date versions of the NVIDIA® proprietary driver in their software repositories. HP recommends customer use one of the offered choices provided by Canonical as well as use their software update tool.

LINUX HARDWARE MATRIX

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HP Z2 TOWER G4 WORKSTATION

Certified on RHEL 7.5, RHEL 8.0, SLES 12/SP4+WE and SLES/SLED 15
As of this edition of this matrix, some Enterprise-class Linux releases enable the Intel® architecture used in this system.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	SLED 12/SP4 or later (x86_64)	SLED 15 or later (x86_64)	RHEL 7.5 or later (x86_64)	RHEL 8.0 or later (x86_64)	Ubuntu 16.04.5 or later (x86_64)	Ubuntu 18.04.1 or later (x86_64)	Ubuntu 20.04 or later (x86_64)
HP Workstation Base System							
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•	•	•	•	•
HP Localization Kit	1	1	1	1	1	1	1
All Supported Processors							
8th and 9th generation Intel® i3/i5/i7/i9 and Xeon® processors	•	•	•	•	•	•	•
Graphics Card (Video Card) (See footnote 2)							
No Graphics Card	•	•	•	•	•	•	•
Intel® HD Graphics 630 (on v8 Core™ i3/i5/i7-8xxx processors)	2	2	2	2	2	2	•
Intel® HD Graphics P630 for v8 Xeon® E processors based on Unified Memory Architecture	2	2	2	2	2	2	•
AMD FirePro WX 3100 (4 GB Frame buffer)	3	3	3	3	3	3	•
AMD FirePro WX 3200 (4 GB Frame Buffer)	3	3	3	3	3	3	•
AMD FirePro WX 4100 (4 GB Frame buffer)	3	3	3	3	3	3	•
AMD Radeon™ Pro W5500 (8 GB Frame buffer)	7	7	7	7	7	7	7
AMD Radeon™ Pro W5700 (8 GB Frame buffer)	7	7	7	7	7	7	7
AMD FirePro WX 7100 (8 GB Frame buffer)	3	3	3	3	3	3	•
NVIDIA® Quadro® P400 (2 GB Frame buffer)	4	4	4	4	4	4	4
NVIDIA® Quadro® P620 (2 GB Frame buffer)	4	4	4	4	4	4	4
NVIDIA® Quadro® P1000 (4 GB Frame buffer)	4	4	4	4	4	4	4
NVIDIA® Quadro® P2000 (5 GB Frame buffer)	4	4	4	4	4	4	4
NVIDIA® Quadro® P4000 (8 GB Frame buffer)	4	4	4	4	4	4	4
NVIDIA® Quadro® P5000 (16 GB Frame buffer)	4	4	4	4	4	4	4
NVIDIA® Quadro® RTX 4000 (8 GB Frame Buffer)	4	4	4	4	4	4	4
NVIDIA® Quadro® RTX 5000 (16 GB Frame Buffer)	4	4	4	4	4	4	4
NVIDIA® Quadro® RTX 6000 (24 GB Frame Buffer)	4	4	4	4	4	4	4
System RAM							
Minimum (GB)	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB
Maximum (GB)	64 GB	64 GB	64 GB	64 GB	64 GB	64 GB	64 GB
Hard Disks							
All Supported Solid State Drives	•	•	•	•	•	•	•
All Supported SATA Disk Drives <= 2 TB	•	•	•	•	•	•	•
All Supported SATA Disk Drives > 2 TB	5	5	5	5	5	5	5
Intel® Optane™ 905p Series AIC SSD (up to 480 GB)	•	•	•	•	•	•	•
HP Z Turbo Drive G2 PCIe® NVMe™ SSD storage	12	12	12	12	12	12	12
Network Cards							
Intel® I350-T2 PCIe Dual Port 1Gb NIC	•	•	•	•	•	•	•
Intel® I350-T4 PCIe Quad Port 1 Gb NIC	•	•	•	•	•	•	•
Aquantia® AQN-108 Single-Port 5 GbE NIC	6	6	6	6	6	6	6
Intel® X550 10 GbE Dual Port Adapter	•	•	•	•	•	•	•
Intel® X710-DA2 10GbE Dual Port Adapter (and HP SFP+ SR Transceiver)	•	•	•	•	•	•	•

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP Z2 TOWER G4 WORKSTATION (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	SLED 12/SP4 or later (x86_64)	SLED 15 or later (x86_64)	RHEL 7.5 or later (x86_64)	RHEL 8.0 or later (x86_64)	Ubuntu 16.04.5 or later (x86_64)	Ubuntu 18.04.1 or later (x86_64)	Ubuntu 20.04 or later (x86_64)
Integrated Components							
Wired LAN - Intel® i219LM Gigabit Ethernet	•	•	•	•	•	•	•
Intel® AMT functionality on Wired LAN	11	11	11	11	11	11	11
Intel® 9560 Wireless LAN (802.11 a/b/g/n/ac) and Bluetooth® 5 Module	•	•	•	•	7	•	•
Onboard Audio (Conexant CX20632)	•	•	•	•	•	•	•
Onboard Intel® integrated SATA RAID (0/1)	•	•	•	•	•	•	•
USB 3.1 G1 Type A ports	•	•	•	•	•	•	•
USB 3.1 G2 Type C™ ports	•	•	•	•	•	•	•
Flexible I/O port options (including Thunderbolt™ 3 options)	•	•	•	•	•	•	•
Removable CD/DVD Media							
HP DVD-ROM Drive	•	•	•	•	•	•	•
HP DVD RW Supermulti Drive	8	8	8	8	8	8	8
HP BD-RE (Blu-Ray writer)	8	8	8	8	8	8	8
Input/Output Devices (no spaceball support)							
HP USB mouse options	•	•	•	•	•	•	•
HP USB keyboard options	•	•	•	•	•	•	•
HP Media Card Reader	•	•	•	•	•	•	•
HP Printers	9	9	9	9	9	9	9
All Supported Monitors	•	•	•	•	•	•	•
TPM Module/SmartCard	10	10	10	10	10	10	10
HP Serial Port Adapter	•	•	•	•	•	•	•

1 Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

2 The Intel® HD graphics works with the in-box frame buffer drivers. Support for the "native" Intel® driver and modesetting driver on v8 processors (CoffeeLake) is not available for most release streams as of this edition of the table.

3 AMD Radeon™ Pro graphics are supported by the amdgpu-pro driver stack. An 18.10 or later driver is recommended for this platform. Some OS distributions may have the amdgpu-open driver built in.

4 Canonical provides up-to-date versions of the NVIDIA® proprietary driver in their software repositories. HP recommends customer use one of the choices provided by Canonical as well as use their software update tool.

5 Single drives or volumes larger than 2.2 TB can only be fully accessed using GPT formatting. The OS's listed can create GPT formatted storage drives/volumes but this requires installation of the OS in UEFI mode. Once formatted and installed, the OS can access the entirety of storage drives/volumes.

6 The driver for the Aquantia Nbase-T AQN-108 aftermarket NIC is not in-box for most of the listed Linux streams. Driver source can be found at the Aquantia site www.aquantia.com/driver-download/.

7 Intel® 9560 Wireless support for WLAN on Ubuntu 16.04.5 is currently not functional due to firmware version incompatibility (although Bluetooth® is supported on this release).

8 Linux growisofs supports DVD+RW and Blu-ray media on the listed OSes.

9 For more info about Linux driver support for HP printers, please visit http://www.hplip.net.

10 Support for the TPM or other security devices varies by OS distribution. Any use of the TPM module requires additional software.

11 Intel® support for AMT varies by distribution and requires additional software packages be added to the base OS. Please check with the distribution vendor you have interest in.

12 There are currently issues installing enterprise Linux distros on M.2 and Z Turbo options when the system is running in legacy BIOS mode. HP recommends using the system in its default UEFI BIOS mode when using these storage devices.

LINUX HARDWARE MATRIX

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HP Z240 SFF WORKSTATION

Certified on RHEL 6.8, 7.2. Certified on SLED 11/SP4, 12/SP1. Currently no Ubuntu certifications planned.
As of this edition of this matrix, some Enterprise-class Linux releases enable the Intel® architecture used in this system.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	SLED11 SP4 or later (x86_64)	SLED12 SP1 or later (x86_64)	RHEL 6.7 or later (x86_64)	RHEL 7.2 or later (x86_64)	Ubuntu 14.04 LTS, 14.04.3 or later (x86_64)	Ubuntu 16.04 LTS, base release or later (x86_64)
HP Workstation Base System						
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•	•	•	•
HP Localization Kit	1	1	1	1	1	1
All Supported Processors						
All supported v5 and v6 Intel® Core™ i5, i7, and Xeon® processors	•	•	•	•	•	•
Hyperthreading	•	•	•	•	•	•
Graphics Card (Video Card) (see footnote 14)						
No Graphics Card	•	•	•	•	•	•
Intel® Onboard graphics (HD 530/HD P530 for v5, HD 630/HD P630 for v6)	9	9	9	9	9	9
AMD FirePro W2100	•	•	•	•	•	•
AMD FirePro W4300	•	•	•	•	•	•
AMD Radeon™ Pro WX 4100	11	11	11	11	11	11
NVIDIA® NVS 310 1 GB	•	•	•	•	•	•
NVIDIA® NVS 315	•	•	•	•	•	•
NVIDIA® NVS 510	•	•	•	•	•	•
NVIDIA® Quadro® K1200	•	•	•	•	•	•
NVIDIA® Quadro® K420 2 GB	•	•	•	•	•	•
NVIDIA® Quadro® K620	•	•	•	•	•	•
NVIDIA® Quadro® P400	12	12	12	12	12	12
NVIDIA® Quadro® P600	12	12	12	12	12	12
NVIDIA® Quadro® P1000	12	12	12	12	12	12
System RAM						
Minimum (GB)	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB
Maximum (GB)	64 GB	64 GB	64 GB	64 GB	64 GB	64 GB
Hard Disks						
All Supported SSD Disk Drives	•	•	•	•	•	•
All Supported SATA Disk Drives less than 3 TB	•	•	•	•	•	•
All Supported SATA Disk Drives 3 TB and larger	3	3	3	3	3	3
All Supported USB Drive Keys	•	•	•	•	•	•
HP Z Turbo Drive PCIe-attached storage	4	4	4	4	4	4
Network Cards (no modem support)						
Aquantia Nbase-T PCIe NIC		13		13	13	13
Intel® I210-T1 GbE PCIe NIC	•	•	•	•	•	•
Intel® I350-T2 Dual-Port I350-T4 Quad-Port 1 GbE PCIe NIC	•	•	•	•	•	•
Intel® X520 10 GbE Dual Port Adapter (and HP SFP+ SR Transceiver)	•	•	•	•	•	•
Intel® X540 10GBase-T Dual Port Adapter (RJ45 -Copper)	•	•	•	•	•	•
Intel® 8260 802.11 a/b/g/n/ac & Bluetooth® PCIe	10	10	10	10	10	10

CONTENTS & NAVIGATION

HP Z240 SFF WORKSTATION (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	SLED11 SP4 or later (x86_64)	SLED12 SP1 or later (x86_64)	RHEL 6.7 or later (x86_64)	RHEL 7.2 or later (x86_64)	Ubuntu 14.04 LTS, 14.04.3 or later (x86_64)	Ubuntu 16.04 LTS, base release or later (x86_64)
Onboard Components						
Wired LAN - Intel® i219LM Gigabit Ethernet	•	•	•	•	•	•
Onboard Audio (Realtek ALC221 codec)	8	8	8	•	•	•
Onboard SATA RAID	2	2	2	2	2	2
Add Ons						
Thunderbolt™ PCI-E Card (see footnote 15)						
Removable CD/DVD Media						
HP DVD-ROM Drive	•	•	•	•	•	•
HP DVD+RW Supermulti Drive	5	5	5	5	5	5
HP BD-RE (Blu-Ray writer)	5	5	5	5	5	5
Input/Output Devices (no spaceball support)						
HP Scroll Mouse, USB	•	•	•	•	•	•
HP Standard Keyboard, USB	•	•	•	•	•	•
HP Keyboard and Mouse, PS/2	•	•	•	•	•	•
TPM Module/ Smart Card	7	7	7	7	7	7
HP Media Card Reader	•	•	•	•	•	•
HP Printers	6	6	6	6	6	6
All Supported Monitors	•	•	•	•	•	•

1 Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

2 Hardware RAID is not supported on SATA drives. Software RAID is available in most Linux OSes and can be used with SATA or PCIe storage devices.

3 In general, single drives or volumes larger than 2.2 TB can only be fully accessed using GPT formatting. OSes listed can format GPT for the boot drive or volume but may require installation of UEFI boot support, and can access GPT-formatted data volumes.

4 The Z Turbo Drive G2 PCIe-attached storage device has its own controller and is supported by the standard nvme kernel module in supported OSes. Updates are needed for SLED11 SP4 and SLED12 SP1 to operate with these NVME devices.

5 Linux growisofs supports DVD+RW and Blu-ray media on the listed OSes.

6 For more info about Linux driver support for HP printers, go to http://www.hplip.net.

7 Support for the TPM or other security devices varies by OS distribution.

8 An ALSA kernel "quirk" is required for the system built-in speaker to be usable. Not all listed distributions include it; some may provide it in an update.

9 The Intel® HD graphics works with the in-box frame-buffer drivers. Reliable behavior from the "native" Intel® driver is not available for most release streams as of this edition of the table.

10 As of this edition of the table, only a few enterprise distributions have support for the Intel® 8260 WLAN/BT combo device. Look for updates from the distributors.

11 AMD Radeon™ Pro graphics cards are supported by the newer amdgpu-pro vendor driver. OS streams are supported at specific release version levels, starting with these: SLED 12 SP2, RHEL 6.8, RHEL 7.3, Ubuntu 14.04.5, and Ubuntu 16.04.1. There is no amdgpu-pro driver for SLED 11.

12 HP recommends the following minimum NVIDIA® driver versions for: P400, P600, and P1000 (375.39).

13 The driver for the Aquantia Nbase-T AQN-108 aftermarket NIC is not in-box for most of the listed Linux streams. Driver source can be found at the Aquantia site https://www.aquantia.com/driver-download/.

14 Get the latest drivers: "HP Installer Kit for Linux - HP Driver CD (or DVD) for Linux-distribution-name" ISO images from http://www.hp.com/support. Select your language, choose Software and Drivers, type z240 in the Enter my HP model number field, select Find my product, and then select HP Z240 Small Form Factor Workstation from the results. Under Download options, select Get drivers, software & firmware. HP Workstations can be ordered with a variety of localization options that may vary by platform.

15 Newer Linux kernels may provide device functionality through the Thunderbolt™ module. Such kernels are likely to be available in leading-edge distributions, but inclusion of the support with any Enterprise Linux distribution is at the distributor's discretion. As an example, RHEL 7.2 enables more functionality than RHEL 7.1.

LINUX HARDWARE MATRIX

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HP Z240 TOWER WORKSTATION

Certified on RHEL 6.8, 7.2. Certified on SLED 11/SP4, 12/SP1.
Currently no Ubuntu certifications planned.
As of this edition of this matrix, some Enterprise-class Linux releases enable the Intel® architecture used in this system.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	SLED11 SP4 or later (x86_64)	SLED12 SP1 or later (x86_64)	RHEL 6.7 or later (x86_64)	RHEL 7.2 or later (x86_64)	Ubuntu 14.04 LTS, 14.04.3 or later (x86_64)	Ubuntu 16.04 LTS, base release or later (x86_64)
HP Workstation Base System						
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•	•	•	•
HP Localization Kit	1	1	1	1	1	1
All Supported Processors						
All supported v5 and v6 Intel® Core™ i5, i7, and Xeon® processors	•	•	•	•	•	•
Hyperthreading	•	•	•	•	•	•
Graphics Card (Video Card) (See footnote 14)						
No Graphics Card	•	•	•	•	•	•
Intel® Onboard graphics (HD 530/HD P530 for v5, HD 630/HD P630 for v6)	9	9	9	9	9	9
AMD FirePro W2100	•	•	•	•	•	•
AMD FirePro W4300	•	•	•	•	•	•
AMD FirePro W5100	•	•	•	•	•	•
AMD FirePro W7100	•	•	•	•	•	•
AMD Radeon™ Pro WX 4100	12	12	12	12	12	12
AMD Radeon™ Pro WX 7100	12	12	12	12	12	12
NVIDIA® NVS 310 1GB	•	•	•	•	•	•
NVIDIA® NVS 315	•	•	•	•	•	•
NVIDIA® NVS 510	•	•	•	•	•	•
NVIDIA® Quadro® K1200	•	•	•	•	•	•
NVIDIA® Quadro® K420 2 GB	•	•	•	•	•	•
NVIDIA® Quadro® K620	•	•	•	•	•	•
NVIDIA® Quadro® K2200	•	•	•	•	•	•
NVIDIA® Quadro® M2000 4 GB	10	10	10	10	10	10
NVIDIA® Quadro® M4000	10	10	10	10	10	10
NVIDIA® Quadro® M5000 8 GB	10	10	10	10	10	10
NVIDIA® Quadro® P400	10	10	10	10	10	10
NVIDIA® Quadro® P600	10	10	10	10	10	10
NVIDIA® Quadro® P1000	10	10	10	10	10	10
NVIDIA® Quadro® P2000	10	10	10	10	10	10
NVIDIA® Quadro® P4000	10	10	10	10	10	10
NVIDIA® Quadro® P5000	10	10	10	10	10	10
System RAM						
Minimum (GB)	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB
Maximum (GB)	64 GB	64 GB	64 GB	64 GB	64 GB	64 GB
Hard Disks						
All Supported Solid State Disk Drives	•	•	•	•	•	•
All Supported SATA Disk Drives less than 3 TB	•	•	•	•	•	•
All Supported SATA Disk Drives 3 TB and larger	3	3	3	3	3	3
All Supported USB Drive Keys	•	•	•	•	•	•
HP Z Turbo Drive PCIe-attached storage	4	4	4	4	4	4
Intel® 750 Series PCIe Storage	4	4	4	4	4	4

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HP Z240 TOWER WORKSTATION (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	SLED11 SP4 or later (x86_64)	SLED12 SP1 or later (x86_64)	RHEL 6.7 or later (x86_64)	RHEL 7.2 or later (x86_64)	Ubuntu 14.04 LTS, 14.04.3 or later (x86_64)	Ubuntu 16.04 LTS, base release or later (x86_64)
Network Cards (no modem support)						
Aquantia Nbase-T PCIe NIC		13		13	13	13
Intel® I210-T1 GbE PCIe NIC	•	•	•	•	•	•
Intel® I350-T2 Dual-Port and I350-T4 Quad-Port 1GbE PCIe NIC	•	•	•	•	•	•
Intel® X520 10GbE Dual Port Adapter (and HP SFP+ SR Transceiver)	•	•	•	•	•	•
Intel® X540 10GBase-T Dual Port Adapter (RJ45 -Copper)	•	•	•	•	•	•
Intel® 8260 802.11 a/b/g/n/ac & Bluetooth® PCIe	11	11	11	11	11	11
Onboard Components						
Wired LAN - Intel® i219LM Gigabit Ethernet	•	•	•	•	•	•
Onboard Audio (Realtek ALC221 codec)	8	8	8	•	•	•
Onboard SATA RAID	2	2	2	2	2	2
Add Ons						
Thunderbolt™ PCIe card (see footnote 15)						
Removable CD/DVD Media						
HP DVD-ROM Drive	•	•	•	•	•	•
HP DVD RW Supermulti Drive	5	5	5	5	5	5
HP BD-RE (Blu-Ray writer)	5	5	5	5	5	5
Input/Output Devices (no spaceball support)						
HP Scroll Mouse, USB	•	•	•	•	•	•
HP Standard Keyboard, USB	•	•	•	•	•	•
HP Keyboard and Mouse, PS/2	•	•	•	•	•	•
TPM Module/Smart Card	7	7	7	7	7	7
HP Media Card Reader	•	•	•	•	•	•
HP Printers	6	6	6	6	6	6
All Supported Monitors	•	•	•	•	•	•

1 Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre- loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

2 Hardware RAID is not supported on SATA drives. Software RAID is available in most Linux OSes and can be used with SATA or PCIe storage devices.

3 In general, single drives or volumes larger than 2.2 TB can only be fully accessed using GPT formatting. OSes listed can format GPT for the boot drive or volume but may require installation of UEFI boot support, and can access GPT-formatted data volumes.

4 The Z Turbo Drive G2 PCIe-attached storage device has its own controller and is supported by the standard nvme kernel module in supported OSes. Updates are needed for SLED11 SP4 and SLED12 SP1 to operate with these NVME devices. Other NVME storage devices have similar requirements.

5 Linux growisofs supports DVD+RW and Blu-ray media on the listed OSes.

6 For more info about Linux driver support for HP printers, go to http://www.hplip.net

7 Support for the TPM or other security devices varies by OS distribution.

8 An ALSA kernel "quirk" is required for the system built-in speaker to be usable. Not all listed distributions include it; some may provide it in an update.

9 The Intel® HD graphics works with the in-box frame-buffer drivers. Reliable behavior from the "native" Intel® driver is not available for most release streams as of this edition of the table.

10 HP recommends the following minimum NVIDIA® driver versions for M4000 and M5000 (352.41); M2000 (361.45.11); P400, P600, P1000, P2000, and P4000 (375.39); and P5000 (367.57).

11 As of this edition of the table, only a few enterprise distributions have support for the Intel® 8260 WLAN/BT combo device. Look for updates from the distributors.

12 AMD Radeon™ Pro graphics cards are supported by the newer amdgpu-pro vendor driver. OS streams are supported at specific release version levels, starting with these: SLED 12 SP2, RHEL 6.8, RHEL 7.3, Ubuntu 14.04.5, and Ubuntu 16.04.1. There is no amdgpu-pro driver for SLED 11.

13 The driver for the Aquantia Nbase-T AQN-108 aftermarket NIC is not in-box for most of the listed Linux streams. Driver source can be found at the Aquantia site https://www.aquantia.com/driver-download/.

14 Get the latest drivers: "HP Installer Kit for Linux - HP Driver CD (or DVD) for Linux-distribution-name" ISO images from http://www.hp.com/support Select your language, choose Software and Drivers, type z240 in the Enter my HP model number field, select Find my product, and then select HP Z240 Tower Workstation from the results. Under Download options, select Get drivers, software & firmware. HP Workstations can be ordered with a variety of localization options that may vary by platform.

15 Newer Linux kernels may provide device functionality through the Thunderbolt™ module. Such kernels are likely to be available in leading-edge distributions, but inclusion of the support with any Enterprise Linux distribution is at the distributor's discretion. As an example, RHEL 7.2 enables more functionality than RHEL 7.1.

LINUX HARDWARE MATRIX

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HP Z238 MICROTOWER WORKSTATION

Certifications pending.
As of this edition of this matrix, some Enterprise-class Linux releases enable the Intel® architecture used in this system.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	SLED11 SP4 or later (x86_64)	SLED12 SP1 or later (x86_64)	RHEL 6.7 or later (x86_64)	RHEL 7.2 or later (x86_64)	Ubuntu 14.04 LTS, 14.04.3 or later (x86_64)
HP Workstation Base System					
Base system includes: Chassis, System Board, USB, Power Supply, etc.	•	•	•	•	•
HP Localization Kit	1	1	1	1	1
All Supported Processors					
All supported v5 and v6 Intel® Core™ i5, i7, and Xeon® processors	•	•	•	•	•
Hyperthreading	•	•	•	•	•
Graphics Card (Video Card) (see footnote 10)					
No Graphics Card	•	•	•	•	•
Intel® Onboard graphics (HD 530/HD P530 for v5, HD 630/HD P630 for v6)	9	9	9	9	9
AMD FirePro W2100	•	•	•	•	•
NVIDIA® NVS 315	•	•	•	•	•
NVIDIA® Quadro® K1200	•	•	•	•	•
NVIDIA® Quadro® K420 2GB	•	•	•	•	•
NVIDIA® Quadro® K620	•	•	•	•	•
System RAM					
Minimum (GB)	4 GB	4 GB	4 GB	4 GB	4 GB
Maximum (GB)	64 GB	64 GB	64 GB	64 GB	64 GB
Hard Disks					
All Supported SSD Disk Drives	•	•	•	•	•
All Supported SATA Disk Drives less than 3 TB	•	•	•	•	•
All Supported SATA Disk Drives 3 TB and larger	3	3	3	3	3
All Supported USB Drive Keys	•	•	•	•	•
HP Z Turbo Drive PCIe-attached storage	4	4	4	4	4
Network Cards (no modem support)					
Intel® i210-T1 GbE PCIe NIC	•	•	•	•	•
Onboard Components					
Wired LAN - Intel® i219LM Gigabit Ethernet	•	•	•	•	•
Onboard Audio (Realtek ALC221 codec)	8	8	8	•	•
Onboard SATA RAID	2	2	2	2	2
Removable CD/DVD Media					
HP DVD-ROM Drive	•	•	•	•	•
HP DVD+RW Supermulti drive	5	5	5	5	5
Input/Output Devices (no spaceball support)					
HP Scroll Mouse, USB	•	•	•	•	•
HP Standard Keyboard, USB	•	•	•	•	•
HP Keyboard and Mouse, PS/2	•	•	•	•	•
TPM Module/ Smart Card	7	7	7	7	7
HP Media Card Reader	•	•	•	•	•
HP Printers	6	6	6	6	6
All Supported Monitors	•	•	•	•	•

CONTENTS & NAVIGATION

HP Z238 MICROTOWER WORKSTATION (CONTINUED)

1 Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

2 Hardware RAID is not supported on SATA drives. Software RAID is available in most Linux OSes and can be used with SATA or PCIe storage devices.

3 In general, single drives or volumes larger than 2.2 TB can only be fully accessed using GPT formatting. OSes listed can format GPT for the boot drive or volume but may require installation of UEFI boot support, and can access GPT-formatted data volumes.

4 The Z Turbo Drive G2 PCIe-attached storage device has its own controller and is supported by the standard nvme kernel module in supported OSes. Updates are needed for SLED11 SP4 and SLED12 SP1 to operate with these NVME devices.

5 Linux growisofs supports DVD+RW media on the listed OSes.

6 For more info about Linux driver support for HP printers, go to http://www.hplip.net.

7 Support for the TPM or other security devices varies by OS distribution.

8 An ALSA kernel "quirk" is required for the system built-in speaker to be usable. Not all listed distributions include it; some may provide it in an update.

9 The Intel® HD graphics works with the in-box frame-buffer drivers. Reliable behavior from the "native" Intel® driver is not available for most release streams as of this edition of the table.

10 Get the latest drivers: "HP Installer Kit for Linux - HP Driver CD (or DVD) for Linux-distribution-name" ISO images from http://www.hp.com/support. Select your language, choose Software and Drivers, type z238 in the Enter my HP model number field, select Find my product, and then select HP Z228 Microtower Workstation from the results. Under Download options, select Get drivers, software & firmware. HP Workstations can be ordered with a variety of localization options that may vary by platform.

LINUX HARDWARE MATRIX

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HP Z228 MICROTOWER WORKSTATION

Originally certified with RHEL 6.3 (x86_64) and SLED 11 SP2 (x86_64).
Certified with RHEL 5.8 (x86_64) in October 2012.

Product Items/Features (Blank box or unlisted -> component is NOT functional w/ as-is OS)	SLED11 SP3 or later (x86_64)	RHEL 6.5 or later (x86_64)	RHEL 7.0 or later (x86_64)	Ubuntu 14.04 LTS or later (x86_64)
HP Workstation Base System				
Base system includes: Chassis, System Board, USB, Power Supply, etc.	•	•	•	•
Localization Kit (see footnote 1)				
HP Localization Kit	•	•	•	•
Software				
Remote Graphics Software				
All Supported Processors				
All Supported Processors (single-CPU configs)	•	•	•	•
Hyperthreading	•	•	•	•
Firmware Features				
CSM (Compatibility Support Module) Mode	•	•	•	•
2.1 UEFI Mode	•	•	•	•
Intel® AMT remote manageability				
Graphics Card (Video Card) (see footnote 2)				
No Graphics Card	•	•	•	•
Intel® Onboard Graphics	8	8	8	8
NVIDIA® NVS 315	•	•	•	•
NVIDIA® Quadro® K420	•	•	•	•
NVIDIA® Quadro® K620	•	•	•	•
NVIDIA® Quadro® K1200	•	•	•	•
AMD FirePro W2100	•	•	•	•
System RAM				
Minimum (GB)	2 GB	2 GB	2 GB	2 GB
Maximum (GB)	32 GB	32 GB	32 GB	32 GB
Hard Disks				
SATA Controllers	5	5	5	5
All Supported SSD Disk Drives	•	•	•	•
All Supported SATA Disk Drives less than 3 TB	•	•	•	•
All Supported SATA Disk Drives 3 TB and larger	7	7	7	7
All Supported USB Drive Keys	•	•	•	•
Network Cards (no modem support)				
Intel® I210-T1 GbE PCIe NIC	•	•	•	•
Onboard Components				
Onboard LAN - Intel® I217LM Gigabit Ethernet	•	•	•	•
Onboard Audio	•	•	•	•
Onboard SATA RAID	4	4	4	4
Onboard USB 3.0	•	•	•	•
Add Ons				
IEEE 1394B PCI-E Card	•	•	•	•
Removable CD/DVD Media				
HP 16x DVD-ROM Drive	•	•	•	•
HP 16x Super Multi DVD+RW	3	3	3	3
Input/Output Devices (no spaceball support)				
HP Mouse, PS/2 or USB	•	•	•	•

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HP Z228 MICROTOWER WORKSTATION (CONTINUED)

Product Items/Features (Blank box or unlisted -> component is NOT functional w/ as-is OS)	SLED11 SP3 or later (x86_64)	RHEL 6.5 or later (x86_64)	RHEL 7.0 or later (x86_64)	Ubuntu 14.04 LTS or later (x86_64)
HP Standard Keyboard, USB/PS2	•	•	•	•
TPM Module/ Smart Card				
HP Media Card Reader	•	•	•	•
HP Printers	6	6	6	6
All Supported Monitors	•	•	•	•

1 HP systems can usually be ordered with a localization that affects documentation, keyboards, and other components. Typical Linux distributions are not installed as pre- localized, but the user can choose a language and keyboard layout during post-installation configuration, or during the "first boot" when the OS comes preloaded on the system.

2 Get the latest drivers: "HP Installer Kit for Linux - HP Driver CD (or DVD) for Linux-distribution-name" ISO images from http://www.hp.com/support. Select your language, choose Software and Drivers, type z228mt in the Enter my HP model number field, and select Find my product. Under Download options, select Get drivers, software & firmware. HP Workstations can be ordered with a variety of localization options that may vary by platform.

3 Linux growisofs supports DVD+RW and Blu-ray media on the listed OSes. For drives that have the Lightscribe functionality, go to www.lightscribe.com for software to enable the labeling feature.

4 Hardware RAID is not supported on SATA drives. Software RAID is available in most Linux OSes.

5 The Z228 can support up to 2 SATA drives.

6 For more info about Linux driver support for HP printers, go to http://www.hplip.net.

7 In general, single drives or volumes larger than 2.2 TB can only be fully accessed using GPT formatting. Newer Linux OSes can format GPT for the boot drive or volume but may require installation of UEFI boot support. OSes listed can all access GPT-formatted volumes.

8 Depending on the OS release, the kernel DRM and X.org "Intel®" driver may not support the Intel® graphics correctly.

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP ZCENTRAL 4R WORKSTATION

Certified on RHEL 8.3 and Ubuntu 20.04. SLE 15/SP3 cert pending.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirement

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 7.4 or later (x86_64)	RHEL 8.0 or later (x86_64)	Ubuntu 18.04 LTS or later (x86_64)	Ubuntu 20.04 LTS or later (x86_64)
HP Workstation Base System				
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•	•
HP Localization Kit	1	1	1	1
All Supported Processors				
Intel® Xeon® W-22xx series processors	•	•	•	•
Hyperthreading	•	•	•	•
Graphics Card (Video Card) (See footnote 2)				
No Graphics Card	•	•	•	•
NVIDIA® Quadro® P400 (2 GB Frame buffer)	2	2	2	2
NVIDIA® Quadro® P1000 (4 GB Frame buffer)	2	2	2	2
NVIDIA® Quadro® P2200 (5 GB Frame buffer)	2	2	2	2
NVIDIA® Quadro® RTX 4000 (8 GB Frame buffer)	2	2	2	2
NVIDIA® Quadro® RTX 5000 (16 GB Frame buffer)	2	2	2	2
NVIDIA® RTX™ A5000 (24 GB Frame buffer)	2	2	2	2
NVIDIA® Quadro® RTX 6000 (24 GB Frame buffer)	2	2	2	2
NVIDIA® Quadro® RTX 8000 (48 GB Frame buffer)	2	2	2	2
System RAM				
Minimum (GB)	16GB	16GB	16GB	16GB
Maximum (GB)	256GB	256GB	256GB	256GB
Hard Disks				
All Supported Solid State Drives	•	•	•	•
All Supported SATA Disk Drives <= 2 TB	•	•	•	•
All Supported SATA Disk Drives > 2 TB	3	3	3	3
All Supported M.2 NVMe PCIe Solid State Drives	•	•	•	•
HP Z Turbo Drive PCIe-attached storage	4	4	4	4
Network Cards				
Intel® I210-T1 GbE PCIe NIC	•	•	•	•
Intel® X550 10GbE Dual Port Adapter	•	•	•	•
Integrated Components				
Intel® I219LM Gigabit Ethernet (1Gb)	•	•	•	•
Intel® AMT functionality (Intel I219LM)	5	5	5	5
Aquantia AQN-107 (10Gbase-T)	•	•	•	•
Onboard Audio (Realtek ALC221 codec)	•	•	•	•
Onboard Intel® integrated SATA RAID (0/1/5/10)	•	•	•	•
USB 3.2 Gen1 Type A ports	•	•	•	•
USB 3.3 Gen 2 Type-C™ ports (on FIO-P module)	6	6	6	6
USB 2.0 / 3.2 Gen 1 internal ports	•	•	•	•
TPM 2.0 Module	7	7	7	7
Removable CD/DVD Media				
HP DVD-ROM Drive	•	•	•	•
HP DVD RW Supermulti Drive	8	8	8	8
HP BD-RE (Blu-Ray writer)	8	8	8	8

CONTENTS & NAVIGATION

HP ZCENTRAL 4R WORKSTATION (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 7.4 or later (x86_64)	RHEL 8.0 or later (x86_64)	Ubuntu 18.04 LTS or later (x86_64)	Ubuntu 20.04 LTS or later (x86_64)
Input/Output Devices (no spaceball support)				
HP Scroll Mouse, USB	•	•	•	•
HP Standard Keyboard, USB	•	•	•	•
HP Keyboard and Mouse, PS/2	•	•	•	•
HP Media Card Reader	•	•	•	•
HP Printers	9	9	9	9
All Supported Monitors	•	•	•	•

[1] Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

[2] HP recommends using NVIDIA® driver 460.84 or newer for NVIDIA® graphics on this platform.

[3] Single drives or volumes larger than 2.2 TB can only be fully accessed using GPT formatting. The OSes listed can create GPT formatted storage drives/volumes but this requires installation of the OS in UEFI mode. Once formatted and installed, the OS can access the entirety of storage drives/volumes.

[4] There are currently issues installing enterprise Linux distros on M.2 and HP Z turbo options when the system is running in legacy BIOS mode. HP recommends using the system in its default UEFI BIOS mode when using these storage devices.

[5] Intel® support for AMT varies by distribution and requires additional software packages be added to the base OS. Please check with the distribution vendor of your choice.

[6] There is a problem discovered recently with improper USB C hotplug device recognition that will require a fix in BIOS, which will be delivered in a future BIOS release. HP will update this footnote when the version of that BIOS release is known.

[7] Usable functionality for the TPM or other security devices may vary by OS distribution. Any use of the TPM module does require additional software.

[8] Linux growisofs supports DVD+RW and Blu-Ray media on the listed OSes.

[9] For more info about Linux driver support for HP printers, please visit http://www.hplip.net

LINUX HARDWARE MATRIX

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HP Z4 G4 WORKSTATION

Certified on RHEL 7.4, RHEL 8.0, SLED 12/SP3, SLED 15, Ubuntu 18.04 LTS, Ubuntu 20.04 LTS.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	SLED 12 SP3 or later (x86_64)	SLED 15 or later (x86_64)	RHEL 6.9 or later (x86_64)	RHEL 7.4 or later (x86_64)	RHEL 8.0 or later (x86_64)	Ubuntu 16.04 LTS, 16.04.3 or later (x86_64)	Ubuntu 18.04 LTS or later (x86_64)	Ubuntu 20.04 or later (x86_64)
HP Workstation Base System								
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	12	•	•	•	•	•
HP Localization Kit	1	1	1	1	1	1	1	1
All Supported Processors								
Intel® Xeon® W and i7/i9 Core X-series processors	•	•	•	•	•	•	•	•
Hyperthreading	•	•	•	•	•	•	•	•
Graphics Card (Video Card)								
No Graphics Card	•	•	•	•	•	•	•	•
AMD FirePro W2100 (2 GB frame buffer)	7	7	7	7	7	7	7	•
AMD FirePro WX 3100 (4 GB Frame buffer)	7	7	7	7	7	7	7	•
AMD FirePro WX 3200 (4 GB Frame Buffer)	7	7	7	7	7	7	7	•
AMD FirePro WX 4100 (4 GB Frame buffer)	7	7	7	7	7	7	7	•
AMD Radeon™ Pro W5500 (8 GB Frame buffer)	7	7	7	7	7	7	7	•
AMD Radeon™ Pro W5700 (8 GB Frame buffer)	7	7	7	7	7	7	7	•
AMD FirePro WX 7100 (8 GB Frame buffer)	7	7	7	7	7	7	7	•
AMD FirePro WX 9100 (16 GB Frame buffer)	7	7	7	7	7	7	7	•
NVIDIA® Quadro® P400 (2 GB Frame buffer)	8	8	8	8	8	13	13	13
NVIDIA® Quadro® P600 (2 GB Frame buffer)	8	8	8	8	8	13	13	13
NVIDIA® Quadro® P620 (2 GB Frame buffer)	8	8	8	8	8	13	13	13
NVIDIA® Quadro® P1000 (4 GB Frame buffer)	8	8	8	8	8	13	13	13
NVIDIA® T400 (2 GB Frame buffer)	8	8	8	8	8	13	13	13
NVIDIA® T600 (4 GB Frame buffer)	8	8	8	8	8	13	13	13
NVIDIA® Quadro® T1000 (4 GB Frame buffer)	8	8	8	8	8	13	13	13
NVIDIA® Quadro® P2000 (5 GB Frame buffer)	8	8	8	8	8	13	13	13
NVIDIA® Quadro® P2200 (5 GB Frame buffer)	8	8	8	8	8	13	13	13
NVIDIA® Quadro® P4000 (8 GB Frame buffer)	8	8	8	8	8	13	13	13
NVIDIA® Quadro® P5000 (16 GB Frame buffer)	8	8	8	8	8	13	13	13
NVIDIA® Quadro® P6000 (24 GB Frame buffer)	8	8	8	8	8	13	13	13
NVIDIA® Quadro® GP100 (16 GB Frame buffer)	8	8	8	8	8	13	13	13
NVIDIA® Quadro® GV100 (32 GB Frame buffer)	8	8	8	8	8	13	13	13
NVIDIA® Quadro® RTX 4000	8	8	8	8	8	13	13	13
NVIDIA® Quadro® RTX 5000	8	8	8	8	8	13	13	13
NVIDIA® Quadro® RTX 6000	8	8	8	8	8	13	13	13
NVIDIA® RTX™ A4000 (16 GB Frame buffer)	8	8	8	8	8	13	13	13
NVIDIA® RTX™ A5000 (24 GB Frame buffer)	8	8	8	8	8	13	13	13
NVIDIA® RTX™ A6000 (48 GB Frame buffer)	8	8	8	8	8	13	13	13
NVIDIA® Quadro® RTX 8000	8	8	8	8	8	13	13	13
System RAM	8	8	8	8	8	13	13	13
Minimum (GB)	8 GB	8 GB	8 GB	8 GB	8 GB	8 GB	8 GB	8 GB
Maximum (GB) X-series processor/W processor	128/ 256 GB	128/ 256 GB	128/ 256 GB	128/ 256 GB	128/ 256 GB	128/ 256 GB	128/ 256 GB	128/ 256 GB
Hard Disks								
All Supported Solid State Drives	•	•	•	•	•	•	•	•
All Supported SATA Disk Drives <= 2 TB	•	•	•	•	•	•	•	•

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP Z4 G4 WORKSTATION (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	SLED 12 SP3 or later (x86_64)	SLED 15 or later (x86_64)	RHEL 6.9 or later (x86_64)	RHEL 7.4 or later (x86_64)	RHEL 8.0 or later (x86_64)	Ubuntu 16.04 LTS, 16.04.3 or later (x86_64)	Ubuntu 18.04 LTS or later (x86_64)	Ubuntu 20.04 or later (x86_64)
All Supported SATA Disk Drives > 2 TB	2	2	2	2	2	2	2	2
All Supported M.2 NVMe PCIe Solid State Drives	•	•	•	•	•	•	•	•
All Support SAS Disk Drives								
HP Z Turbo Drive PCIe-attached storage	11	11	11	11	11	11	11	•
Network Cards								
Intel® I210-T1 GbE PCIe NIC	•	•	•	•	•	•	•	•
Intel® I350-T2 PCIe Dual Port 1 Gb NIC	•	•	•	•	•	•	•	•
Intel® I350-T4 PCIe Quad Port 1 Gb NIC	•	•	•	•	•	•	•	•
Aquantia® AQN-108 Single-Port 5 GbE NIC	10	10	10	10	10	10	10	•
Intel® X550 10GbE Dual Port Adapter	•	•	•	•	•	•	•	•
Intel® X710-DA2 10GbE Dual Port Adapter (and HP SFP+ SR Transceiver)	•	•	•	•	•	•	•	•
Intel® 10 GBase-T Dual Port Adapter (RJ-45 Copper)	•	•	•	•	•	•	•	•
Intel® 8265 802.11 a/b/g/n/ac & Bluetooth® PCIe	•	•	•	•	•	•	•	•
Integrated Components								
LAN port 0 - Intel® i219LM Gigabit Ethernet	•	•	•	•	•	•	•	•
LAN port 1 - Intel® i210 Gigabit Ethernet	•	•	•	•	•	•	•	•
Intel® AMT functionality on LAN port 0	9	9	9	9	9	9	9	9
Onboard Audio (Realtek ALC221 codec)	•	•	•	•	•	•	•	•
Onboard Intel® integrated SATA RAID (0/1/5/10)	•	•	•	•	•	•	•	•
USB 3.1 G1 Type A ports	•	•	•	•	•	•	•	•
USB 3.1 G2 Type C™ ports (on FIO-P module)	•	•	•	•	•	•	•	•
USB 2.0/3/1 G1 internal ports	•	•	•	•	•	•	•	•
TPM 2.0 Module	6	6	6	6	6	6	6	6
Add Ons								
MicroSemi SmartHBA2100-4i4e SAS controller	3	3	3	3	3	3	3	3
Removable CD/DVD Media								
HP DVD-ROM Drive	•	•	•	•	•	•	•	•
HP DVD RW Supermulti Drive	4	4	4	4	4	4	4	4
HP BD-RE (Blu-Ray writer)	4	4	4	4	4	4	4	4
Input/Output Devices (no spaceball support)								
HP Scroll Mouse, USB	•	•	•	•	•	•	•	•
HP Standard Keyboard, USB	•	•	•	•	•	•	•	•
HP Keyboard and Mouse, PS/2	•	•	•	•	•	•	•	•
HP Media Card Reader	•	•	•	•	•	•	•	•
HP Printers	5	5	5	5	5	5	5	5
All Supported Monitors	•	•	•	•	•	•	•	•

1 Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

2 Single drives or volumes larger than 2.2 TB can only be fully accessed using GPT formatting. The OS's listed can create GPT formatted storage drives/volumes but this requires installation of the OS in UEFI mode. Once formatted and installed, the OS can access the entirety of storage drives/volumes.

3 The MicroSemi 2100-4i4e is not currently being supported on enterprise Linux distros by HP Inc.

4 Linux growisofs supports DVD+RW and Blu-ray media on the listed OSes.

5 For more info about Linux driver support for HP printers, please visit http://www.hplip.net.

6 Support for the TPM or other security devices varies by OS distribution. Any use of the TPM module requires additional software.

7 AMD Radeon™ Pro graphics cards are now supported in Linux by the recently released amdgpu open source driver. OS streams are supported at specific release version levels, starting with these: SLED 12/SP2, RHEL 6.9, RHEL 7.4, RHEL 8.0, Ubuntu 16.04.2. For RHEL 6.9 with certain AMD® cards, it may be necessary to remove "rhgb" from the boot line in order for the X server to start correctly with the amdgpu-pro driver.

8 HP recommends using NVIDIA® driver 460.84 or newer for NVIDIA® graphics on this platform.

9 Intel® support for AMT varies by distribution and requires additional software packages be added to the base OS. Please check with the distribution vendor of your choice.

10 The driver for the Aquantia Nbase-T AQN-108 aftermarket NIC is not in-box for most of the listed Linux streams. Driver source can be found at the Aquantia site https://www.aquantia.com/driver-download/.

11 There are currently issues installing enterprise Linux distro.s on M.2 and Z Turbo options when the system is running in legacy BIOS mode. HP recommends using the system in its default UEFI BIOS mode when using these storage devices.

12 UEFI mode only. RHEL 6.9 currently does not support running in legacy BIOS on this platform.

13 Canonical provides up-to-date versions of the NVIDIA® proprietary driver in their software repositories. HP recommends customer use one of the choices provided by Canonical as well as use their software update tool.

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP Z440 WORKSTATION

Certified with RHEL 6.5 and RHEL 7.0. Certified with Ubuntu 14.04 LTS (BIOS 1.25 required). Certified with SLED 11 SP3 and SLED 12 (NVIDIA® graphics). Other certifications pending.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	SLED11 SP3 or later (x86_64)	SLED12 or later (x86_64)	RHEL 6.5 or later (x86_64)	RHEL 7.0 or later (x86_64)	Ubuntu 14.04 LTS or later (x86_64)	Ubuntu 16.04 LTS or later (x86_64)
HP Workstation Base System						
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•	•	•	•
HP Localization Kit	1	1	1	1	1	1
All Supported Processors						
All supported v3 (Haswell) & v4 (Broadwell) E5-16xx Xeon® processors (see footnote 14)	•	•	•	•	•	•
Graphics Card (Video Card) (see footnote 15)						
No Graphics Card	•	•	•	•	•	•
AMD FirePro W2100	•	•	•	•	•	•
AMD FirePro W4300	•	•	•	•	•	•
AMD FirePro W5100	•	•	•	•	•	•
AMD FirePro W7100	•	•	•	•	•	•
AMD Radeon™ Pro WX 4100	11	11	11	11	11	11
AMD Radeon™ Pro WX 7100	11	11	11	11	11	11
NVIDIA® NVS 310 512 MB and 1 GB	•	•	•	•	•	•
NVIDIA® NVS 315 1 GB	•	•	•	•	•	•
NVIDIA® NVS 510 2 GB	•	•	•	•	•	•
NVIDIA® Quadro® NVS K420 1 GB and 2 GB	•	•	•	•	•	•
NVIDIA® Quadro® K620 2 GB	•	•	•	•	•	•
NVIDIA® Quadro® K2200 4 GB	•	•	•	•	•	•
NVIDIA® Quadro® K4200 4 GB	•	•	•	•	•	•
NVIDIA® Quadro® K5200 8 GB	•	•	•	•	•	•
NVIDIA® Quadro® K6000 12 GB	•	•	•	•	•	•
NVIDIA® Quadro® M2000 4 GB	9	9	9	9	9	9
NVIDIA® Quadro® M4000 8 GB	9	9	9	9	9	9
NVIDIA® Quadro® M5000 8 GB	9	9	9	9	9	9
NVIDIA® Quadro® P400	9	9	9	9	9	9
NVIDIA® Quadro® P600	9	9	9	9	9	9
NVIDIA® Quadro® P1000	9	9	9	9	9	9
NVIDIA® Quadro® P2000	9	9	9	9	9	9
NVIDIA® Quadro® P4000	9	9	9	9	9	9
NVIDIA® Quadro® P6000	9	9	9	9	9	9
High Performance GPU Computing						
NVIDIA® Tesla® K40	8	8	8	8	8	8
System RAM						
Minimum (GB)	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB
Maximum (GB)	128 GB	128 GB	128 GB	128 GB	128 GB	128 GB
Hard Disks						
All Supported SAS Disk Drives	2	2	2	2	2	2
All Supported Solid State Drives	•	•	•	•	•	•
All Supported SATA Disk Drives less than 3 TB	•	•	•	•	•	•
Supported SATA Disk Drives 3 TB and larger	3	3	3	3	3	3

LINUX HARDWARE MATRIX

CONTENTS & NAVIGATION

HP Z440 WORKSTATION (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	SLED11 SP3 or later (x86_64)	SLED12 or later (x86_64)	RHEL 6.5 or later (x86_64)	RHEL 7.0 or later (x86_64)	Ubuntu 14.04 LTS or later (x86_64)	Ubuntu 16.04 LTS or later (x86_64)
All Supported USB Drive Keys	•	•	•	•	•	•
HP Z Turbo Drive and Z Turbo QuadPro PCIe-attached storage	4	4, 13	4	4, 13	4	4, 13
Intel® 750 Series PCIe Storage	4	4	4	4	4	4
Network Cards (no modem support)						
Aquantia Nbase-T PCIe NIC		12		12	12	12
Intel® Ethernet I210-T1 PCIe NIC	•	•	•	•	•	•
Intel® I350-T2 Dual-Port I350-T4 Quad-Port 1GbE PCIe NIC	•	•	•	•	•	•
Intel® X540 10GBase-T Dual Port Adapter (RJ45 -Copper)	•	•	•	•	•	•
Intel® 361T 1GbE dual port PCI NIC	•	•	•	•	•	•
Intel® Ethernet X520 10GbE dual port PCIe NIC	•	•	•	•	•	•
Intel® 7260 802.11a/b/g/n PCIe WLAN NIC	•	•	•	•	•	•
Intel® 8260 802.11 a/b/g/n/ac & Bluetooth® PCIe	10	10	10	10	10	10
Onboard Components						
Integrated Intel® SATA sSATA Controller	2	2	2	2	2	2
Wired LAN - Intel® i218LM Gigabit Ethernet	7	7	•	•	•	•
Onboard Audio (Realtek ALC221 codec)	•	•	•	•	•	•
Onboard SATA RAID	2	2	2	2	2	2
Add Ons						
LSI 9217-4i4e 8-port SAS 6 Gb/s RAID Controller	2	2	2	2	2	2
LSI 9270-8i 8-port SAS 6 Gb/s ROC RAID Controller & iBBU9 battery backup unit	2	2	2	2	2	2
Thunderbolt™ PCIe card (see footnote 16)						
1394b Firewire PCIe card	•	•	•	•	•	•
Removable CD/DVD Media						
HP DVD-ROM Drive	•	•	•	•	•	•
HP DVD RW Supermulti Drive	5	5	5	5	5	5
HP BD-RE (Blu-Ray writer)	5	5	5	5	5	5
Input/Output Devices (no spaceball support)						
HP Scroll Mouse, USB	•	•	•	•	•	•
HP Standard Keyboard, USB	•	•	•	•	•	•
HP Keyboard and Mouse, PS/2	•	•	•	•	•	•
TPM Module/ Smart Card (see footnote 17)						
HP Media Card Reader	•	•	•	•	•	•
HP Printers	6	6	6	6	6	6
All Supported Monitors	•	•	•	•	•	•

CONTENTS & NAVIGATION

HP Z440 WORKSTATION (CONTINUED)

1 Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available.

2 Hardware RAID is supported using the LSI 9217-4i4e (RAID 0/1/1E/10 SATA & SAS) and the LSI 9270-8i (RAID 0/1/5/6/10 SATA & SAS). SATA RAID is supported on sSATA ports (0/1/5/10 SATA only).

3 In general, single drives or volumes larger than 2.2 TB can only be fully accessed using GPT formatting. OSes listed can format GPT for the boot drive or volume but may require installation of UEFI boot support, and can access GPT-formatted data volumes.

4 The Z Turbo Drive PCIe-attached storage device has its own controller and is supported by the standard ahci kernel module in supported OSes. Z Turbo Drive G2 is an NVME device and is supported by the kernel NVME module. Z Turbo QuadPro is an enclosure for several NVME devices. Updates are needed for SLED11 SP4 and SLED12 SP1 to operate with these NVME devices. Other NVME storage devices have similar requirements.

5 Linux growisofs supports DVD+RW and Blu-ray media on the listed OSes.

6 For more info about Linux driver support for HP printers, go to http://www.hplip.net.

7 SLED 11/SP3 requires an update kernel to operate this on-board network interface properly. Please check with SuSE support for the appropriate update.

8 The NVIDIA® K40 is a GPU-compute device without graphics. The base OS will more or less ignore it. To make use of this device, the proprietary driver must be installed. The minimum driver version for support of K40 is 319.72.

9 HP recommends the following minimum NVIDIA® driver versions for M4000 and M5000 (352.41); M2000 (361.45.11); P400, P600, P1000, P2000, and P4000 (375.39); and P6000 (367.57).

10 As of this edition of the table, only a few enterprise distributions have support for the Intel® 8260 WLAN/BT combo device. Look for updates from the distributors.

11 AMD Radeon™ Pro graphics cards are supported by the newer amdgpu-pro vendor driver. OS streams are supported at specific release version levels, starting with these: SLED 12 SP2; RHEL 6.8; RHEL 7.3; Ubuntu 14.04.5; Ubuntu 16.04.1. There is no amdgpu-pro driver for SLED 11.

12 The driver for the Aquantia Nbase-T AQN-108 aftermarket NIC is not in-box for most of the listed Linux streams. Driver source can be found at the Aquantia site www.aquantia.com/driver-download/.

13 There are currently issues installing enterprise Linux distros on M.2 and Z Turbo options when the operating system is booted by legacy BIOS method. HP recommends installing the system in UEFI boot setup when using these storage devices.

14 Correct operation with the "Broadwell" family of processors may require a later release of OS stream than the "Haswell" family. The following OS releases are known to be capable: SLED11 SP4, SLED12 SP1, RHEL 6.8, RHEL 7.2.

15 Get the latest drivers: "HP Installer Kit for Linux - HP Driver CD (or DVD) for Linux-distribution-name" ISO images from http://www.hp.com/support/z440. Under Download options, select Get drivers, software & firmware. HP Workstations can be ordered with a variety of localization options that may vary by platform. The default in-box graphics drivers (e.g., nouveau and radeon) may not always handle newer graphics cards correctly. In some cases, even OS installation must be done using a "basic mode" or by specifying a frame-buffer driver (e.g., "xdriver=fbdev").

16 Newer Linux kernels may provide device functionality through the Thunderbolt module. Such kernels are likely to be available in leading-edge distributions, but inclusion of the support with any Enterprise Linux distribution is at the distributor's discretion. For example, RHEL 7.2 is more capable than RHEL 7.1.

17 The TPM and Smartcard readers can be used with the addition of extra software packages which support operation of these devices.

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HP Z6 G4 WORKSTATION

Certified on RHEL 7.4, RHEL 8.0, SLED 15, SLED 12/SP3 and Ubuntu 20.04.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	SLED 12 SP3 or later (x86_64)	SLED 15 or later (x86_64)	RHEL 6.9 or later (x86_64)	RHEL 7.4 or later (x86_64)	RHEL 8.0 or later (x86_64)	Ubuntu 16.04 LTS, 16.04.3 or later (x86_64)	Ubuntu 18.04 LTS or later (x86_64)	Ubuntu 20.04 or later (x86_64)
HP Workstation Base System								
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	12	•	•	•	•	•
HP Localization Kit	1	1	1	1	1	1	1	1
All Supported Processors								
Xeon® Skylake 81xx/61xx/51xx/41xx/31xx Processors (single and dual CPU configs)	•	•	•	•	•	•	•	•
Xeon® Cascade lake 82xx/62xx/42xx/32xx Processors (single and dual CPU configs)	•	•	•	•	•	•	•	•
Hyperthreading	•	•	•	•	•	•	•	•
Graphics Card (Video Card)								
No Graphics Card	•	•	•	•	•	•	•	•
AMD FirePro W2100 (2 GB Frame buffer)	7	7	7	7	7	7	7	•
AMD Radeon™ Pro WX 3100 (4 GB Frame buffer)	7	7	7	7	7	7	7	•
AMD FirePro WX 3200 (4 GB Frame Buffer)	7	7	7	7	7	7	7	•
AMD Radeon™ Pro WX 4100 (4 GB Frame buffer)	7	7	7	7	7	7	7	•
AMD Radeon™ Pro W5500 (8 GB Frame buffer)	7	7	7	7	7	7	7	•
AMD Radeon™ Pro W5700 (8 GB Frame buffer)	7	7	7	7	7	7	7	•
AMD Radeon™ Pro WX 7100 (8 GB Frame buffer)	7	7	7	7	7	7	7	•
AMD Radeon™ Pro WX 9100 (16 GB Frame buffer)	7	7	7	7	7	7	7	•
NVIDIA® Quadro® P400 (2 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® Quadro® P600 (2 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® Quadro® P620 (2 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® Quadro® P1000 (4 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® T400 (2 GB Frame buffer)	8	8	8	8	8	8	15	15
NVIDIA® T600 (4 GB Frame buffer)	8	8	8	8	8	8	15	15
NVIDIA® Quadro® T1000 (4 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® Quadro® P2000 (5 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® Quadro® P2200 (5 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® Quadro® P4000 (8 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® Quadro® P5000 (16 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® Quadro® P6000 (24 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® Quadro® GP100 (16 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® Quadro® RTX 4000	8	8	8	8	8	15	15	15
NVIDIA® Quadro® RTX 5000	8	8	8	8	8	15	15	15
NVIDIA® Quadro® RTX 6000	8	8	8	8	8	15	15	15
NVIDIA® RTX™ A4000 (16 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® RTX™ A5000 (24 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® RTX™ A6000 (48 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® Quadro® RTX 8000	8	8	8	8	8	15	15	15
System RAM								
Minimum (GB)	8 GB	8 GB	8 GB	8 GB	8 GB	8 GB	8 GB	8 GB
Maximum (GB)	384 GB	384 GB	384 GB	384 GB	384 GB	384 GB	384 GB	384 GB
Persistent Memory Module								
Intel® DC Persistent Memory Module	13	13		14	14		•	•

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HP Z6 G4 WORKSTATION (CONTINUED)

Product Items/Features (Blank indicates the listed component is NOT functional w/ as-is OS)	SLED 12 SP3 or later (x86_64)	SLED 15 or later (x86_64)	RHEL 6.9 or later (x86_64)	RHEL 7.4 or later (x86_64)	RHEL 8.0 or later (x86_64)	Ubuntu 16.04 LTS, 16.04.3 or later (x86_64)	Ubuntu 18.04 LTS or later (x86_64)	Ubuntu 20.04 or later (x86_64)
Hard Disks								
All Supported Solid State Drives	•	•	•	•	•	•	•	•
All Supported SATA Disk Drives <= 2 TB	•	•	•	•	•	•	•	•
All Supported SATA Disk Drives > 2 TB	2	2	2	2	2	2	2	2
All Supported M.2 NVMe PCIe Solid State Drives	10	10	10	10	10	10	10	•
All Supported SAS Disk Drives								
HP Z Turbo Drive PCIe-attached storage	10	10	10	10	10	10	10	•
Network Cards								
Aquantia Nbase-T PCIe NIC	11	11	11	11	11	11	11	•
Intel® I210-T1 GbE PCIe NIC	•	•	•	•	•	•	•	•
Intel® I350-T2 PCIe Dual Port 1 Gb NIC	•	•	•	•	•	•	•	•
Intel® I350-T4 PCIe Quad Port 1 Gb NIC	•	•	•	•	•	•	•	•
Intel® X550 10 GbE Dual Port Adapter	•	•	•	•	•	•	•	•
Intel® X710-DA2 10 GbE Dual Port Adapter (and HP SFP+ SR Transceiver)	•	•	•	•	•	•	•	•
Intel® 10 GBase-T Dual Port Adapter (RJ-45 Copper)	•	•	•	•	•	•	•	•
Intel® 8265 802.11 a/b/g/n/ac & Bluetooth® PCIe	•	•	•	•	•	•	•	•
Integrated Components								
LAN port 0 - Intel® I219LM Gigabit Ethernet	•	•	•	•	•	•	•	•
LAN port 1 - Intel® x722 Gigabit Ethernet	•	•	•	•	•	•	•	•
Intel® AMT functionality on LAN port 0	9	9	9	9	9	9	9	9
Onboard Audio (Realtek ALC221 codec)	•	•	•	•	•	•	•	•
Onboard Intel® integrated SATA RAID (0/1/5/10)	•	•	•	•	•	•	•	•
USB 3.1 G1 Type A ports	•	•	•	•	•	•	•	•
USB 3.1 G2 Type C™ ports (on Front I/O Premium module)	•	•	•	•	•	•	•	•
USB 2.0/3/1 G1 internal ports	•	•	•	•	•	•	•	•
TPM 2.0 Module	6	6	6	6	6	6	6	6
Add Ons								
MicroSemi SmartHBA2100-4i4e SAS controller	3	3	3	3	3	3	3	3
Removable CD/DVD Media								
HP DVD-ROM Drive	•	•	•	•	•	•	•	•
HP DVD RW Supermulti Drive	4	4	4	4	4	4	4	4
HP BD-RE (Blu-Ray writer)	4	4	4	4	4	4	4	4
Input/Output Devices (no spaceball support)								
HP USB mouse options	•	•	•	•	•	•	•	•
HP USB keyboard options	•	•	•	•	•	•	•	•
HP PS/2 keyboard/mouse	•	•	•	•	•	•	•	•
HP Media Card Reader	•	•	•	•	•	•	•	•
HP Printers	5	5	5	5	5	5	5	5
All Supported Monitors	•	•	•	•	•	•	•	•

LINUX HARDWARE MATRIX

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HP Z6 G4 WORKSTATION (CONTINUED)

1 Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

2 Single drives or volumes larger than 2.2 TB can only be fully accessed using GPT formatting. The OS's listed can create GPT formatted storage drives/volumes, but this requires installation of the OS in UEFI mode. Once formatted and installed, the OS can access the entirety of storage drives/volumes.

3 The MicroSemi 2100-4i4e is not currently being supported on enterprise Linux distros by HP Inc.

4 Linux growisofs supports DVD+RW and Blu-ray media on the listed OSes.

5 For more info about Linux driver support for HP printers, please visit http://www.hplip.net.

6 Support for the TPM or other security devices varies by OS distribution. Any use of the TPM module does require additional software.

7 AMD Radeon™ Pro graphics cards are now supported in Linux by the recently released amdgpu open source driver. OS streams are supported at specific release version levels, starting with these: SLED 12/SP2, RHEL 6.9, RHEL 7.4, RHEL 8.0 and Ubuntu 16.04.2. The amdgpu pro driver is available on the AMD® website. "Enterprise" drivers are posted quarterly, e.g. "18.Q2" was the latest at the time this published. For RHEL 6.9 and certain AMD® cards, it may be necessary to remove "rhgb" from the boot line in order for the X server to start with the amdgpu-pro driver.

8 HP recommends using NVIDIA® driver 460.84 or newer for NVIDIA® graphics on this platform

9 Intel® support for AMT varies by distribution and requires additional software packages be added to the base OS. Please check with the distribution vendor of your choice.

10 There are currently issues installing enterprise Linux distros on M.2 and Z Turbo options when the system is running in legacy BIOS mode. HP recommends using the system in its default UEFI BIOS mode when using these storage devices.

11 The driver for the Aquantia Nbase-T AQN-108 aftermarket NIC is not in-box for most of the listed Linux streams. Driver source can be found at the Aquantia site https://www.aquantia.com/driver-download.

12 UEFI mode only. RHEL 6.9 currently does not support running in legacy BIOS on this platform.

13 Intel® DCPMM is supported on SLED 12 SP 4 or later and SLED 15.

14 Intel® DCPMM is supported on RHEL 7.6 or later and RHEL 8.0 or later. The filesystem dax (fsdax) feature is in tech preview for RHEL 7.6 and later and RHEL 8.0.

15 Canonical provides up-to-date versions of the NVIDIA® proprietary driver in their software repositories. HP recommends customer use one of the choices provided by Canonical as well as use their software update tool.

LINUX HARDWARE MATRIX

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HP Z640 WORKSTATION

Certified with RHEL 6.5 and RHEL 7.0. Certified with Ubuntu 14.04 LTS (BIOS 1.25 required). Certified with SLED 11 SP3 and SLED 12 (NVIDIA® graphics).
Other certifications pending.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	SLED11SP3 or later (x86_64)	SLED12 or later (x86_64)	RHEL 6.5 or later (x86_64)	RHEL 7.0 or later (x86_64)	Ubuntu 14.04 LTS or later (x86_64)	Ubuntu 16.04 LTS or later (x86_64)
HP Workstation Base System						
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	•	•	•	•
HP Localization Kit	1	1	1	1	1	1
All Supported Processors						
All supported v3 (Haswell) & v4 (Broadwell) E5-16xx & E5-26xx Xeon® processors (see footnote 12)	•	•	•	•	•	•
Graphics Card (Video Card) (see footnote 13)						
No Graphics Card	•	•	•	•	•	•
AMD FirePro W2100	•	•	•	•	•	•
AMD FirePro W4300	•	•	•	•	•	•
AMD FirePro W5100	•	•	•	•	•	•
AMD FirePro W7100	•	•	•	•	•	•
AMD Radeon™ Pro WX 4100	11	11	11	11	11	11
AMD Radeon™ Pro WX 7100	11	11	11	11	11	11
NVIDIA® NVS 310 512 MB and 1 GB	•	•	•	•	•	•
NVIDIA® NVS 315 1 GB	•	•	•	•	•	•
NVIDIA® NVS 510 2 GB	•	•	•	•	•	•
NVIDIA® Quadro® NVS K420 1 GB and 2 GB	•	•	•	•	•	•
NVIDIA® Quadro® K620 2 GB	•	•	•	•	•	•
NVIDIA® Quadro® K2200 4 GB	•	•	•	•	•	•
NVIDIA® Quadro® K4200 4 GB	•	•	•	•	•	•
NVIDIA® Quadro® K5200 8 GB	•	•	•	•	•	•
NVIDIA® Quadro® K6000 12 GB	•	•	•	•	•	•
NVIDIA® Quadro® M2000 4 GB	9	9	9	9	9	9
NVIDIA® Quadro® M4000 8 GB	9	9	9	9	9	9
NVIDIA® Quadro® M5000 8 GB	9	9	9	9	9	9
NVIDIA® Quadro® M6000 12 GB and 24 GB	9	9	9	9	9	9
NVIDIA® Quadro® P600	9	9	9	9	9	9
NVIDIA® Quadro® P2000	9	9	9	9	9	9
NVIDIA® Quadro® P4000	9	9	9	9	9	9
NVIDIA® Quadro® P5000	9	9	9	9	9	9
NVIDIA® Quadro® P6000	9	9	9	9	9	9
High Performance GPU Computing						
NVIDIA® Tesla® K40	8	8	8	8	8	8
System RAM						
Minimum (GB)	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB
Maximum (GB) (with two processors installed)	256 GB	256 GB	256 GB	256 GB	256 GB	256 GB
Hard Disks						
All Supported SAS Disk Drives	2	2	2	2	2	2
All Supported Solid State Drives	•	•	•	•	•	•
All Supported SATA Disk Drives less than 3 TB	•	•	•	•	•	•

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HP Z640 WORKSTATION (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	SLED11 SP3 or later (x86_64)	SLED12 or later (x86_64)	RHEL 6.5 or later (x86_64)	RHEL 7.0 or later (x86_64)	Ubuntu 14.04 LTS or later (x86_64)	Ubuntu 16.04 LTS or later (x86_64)
Supported SATA Disk Drives 3 TB and larger	3	3	3	3	3	3
All Supported USB Drive Keys	•	•	•	•	•	•
HP Z Turbo Drive and Z Turbo QuadPro PCIe-attached storage	4	4	4	4	4	4
Intel® 750 Series PCIe Storage	4	4	4	4	4	4
Network Cards (no modem support)						
Intel® Ethernet I210-T1 PCIe NIC	•	•	•	•	•	•
I350-T4 Quad-Port 1GbE NIC	•	•	•	•	•	•
Intel® 361T 1GbE dual port PCI NIC	•	•	•	•	•	•
Intel® Ethernet X520 10GbE dual port PCIe NIC	•	•	•	•	•	•
Intel® X540 10GBase-T Dual Port Adapter (RJ45 -Copper)	2	2	2	2	2	2
Intel® 7260 802.11a/b/g/n PCIe WLAN NIC	•	•	•	•	•	•
Intel® 8260 802.11 a/b/g/n/ac & Bluetooth® PCIe	10	10	10	10	10	10
Onboard Components						
Integrated Intel® SATA sSATA Controller	2	2	2	2	2	2
Wired LAN - Intel® I218LM Gigabit Ethernet	7	7	•	•	•	•
Onboard Audio (Realtek ALC221 codec)	•	•	•	•	•	•
Onboard SATA RAID	2	2	2	2	2	2
Add Ons						
LSI 9217-4i4e 8-port SAS 6Gb/s RAID Controller	2	2	2	2	2	2
LSI 9270-8i 8-port SAS 6Gb/s ROC RAID Controller & iBBU9 battery backup unit	2	2	2	2	2	2
Thunderbolt™ PCIe card (see footnote 14)						
1394b Firewire PCIe card	•	•	•	•	•	•
Removable CD/DVD Media						
HP DVD-ROM Drive	•	•	•	•	•	•
HP DVD RW Supermulti Drive	5	5	5	5	5	5
HP BD-RE (Blu-Ray writer)	5	5	5	5	5	5
Input/Output Devices (no spaceball support)						
HP Scroll Mouse, USB	•	•	•	•	•	•
HP Standard Keyboard, USB	•	•	•	•	•	•
HP Keyboard and Mouse, PS/2	•	•	•	•	•	•
TPM Module/ Smart Card (see footnote 15)						
HP Media Card Reader	•	•	•	•	•	•
HP Printers	6	6	6	6	6	6
All Supported Monitors	•	•	•	•	•	•

LINUX HARDWARE MATRIX

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HP Z640 WORKSTATION (CONTINUED)

1 Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available.

2 Hardware RAID is supported using the LSI 9217-4i4e (RAID 0/1/1E/10 SATA & SAS) and the LSI 9270-8i (RAID 0/1/5/6/10 SATA & SAS). SATA RAID is supported on sSATA ports(0/1/5/10 SATA only).

3 In general, single drives or volumes larger than 2.2 TB can only be fully accessed using GPT formatting. OSes listed can format GPT for the boot drive or volume but may require installation of UEFI boot support, and can access GPT-formatted data volumes.

4 The Z Turbo Drive PCIe-attached storage device has its own controller and is supported by the standard ahci kernel module in supported OSes. Z Turbo Drive G2 is an NVME device and is supported by the kernel NVME module. Z Turbo QuadPro is an enclosure for several NVME devices. Updates are needed for SLED11 SP4 and SLED12 SP1 to operate with these NVME devices. Other NVME storage devices have similar requirements.

5 Linux growisofs supports DVD+RW and Blu-ray media on the listed OSes.

6 For more info about Linux driver support for HP printers, go to http://www.hplip.net.

7 SLED 11/SP3 requires an update kernel to operate this on-board network interface properly. Please check with SuSE support for the appropriate update.

8 The NVIDIA® K40 is a GPU-compute device without graphics. The base OS will more or less ignore it. To make use of this device, the proprietary driver must be installed. The minimum driver version for support of K40 is 319.72.

9 HP recommends the following minimum NVIDIA® driver versions for M6000 12GB (346.47); M6000 24GB (361.28); M4000 and M5000 (352.41); M2000 (361.45.11); P600, P2000, and P4000 (375.39); and P5000 and P6000 (367.57).

10 As of this edition of the table, only a few enterprise distributions have support for the Intel® 8260 WLAN/BT combo device. Look for updates from the distributors. The following OS releases are known to be capable: SLED11 SP4, SLED12 SP1, RHEL 7.2.

11 AMD Radeon™ Pro graphics cards are supported by the newer amdgpu-pro vendor driver. OS streams are supported at specific release version levels, starting with these: SLED 12 SP2; RHEL 6.8; RHEL 7.3; Ubuntu 14.04.5; Ubuntu 16.04.1. There is no amdgpu-pro driver for SLED 11.

12 Correct operation with the "Broadwell" family of processors may require a later release of OS stream than the "Haswell" family. The following OS releases are known to be capable: SLED11 SP4, SLED12 SP1, RHEL 6.8, RHEL 7.2.

13 Get the latest drivers: "HP Installer Kit for Linux - HP Driver CD (or DVD) for Linux-distribution-name" ISO images from http://www.hp.com/support/z440. Under Download options, select Get drivers, software & firmware. HP Workstations can be ordered with a variety of localization options that may vary by platform. The default in-box graphics drivers (e.g., nouveau and radeon) may not always handle newer graphics cards correctly. In some cases, even OS installation must be done using a "basic mode" or by specifying a frame-buffer driver (e.g., "xdriver=fbdev").

14 Newer Linux kernels may provide device functionality through the Thunderbolt module. Such kernels are likely to be available in leading-edge distributions, but inclusion of the support with any Enterprise Linux distribution is at the distributor's discretion.

15 The TPM and Smartcard readers can be used with the addition of extra software packages which support operation of these devices.

LINUX HARDWARE MATRIX

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HP Z8 G4 WORKSTATION

Certified on RHEL 7.4, RHEL 8.0, SLED 12/SP3, SLED 15, Ubuntu 18.04 LTS, Ubuntu 20.04 LTS.
As of this edition of this matrix, some Enterprise-class Linux releases enable the Intel® architecture used in this system.
HP considers enablement for the CPU, chipset, and the on-board LAN to be minimum requirements.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	SLED12 SP3 or later (x86_64)	SLED 15 or later (x86_64)	RHEL 6.9 or later (x86_64)	RHEL 7.4 or later (x86_64)	RHEL 8.0 or later (x86_64)	Ubuntu 16.04 LTS, 16.04.3 or later (x86_64)	Ubuntu 18.04 LTS or later (x86_64)	Ubuntu 20.04 or later (x86_64)
HP Workstation Base System								
Base system includes: Chassis, System Board, Power Supply, etc.	•	•	12	•	•	•	•	•
HP Localization Kit	1	1	1	1	1	1	1	1
All Supported Processors								
Xeon® Skylake 81xx/61xx/51xx/41xx/31xx Processors (single and dual CPU configs)	•	•	•	•	•	•	•	•
Xeon® Cascade lake 82xx/62xx/42xx/32xx Processors (single and dual CPU configs)	•	•	•	•	•	•	•	•
Hyperthreading	•	•	•	•	•	•	•	•
Graphics Card (Video Card)								
No Graphics Card	•	•	•	•	•	•	•	•
AMD FirePro W2100 (2 GB Frame buffer)	7	7	7	7	7	7	7	•
AMD Radeon™ Pro WX 3100 (4 GB Frame buffer)	7	7	7	7	7	7	7	•
AMD FirePro WX 3200 (4 GB Frame Buffer)	7	7	7	7	7	7	7	•
AMD Radeon™ Pro WX 4100 (4 GB Frame buffer)	7	7	7	7	7	7	7	•
AMD Radeon™ Pro W5500 (8 GB Frame buffer)	7	7	7	7	7	7	7	•
AMD Radeon™ Pro W5700 (8 GB Frame buffer)	7	7	7	7	7	7	7	•
AMD Radeon™ Pro WX 7100 (8 GB Frame buffer)	7	7	7	7	7	7	7	•
AMD Radeon™ Pro WX 9100 (16 GB Frame buffer)	7	7	7	7	7	7	7	•
NVIDIA® Quadro® P400 (2 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® Quadro® P600 (2 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® Quadro® P620 (2 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® Quadro® P1000 (4 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® T400 (2 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® T600 (4 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® Quadro® T1000 (4 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® Quadro® P2000 (5 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® Quadro® P2200 (5 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® Quadro® P4000 (8 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® Quadro® P5000 (16 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® Quadro® P6000 (24 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® Quadro® GP100 (16 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® Quadro® GV100 (32 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® Quadro® RTX 4000	8	8	8	8	8	15	15	15
NVIDIA® Quadro® RTX 5000	8	8	8	8	8	15	15	15
NVIDIA® Quadro® RTX 6000	8	8	8	8	8	15	15	15
NVIDIA® RTX™ A4000 (16 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® RTX™ A5000 (24 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® RTX™ A6000 (48 GB Frame buffer)	8	8	8	8	8	15	15	15
NVIDIA® Quadro® RTX 8000	8	8	8	8	8	15	15	15
System RAM								
Minimum (GB)	8 GB	8 GB	8 GB	8 GB	8 GB	8 GB	8 GB	8 GB
Maximum (GB)	3 TB	3 TB	3 TB	3 TB	3 TB	3 TB	3 TB	3 TB
Persistent Memory Module								
Intel® DC Persistent Memory Module	13	13		14	14		•	•
Hard Disks								
All Supported Solid State Drives	•	•	•	•	•	•	•	•

LINUX HARDWARE MATRIX

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HP Z8 G4 WORKSTATION (CONTINUED)

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	SLED12 SP3 or later (x86_64)	SLED 15 or later (x86_64)	RHEL 6.9 or later (x86_64)	RHEL 7.4 or later (x86_64)	RHEL 8.0 or later (x86_64)	Ubuntu 16.04 LTS, 16.04.3 or later (x86_64)	Ubuntu 18.04 LTS or later (x86_64)	Ubuntu 20.04 or later (x86_64)
All Supported SATA Disk Drives <= 2 TB	•	•	•	•	•	•	•	•
All Supported SATA Disk Drives > 2 TB	2	2	2	2	2	2	2	2
All Supported M.2 NVMe PCIe Solid State Drives	10	10	10	10	10	10	10	10
All Supported SAS Disk Drives								
HP Z Turbo Drive PCIe-attached storage	10	10	10	10	10	10	10	10
Network Cards								
Aquantia Nbase-T PCIe NIC	11	11	11	11	11	11	11	11
Intel® I210-T1 GbE PCIe NIC	•	•	•	•	•	•	•	•
Intel® I350-T2 PCIe Dual Port 1Gb NIC	•	•	•	•	•	•	•	•
Intel® I350-T4 PCIe Quad Port 1 Gb NIC	•	•	•	•	•	•	•	•
Intel® I350-T4 PCIe Quad Port 1 Gb NIC	•	•	•	•	•	•	•	•
Intel® X550 10 GbE Dual Port Adapter	•	•	•	•	•	•	•	•
Intel® X710-DA2 10 GbE Dual Port Adapter (and HP SFP+ SR Transceiver)	•	•	•	•	•	•	•	•
Intel® 10GBase-T Dual Port Adapter (RJ-45 Copper)	•	•	•	•	•	•	•	•
Integrated Components								
LAN port 0 - Intel® i219LM Gigabit Ethernet	•	•	•	•	•	•	•	•
LAN port 1 - Intel® x722 Gigabit Ethernet	•	•	•	•	•	•	•	•
Intel® AMT functionality on LAN port 0	9	9	9	9	9	9	9	9
Onboard Audio (Realtek ALC221 codec)	•	•	•	•	•	•	•	•
Onboard Intel® integrated SATA RAID (0/1/5/10)	•	•	•	•	•	•	•	•
USB 3.1 G1 Type A ports	•	•	•	•	•	•	•	•
USB 3.1 G2 Type-C™ ports (on Front I/O Premium module)	•	•	•	•	•	•	•	•
USB 2.0/3/1 G1 internal ports	•	•	•	•	•	•	•	•
TPM 2.0 Module	6	6	6	6	6	6	6	6
Add Ons								
MicroSemi SmartHBA2100-4i4e SAS controller	3	3	3	3	3	3	**3**	**3**
Removable CD/DVD Media								
HP DVD-ROM Drive	•	•	•	•	•	•	•	•
HP DVD RW Supermulti Drive	4	4	4	4	4	4	4	4
HP BD-RE (Blu-Ray writer)	4	4	4	4	4	4	4	4
Input/Output Devices (no spaceball support)								
HP USB mouse options	•	•	•	•	•	•	•	•
HP USB keyboard options	•	•	•	•	•	•	•	•
HP PS/2 keyboard/mouse	•	•	•	•	•	•	•	•
HP Media Card Reader	•	•	•	•	•	•	•	•
HP Printers	5	5	5	5	5	5	5	5
All Supported Monitors	•	•	•	•	•	•	•	•

1 Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available. HP Workstations can be ordered with a variety of localization options that may vary by platform.

2 Single drives or volumes larger than 2.2 TB can only be fully accessed using GPT formatting. The OS's listed can create GPT formatted storage drives/volumes, but this requires installation of the OS in UEFI mode. Once formatted and installed, the OS can access the entirety of storage drives/volumes.

3 The MicroSemi 2100-4i4e is not currently being supported on enterprise Linux distros by HP Inc.

4 Linux growisofs supports DVD+RW and Blu-ray media on the listed OSes.

5 For more info about Linux driver support for HP printers, please visit http://www.hplip.net.

6 Support for the TPM or other security devices varies by OS distribution. Any use of the TPM module does require additional software.

7 AMD Radeon™ Pro graphics cards are now supported in Linux by the recently released amdgpu open source driver. OS streams are supported at specific release version levels, starting with these: SLED 12/SP2, RHEL 6.9, RHEL 7.4, RHEL 8.0 and Ubuntu 16.04.2. For RHEL 6.9 with certain AMD® cards, it may be necessary to remove "rhgb" from the boot line in order for the X server to start correctly with the amdgpu-pro driver.

8 HP recommends using NVIDIA® driver 460.84 or newer for NVIDIA® graphics on this platform.

9 Intel® support for AMT varies by distribution and requires additional software packages be added to the base OS. Please check with the distribution vendor of your choice.

10 There are currently issues installing enterprise Linux distros on M.2 and Z Turbo options when the system is running in legacy BIOS mode. HP recommends using the system in its default UEFI BIOS mode when using these storage devices.

11 The driver for the Aquantia Nbase-T AQN-108 aftermarket NIC is not in-box for most of the listed Linux streams. Driver source can be found at the Aquantia site https://www.aquantia.com/driver-download/.

12 UEFI mode only. RHEL 6.9 currently does not support running in legacy BIOS on this platform.

13 Intel® DCPMM is supported on SLED 12 SP 4 or later and SLED 15.

14 Intel® DCPMM is supported on RHEL 7.6 or later and RHEL 8.0 or later. The filesystem dax (fsdax) feature is in tech preview for RHEL 7.6 and later and RHEL 8.0.

15 Canonical provides up-to-date versions of the NVIDIA® proprietary driver in their software repositories. HP recommends customer use one of the choices provided by Canonical as well as use their software update tool.

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HP Z840 WORKSTATION

Certified with RHEL 6.5 and RHEL 7.0. Certified with Ubuntu 14.04 LTS (BIOS 1.25 required). Certified with SLED 11 SP3 and SLED 12 (NVIDIA® graphics). Other certifications pending.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	SLED11 SP3 or later (x86_64)	SLED12 or later (x86_64)	RHEL 6.5 or later (x86_64)	RHEL 7.0 or later (x86_64)	Ubuntu 14.04 LTS or later (x86_64)	Ubuntu 16.04 LTS or later (x86_64)
Supported SATA Disk Drives 3 TB and larger	3	3	3	3	3	3
All Supported USB Drive Keys	•	•	•	•	•	•
HP Z Turbo Drive and Z Turbo QuadPro PCIe-attached storage	4	4	4	4	4	4
Intel® 750 Series PCIe Storage	4	4	4	4	4	4
Network Cards (no modem support)						
Intel® Ethernet I210-T1 PCIe NIC	•	•	•	•	•	•
Intel® I350-T4 Quad-Port 1GbE NIC	•	•	•	•	•	•
Intel® 361T 1GbE dual port PCI NIC	•	•	•	•	•	•
Intel® Ethernet X520 10GbE dual port PCIe NIC	•	•	•	•	•	•
Intel® X540 10GBase-T Dual Port Adapter (RJ45 -Copper)	•	•	•	•	•	•
Intel® 7260 802.11a/b/g/n PCIe WLAN NIC	•	•	•	•	•	•
Intel® 8260 802.11 a/b/g/n/ac & Bluetooth® PCIe	10	10	10	10	10	10
Onboard Components						
Integrated Intel® SATA sSATA Controller	2	2	2	2	2	2
Integrated LSI 2308 SAS Controller with RAID	2	2	2	2	2	2
Wired LAN - Intel® I210 Gigabit Ethernet	•	•	•	•	•	•
Wired LAN - Intel® I218LM Gigabit Ethernet	7	7	•	•	•	•
Onboard Audio (Realtek ALC221 codec)	•	•	•	•	•	•
Onboard SATA RAID	2	2	2	2	2	2
Add Ons						
LSI 9270-8i 8-port SAS 6 Gb/s ROC RAID Controller & iBBU9 battery backup unit	2	2	2	2	2	2
Thunderbolt™ PCIe card (see footnote 15)						
1394b Firewire PCIe card	•	•	•	•	•	•
Removable CD/DVD Media						
HP DVD-ROM Drive	•	•	•	•	•	•
HP DVD RW Supermulti Drive	5	5	5	5	5	5
HP BD-RE (Blu-Ray writer)	5	5	5	5	5	5
Input/Output Devices (no spaceball support)						
HP Scroll Mouse, USB	•	•	•	•	•	•
HP Standard Keyboard, USB	•	•	•	•	•	•
HP Keyboard and Mouse, PS/2	•	•	•	•	•	•
TPM Module/ Smart Card (see footnote 16)						
HP Media Card Reader	•	•	•	•	•	•
HP Printers	6	6	6	6	6	6
All Supported Monitors	•	•	•	•	•	•

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HP Z840 WORKSTATION (CONTINUED)

1 Typical Linux distributions support many possible localizations. If you're installing the OS yourself, you can make selections for language and keyboard layout during that process. For a pre-loaded Linux OS, similar choices can be made during the "firstboot" process. In some cases, extra font packages may be available.

2 Hardware RAID is supported using the LSI 2308 SAS (RAID 0/1/1e SATA & SAS) and the LSI 9270-8i (RAID 0/1/5/6/10 SATA & SAS). SATA RAID is supported on sSATA ports(0/1/5/10 SATA only).

3 In general, single drives or volumes larger than 2.2 TB can only be fully accessed using GPT formatting. OSes listed can format GPT for the boot drive or volume but may require installation of UEFI boot support, and can access GPT-formatted data volumes.

4 The Z Turbo Drive PCIe-attached storage device has its own controller and is supported by the standard ahci kernel module in supported OSes. Z Turbo Drive G2 is an NVME device and is supported by the kernel NVME module. Z Turbo QuadPro is an enclosure for several NVME devices. Updates are needed for SLED11 SP4 and SLED12 SP1 to operate with these NVME devices. Other NVME storage devices have similar requirements.

5 Linux growisofs supports DVD+RW and Blu-ray media on the listed OSes.

6 For more info about Linux driver support for HP printers, go to http://www.hplip.net.

7 SLED 11/SP3 requires an update kernel to operate this on-board network interface properly. Please check with SuSE support for the appropriate update.

8 The NVIDIA® K40 is a GPU-compute device without graphics. The base OS will more or less ignore it. To make use of this device, the proprietary driver must be installed. The minimum driver version for support of K40 is 319.72.

9 HP recommends the following minimum NVIDIA® driver versions for M6000 12GB (346.47); M6000 24GB (361.28); M4000 and M5000 (352.41); M2000 (361.45.11); P2000, P4000, and GP100 (375.39); and P5000 and P6000 (367.57).

10 As of this edition of the table, only a few enterprise distributions have support for the Intel® 8260 WLAN/BT combo device. Look for updates from the distributors.

11 AMD Radeon™ Pro graphics cards are supported by the newer amdgpu-pro vendor driver. OS streams are supported at specific release version levels, starting with these: SLED 12 SP2; RHEL 6.8; RHEL 7.3; Ubuntu 14.04.5; Ubuntu 16.04.1. There is no amdgpu-pro driver for SLED 11.

12 Correct operation with the "Broadwell" family of processors may require a later release of OS stream than the "Haswell" family. The following OS releases are known to be capable: SLED11 SP4, SLED12 SP1, RHEL 6.8, RHEL 7.2.

13 Get the latest drivers: "HP Installer Kit for Linux - HP Driver CD (or DVD) for Linux-distribution-name" ISO images from http://www.hp.com/support/z840. Under Download options, select Get drivers, software & firmware. HP Workstations can be ordered with a variety of localization options that may vary by platform. The default in-box graphics drivers (e.g., nouveau and radeon) may not always handle newer graphics cards correctly. In some cases, even OS installation must be done using a "basic mode" or by specifying a frame-buffer driver (e.g., "xdriver=fbdev").

14 Issues have been observed with several distributions during system boot with 1TB of RAM. Often these seem to be associated with the in-box mode-setting graphics drivers (nouveau and radeon). Mode-setting can be prevented by adding nomodeset to the kernel boot parameters.

15 For more info about Linux driver support for HP printers, go to http://www.hplip.net.

16 As of this edition of the table, only a few enterprise distributions have support for the Intel® 8260 WLAN/BT combo device. Look for updates from the distributors.

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