

Linux Hardware Matrix for HP Workstations

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 workstation desktops, 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."

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.

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: <http://hardware.redhat.com>

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.

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Linux Hardware Matrix for HP Workstations

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.

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At this time, there are no other supported Linux distributions for this mobile workstation.

When additional updates are ready, additional columns for supported releases will be added to this document.

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)	4GB	4GB
Maximum (GB)	64GB	64GB
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, 12	6, 12
NVIDIA Quadro M2200 with 4 GB of graphics memory	6, 12	6, 12
NVIDIA Quadro P3000 with 6 GB of graphics memory	6, 12	6, 12
NVIDIA Quadro P4000 with 8 GB of graphics memory	6, 12	6, 12
NVIDIA Quadro P5000 with 16 GB of graphics memory	6, 12	6, 12
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) WiFi + 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, 13	3, 13
USB 3.0 ports	-	-
Input/Output Devices		
Touchpad	-	-
TPM Module	4	4
Smart Card	-	-
HP Media Card Reader	-	-
External HDMI port	11	11
External VGA port	-	-
Dock Options		
Zbook dock with Thunderbolt 3™	9, 11, 13	10, 11, 13
HP USB Type-C Elite dock		

footnote 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.

footnote 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.

footnote 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.

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

footnote 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.

footnote 6 - HP recommends use of Nvidia driver 375.39 (or newer) on Nvidia graphics options.

footnote 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.

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

footnote 9 - The Thunderbolt dock is compatible with RHEL 7 on this zbook model, starting with RHEL 7.3.

footnote 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.

footnote 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.

footnote 12 - HP recommends that you change the graphics mode in BIOS to use the 'discrete' setting.

footnote 13 - In order to use Thunderbolt ports on Linux, you must change BIOS as follows: F10 > Advanced > Port Options > Thunderbolt Security = PCIe and DisplayPort - no security.

Linux Hardware Matrix for HP Workstations

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.

This page is not complete without the General Notes (first page of the matrix).

At this time, there are no other supported Linux distributions for this mobile workstation.

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)	4GB	4GB	4GB
Maximum (GB)	64GB	64GB	64GB
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, 11	6, 11	6, 11
NVIDIA Quadro M2000M with 4 GB of graphics memory	6, 11	6, 11	6, 11
NVIDIA Quadro M3000M with 4 GB of graphics memory	6, 11	6, 11	6, 11
NVIDIA Quadro M4000M with 4 GB of graphics memory	6, 11	6, 11	6, 11
NVIDIA Quadro M5000M with 8 GB of graphics memory	6, 11	6, 11	6, 11
Display - internal panel			
17.3" diagonal FHD UWVA IPS eDP anti-glare. LED backlight (1920x1080)	-	-	-
17.3" diagonal LED backlight 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) WiFi + Bluetooth (vPro & non-vPro)	10	10	10
Wireless WAN - (t4120 Qualcomm Snapdragon X5 LTE mobile broadband capability)	-	-	-
Wireless WAN - hs3110 HSPA+ Intel mobile broadband capability	-	-	-
HP webcam	-	-	-
Thunderbolt 3™ ports	-	3, 14	-
USB 3.0 ports	-	-	-
Input/Output Devices			
Touchpad	-	-	-
TPM Module	4	4	4
Smart Card	-	-	-
HP Media Card Reader	-	-	-
External HDMI port	11	11	11
External VGA port	-	-	-
Dock Options			
ZBook dock with Thunderbolt 3™	-	9, 13, 14	12, 13, 14
HP USB Type-C Elite dock	-	-	-

footnote 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.

footnote 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.

footnote 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.

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

footnote 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.

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

footnote 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.

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

footnote 9 - The Thunderbolt dock is compatible with RHEL 7 on this zbook model, starting with RHEL 7.3.

footnote 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.

footnote 11 - 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.

footnote 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.

footnote 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.

footnote 14 - In order to use Thunderbolt ports on Linux, you must change BIOS as follows: F10 > Advanced > Port Options > Thunderbolt Security = PCIe and DisplayPort - no security.

Linux Hardware Matrix for HP Workstations

HP ZBook 15 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.**

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HP Localization Kit	1	1
All Supported Processors		
All supported 7th generation Intel Core™ i7, i5 and Xeon® processors	-	-
System RAM		
Minimum (GB)	4GB	4GB
Maximum (GB)	64GB	64GB
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, 12	6, 12
NVIDIA Quadro M2200 with 4 GB of graphics memory	6, 12	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 + 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) WiFi + Bluetooth (vPro * non-vPro)	-	-
Mobile Broadband - HP It4120 Qualcomm Snapdragon X5 LTE mobile broadband		
Mobile Broadband - HP It4132, LTE/HSPA+ 4G w/GPS		
Mobile Broadband - HP s3210 HSPA+ Intel® Mobile Broadband Module		
HP webcam	-	-
Thunderbolt 3™ ports	3, 13	3, 13
USB 3.0 ports	-	-
Input/Output Devices		
Touchpad	-	-
TPM Module	4	4
Smart Card	-	-
HP Media Card Reader	-	-
External HDMI port	11	11
External VGA port	-	-
Dock Options		
ZBook dock with Thunderbolt 3™	9, 11, 13	9, 11, 13
HP USB Type-C Elite dock		

footnote 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.

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footnote 12 - HP recommends that you change the graphics mode in BIOS to use the 'discrete' setting.

footnote 13 - In order to use Thunderbolt ports on Linux, you must change BIOS as follows: F10 > Advanced > Port Options > Thunderbolt Security = PCIe and DisplayPort - no security.

Linux Hardware Matrix for HP Workstations

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.

This page is not complete without the General Notes (first page of the matrix).

At this time, there are no other supported Linux distributions for this mobile workstation. Evaluation and testing are underway on Ubuntu 14.04. When additional updates are ready, additional columns for supported releases will be added to this document.

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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)	4GB	4GB	4GB
Maximum (GB)	64GB	64GB	64GB
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	-	-	-
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NVIDIA Quadro M2000M with 4 GB of graphics memory	6, 11	6, 11	6, 11
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 SWA 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	7	7	7
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)	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, 14	-
USB 3.0 ports	-	-	-
Input/Output Devices			
Touchpad	-	-	-
TPM Module	4	4	4
Smart Card	-	-	-
HP Media Card Reader	-	-	-
External HDMI port	13	13	13
External VGA port	-	-	-
Dock Options			
ZBook dock with Thunderbolt 3™	-	9, 13	12, 13
HP USB Type-C Elite dock	-	-	-

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footnote 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.

footnote 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.

footnote 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.

footnote 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.

footnote 14 - In order to use Thunderbolt ports on Linux, you must change BIOS as follows: F10 > Advanced > Port Options > Thunderbolt Security = PCIe and DisplayPort - no security.

Linux Hardware Matrix for HP Workstations

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.

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15.6" diagonal UHD UWVA IPS LED anti-glare (3840x2160)	.	.
15.6" diagonal Touch LED-backlit FHD UWVA IPS (1920x1080)	7	7
Hard Disks		
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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) WiFi + Bluetooth (vPro & non-vPro)	.	.
HP webcam	.	.
Thunderbolt 3™ ports	3, 14	3, 14
USB 3.0 ports	.	.
Input/Output Devices		
Touchpad	12	.
TPM Module	4	4
External HDMI port	11	11
Dock Options		
ZBook Dock with Thunderbolt 3™	9, 11, 14	9,11, 14
HP USB Type-C Elite dock		

footnote 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.

footnote 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.

footnote 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.

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

footnote 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.

footnote 6 - HP recommends use of Nvidia driver 375.39 (or newer) on Nvidia graphics options.

footnote 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.

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

footnote 9 - The Thunderbolt dock is compatible with RHEL 7 on this zbook model, starting with RHEL 7.3.

footnote 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.

footnote 11 - With Nvidia-based configurations, it is recommended to use the Nvidia closed source driver when using externally connected displays.

footnote 12 - 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.

footnote 13 - HP recommends that you change the graphics mode in BIOS to use the 'discrete' setting.

footnote 14 - In order to use Thunderbolt ports on Linux, you must change BIOS as follows: F10 > Advanced > Port Options > Thunderbolt Security = PCIe and DisplayPort - no security.

Linux Hardware Matrix for HP Workstations

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.

This page is not complete without the General Notes (first page of the matrix).

At this time, there are no other supported Linux distributions for this mobile workstation. Evaluation and testing are underway on and Ubuntu 14.04. When additional updates are ready, additional columns for supported releases will be added to this document.

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)	4GB	4GB	4GB
Maximum (GB)	32GB	32GB	32GB
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, 12	6, 12	6, 12
NVIDIA Quadro M2000M with 4 GB of graphics memory	6, 12	6, 12	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) WiFi + Bluetooth (vPro & non-vPro)	10	10	10
HP webcam	-	-	-
Thunderbolt 3™ ports	-	3, 14	-
USB 3.0 ports	-	-	-
Input/Output Devices			
Touchpad	-	11	-
TPM Module	4	4	4
External HDMI port	13	13	13
Dock Options			
ZBook Dock with Thunderbolt 3™		9, 13, 14	9, 13, 14

footnote 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.

footnote 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.

footnote 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.

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

footnote 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.

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

footnote 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.

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

footnote 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.

footnote 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.

footnote 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.

footnote 12 - 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.

footnote 13 - With Nvidia-based configurations, HP recommends that you use the Nvidia closed source driver externally connected displays.

footnote 14 - In order to use Thunderbolt ports on Linux, you must change BIOS as follows: F10 > Advanced > Port Options > Thunderbolt Security = PCIe and DisplayPort - no security.

Linux Hardware Matrix for HP Workstations

HP Z1 G3 All-in-one 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.

This page is not complete without the General Notes (first page of the matrix).

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, 14.04.4 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 Processors (single-CPU configs)	-	-	-	-	-	-
Hyperthreading	-	-	-	-	-	-
Graphics Card (Video Card) (See footnote 2)						
Intel Onboard Graphics	10	10	10	10	10	10
NVIDIA Quadro M1000M	-	-	-	-	-	-
NVIDIA Quadro M2000M	-	-	-	-	-	-
System RAM						
Minimum (GB)	4GB	4GB	4GB	4GB	4GB	4GB
Maximum (GB)	64GB	64GB	64GB	64GB	64GB	64GB
Storage Devices						
All Supported Solid State Drives	-	-	-	-	-	-
All Supported SATA Disk Drives	-	-	-	-	-	-
All Supported USB Drive Keys	-	-	-	-	-	-
HP Z Turbo Drive PCIe-attached storage	5	5	5	5	5	5
Network Cards (no modem support)						
Intel 8260 802.11 a/b/g/n/ac & Bluetooth PCIe	4	4	4	4	-	-
Onboard Components						
Wired LAN - Intel i219LM Gigabit Ethernet	-	-	-	-	-	-
Onboard Audio (Conexant CX7501 codec)	-	-	-	-	-	-
Onboard Webcam	-	-	-	-	-	-
Onboard SATA RAID	3	3	3	3	3	3
SD 4.0 Media Card Reader	-	-	-	-	-	-
Thunderbolt 3 TM ports	6	6	6	6	6	6
Input/Output Devices (no spaceball support)						
HP Laser Scroll Mouse, USB	-	-	-	-	-	-
HP Business Slim Keyboard, USB	-	-	-	-	-	-
HP Business Slim Keyboard and Mouse, Wireless	-	-	-	-	-	-
TPM Module/Smart Card	9	9	9	9	9	9
Attached Devices						
External USB Optical Drive	7	7	7	7	7	7
HP Printers	8	8	8	8	8	8
All Supported Monitors	-	-	-	-	-	-

footnote 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. 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.

footnote 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 **Z1 G3** in the **Enter my HP model number** field, and select **Find my product**. Under **Download options**, select **Get drivers, software & firmware**.

footnote 3 - Hardware RAID is not recommended on SATA drives with Linux. Software RAID is available in most Linux OSes and can be used with SATA or PCIe storage devices.

footnote 4 - The wireless LAN functionality is supported by many Linux distributions as of this edition. However, enablement for the Bluetooth functionality is not available in all of the same releases. Later updates on most of those release streams can be expected to improve the support.

footnote 5 - 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.

footnote 6 - 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.

footnote 7 - Linux growisofs supports DVD+RW media on the listed OSes.

footnote 8 - For more info about Linux driver support for HP printers, please visit <http://www.hp.com>.

footnote 9 - This platform implements TPM 2.0. Support for the TPM or other security devices varies by OS distribution.

footnote 10 - The Intel HD graphics hardware works with the in-box frame-buffer drivers. Support for the "native" Intel driver is not available for most release streams as of this edition of the table.

Linux Hardware Matrix for HP Workstations

HP Z1 G2 All-in-one Workstation

Originally certified with SLED 11 SP3 (x86_64) and RHEL 6.5 (x86_64)

This page is not complete without the General Notes (first page of the matrix).

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.	-	-	-	-
Base system with Touch capability (see footnote 13)				.
HP Localization Kit	1	1	1	1
Software				
Remote Graphics Software				
All Supported Processors				
All Supported Processors (single-CPU configs)	-	-	-	-
Hyperthreading	.	.	.	.
Graphics Card (Video Card) (see footnote 2)				
Intel Onboard Graphics	8	8	8	8
NVIDIA Quadro K610M	10	10	10	10
NVIDIA Quadro K2100M	10	10	10	10
NVIDIA Quadro K3100M	10	10	10	10
NVIDIA Quadro K4100M	10	10	10	10
System RAM				
Minimum (GB)	2GB	2GB	2GB	2GB
Maximum (GB)	32GB	32GB	32GB	32GB
Hard Disks (see footnote 5)				
All Supported Solid State Drives	-	-	-	-
All Supported SATA Disk Drives less than 3TB	.	.	.	.
Supported SATA Disk Drives 3TB and larger	12	12	12	12
All Supported USB Drive Keys	.	.	.	.
Network Cards (no modem support)				
Wireless LAN (Intel Centrino 7260)	-	-	-	-
Onboard Components				
Wired LAN - Intel i217LM Gigabit Ethernet	-	-	-	-
Integrated Media Card Reader	.	.	.	.
Onboard Audio (IDT 92HD68 codec)	9	9	9	9
Onboard SATA RAID	4	4	4	4
Add Ons				
Thunderbolt Module (see footnote 11)				
Removable CD/DVD Media				
HP DVD-ROM Drive	.	.	.	.
HP DVD RW Supermulti Drive	.	.	.	.
HP BD-RE (Blu-Ray writer)	.	.	.	.
Input/Output Devices (no spaceball support)				
HP Laser Scroll Mouse, USB	.	.	.	.
HP Standard Keyboard, USB	.	.	.	.
HP Wireless AIO Keyboard/Mouse	.	.	.	.
TPM Module/ Smart Card				
HP Printers	6	6	6	6
All Supported Monitors	.	.	.	.

footnote 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.

footnote 2 - Get the latest drivers: "HP Installer Kit for Linux - HP Driver CD (or DVD) for *Linux-distribution-name*" ISO images by going to <http://www.hp.com/support/z1g2>. Under **Download options**, select **Get drivers, software & firmware**. HP Workstations can be ordered with a variety of localization options that may vary by platform.

footnote 3 - Linux growisofs supports DVD+RW and Blu-ray media on the listed OSes.

footnote 4 - Hardware RAID is not supported on SATA drives.

footnote 5 - The Z1 G2 all-in-one can support up to two 2.5-inch SATA drives or one 3.5-inch SATA drive. It can also support mSATA devices in the mPCIe/mSATA slots.

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

footnote 7 - Hyperthreading is supported on all platforms when the processor allows it.

footnote 8 - Depending on the OS release, the kernel DRM and X.org "intel" driver may not support the Z1 G2 built-in display correctly.

footnote 9 - Depending on the OS release, the kernel ALSA driver may enable all audio functions; some earlier kernels enable headphones but not speakers.

footnote 10 - For NVIDIA Quadro graphics on Linux, HP requires NVIDIA driver versions 319.60 or later for proper Z1 G2 built-in display support.

footnote 11 - 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, neither SLED 11 SP3 nor RHEL 6.5 incorporates significant Thunderbolt support.

footnote 12 - 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.

footnote 13 - Basic Linux Touch support requires very recent kernel (recommended 3.10 or greater) and X server versions for proper USB HID recognition and multi-touch event translation. Robust gesture libraries, touch-aware display managers, and touch-capable applications will emerge with time for desktop distributions (but not at this time for enterprise releases of SLED 11 SP3 or RHEL 6.5).

Linux Hardware Matrix for HP Workstations

HP Z1 All-in-one Workstation

This page is not complete without the General Notes (first page of the matrix).

Product Items/Features (Blank box or unlisted -> component is NOT functional w/ as-is OS)	RHEL WS 6.2 or later (x86 & x86_64)	SLED11 SP2 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)		
Intel Onboard Graphics	8	8
NVIDIA Quadro Q500M	10	10
NVIDIA Quadro Q1000M	10	10
NVIDIA Quadro Q3000M	10	10
NVIDIA Quadro Q4000M	10	10
NVIDIA Quadro K3000M	11	11
NVIDIA Quadro K4000M	11	11
System RAM		
Minimum (GB)	2GB	2GB
Maximum (GB)	32GB	32GB
Hard Disks		
All Supported SSD Disk Drives	.	.
All Supported SATA Disk Drives less than 3TB	.	.
Support SATA Disk Drives 3TB and larger	12	12
All Supported USB Drive Keys	.	.
Network Cards (no modem support)		
Wireless LAN (Intel Centrino 6230 or 6235)	.	13
Onboard Components		
Onboard LAN - Intel 82579 Gigabit Ethernet	.	.
Integrated 6 in 1 Card Reader	.	.
Onboard Audio (IDT 92HD91 codec)	9	9
Onboard SATA RAID	4	4
Onboard USB 3.0	.	.
Add Ons		
Removable CD/DVD Media		
HP 8x DVD-ROM Drive	.	.
HP BD-RE (Blu-Ray writer)	.	.
Input/Output Devices (no spaceball support)		
HP Optical Scroll Mouse, USB	.	.
HP Standard Keyboard, USB	.	.
HP Wireless AIO Keyboard/Mouse	.	.
TPM Module/ Smart Card		
HP Printers	6	6
All Supported Monitors	.	.

footnote 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.

footnote 2 - Get the latest drivers: "HP Installer Kit for Linux - HP Driver CD for Red Hat Enterprise Linux 6" and "HP Installer Kit for Linux - HP Driver CD for SUSE Linux Enterprise Desktop 11" ISO images from <http://www.hp.com/support/z1>. Under Download options, select Get drivers, software & firmware.

footnote 3 - Linux growisofs supports DVD+RW and Blu-ray media on Red Hat EL 5 Desktop or later and SLED11 or later.

footnote 4 - Hardware RAID is not supported on SATA drives.

footnote 5 - The Z1 all-in-one can support up to two 2.5-inch SATA drives or one 3.5-inch SATA drive.

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

footnote 7 - Hyperthreading is supported on all platforms when the processor allows it.

footnote 8 - Depending on the OS release, the kernel DRM and X.org "Intel" driver may not support the Z1 built-in display correctly.

footnote 9 - Depending on the OS release, the kernel ALSA driver may enable all audio functions; some earlier kernels enable headphones but not speakers.

footnote 10 - For NVIDIA Quadro graphics on Linux, HP requires NVIDIA driver versions 295.20 or later for proper Z1 built-in display support.

footnote 11 - For K3000M and K4000M graphics on Linux, NVIDIA driver version 304.51 or later is required.

footnote 12 - In general, single drives or volumes larger than 2.2TB 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.

footnote 13 - The 6235 wireless controller requires updates to the SLED 11 SP2 kernel support and firmware package. The updates are available from SUSE, and are also included in 2013 versions of the HP drivers kit (see footnote 2).

Linux Hardware Matrix for HP Workstations
HP Z2 Mini G3 Workstation
Performance & Entry models

This page is not complete without the General Notes (first page of the matrix).

At this time, the Linux distributions listed are supported by HP but none are officially certified. Certification is underway and HP will update this document when each version completes the vendor's process.

Product Items/Features (Blank box indicates the listed component is NOT functional w/ as-is OS)	RHEL 6.8 or later (x86_64)	RHEL 7.2 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	.	.	.	.
System RAM				
Minimum (GB)	4GB	4GB	4GB	4GB
Maximum (GB)	32GB	32GB	32GB	32GB
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
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	.	.	.	.
USB 3.1 ports (premium model only)	.	.	.	.
USB 3.0 ports	.	.	.	.
Input/Output Devices				
TPM Module	4	4	4	4
HP Serial Port Adapter	.	.	.	.

footnote 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.

footnote 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.

footnote 3 - HP recommends use of Nvidia driver 375.20 (or newer) on Nvidia graphics options.

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

footnote 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.

footnote 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.

Linux Hardware Matrix for HP Workstations

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.

This page is not complete without the General Notes (first page of the matrix).

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 2)					
No Graphics Card	-	-	-	-	-
Intel® Onboard graphics (HD 530/HD P530 for v5, HD 630/HD P630 for v6)	10	10	10	10	10
AMD FirePro W2100	-	-	-	-	-
NVIDIA NVS 315	-	-	-	-	-
NVIDIA Quadro K1200	-	-	-	-	-
NVIDIA Quadro K420 2GB	-	-	-	-	-
NVIDIA Quadro K620	-	-	-	-	-
System RAM					
Minimum (GB)	4GB	4GB	4GB	4GB	4GB
Maximum (GB)	64GB	64GB	64GB	64GB	64GB
Hard Disks					
All Supported SSD Disk Drives	-	-	-	-	-
All Supported SATA Disk Drives less than 3TB	-	-	-	-	-
All Supported SATA Disk Drives 3TB and larger	4	4	4	4	4
All Supported USB Drive Keys	-	-	-	-	-
HP Z Turbo Drive PCIe-attached storage	5	5	5	5	5
Network Cards (no modem support)					
Intel i210-T1 GbE PCIe NIC	-	-	-	-	-
Onboard Components					
Wired LAN - Intel i219LM Gigabit Ethernet	-	-	-	-	-
Onboard Audio (Realtek ALC221 codec)	9	9	9	-	-
Onboard SATA RAID	3	3	3	3	3
Removable CD/DVD Media					
HP DVD-ROM Drive	-	-	-	-	-
HP DVD+RW Supermulti drive	6	6	6	6	6
Input/Output Devices (no spaceball support)					
HP Scroll Mouse, USB	-	-	-	-	-
HP Standard Keyboard, USB	-	-	-	-	-
HP Keyboard and Mouse, PS/2	-	-	-	-	-
TPM Module/ Smart Card	8	8	8	8	8
HP Media Card Reader	-	-	-	-	-
HP Printers	7	7	7	7	7
All Supported Monitors	-	-	-	-	-

footnote 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.

footnote 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 `z238` in the **Enter my HP model number** field, select **Find my product**, and then select **HP Z238 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.

footnote 3 - 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.

footnote 4 - 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.

footnote 5 - 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.

footnote 6 - Linux growisofs supports DVD+RW media on the listed OSes.

footnote 7 - For more info about Linux driver support for HP printers, go to <http://www.hpip.net>.

footnote 8 - Support for the TPM or other security devices varies by OS distribution.

footnote 9 - 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.

footnote 10 - 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.

Linux Hardware Matrix for HP Workstations

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.

This page is not complete without the General Notes (first page of the matrix).

Product Items/Features (Blank box or unlisted means the 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, USB, 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 2)						
No Graphics Card	-	-	-	-	-	-
Intel® Onboard graphics (HD 530/HD P530 for v5, HD 630/HD P630 for v6)	11	11	11	11	11	11
AMD FirePro W2100	-	-	-	-	-	-
AMD FirePro W4300	-	-	-	-	-	-
AMD FirePro W5100	-	-	-	-	-	-
AMD FirePro W7100	-	-	-	-	-	-
AMD Radeon Pro WX 4100	14	14	14	14	14	14
AMD Radeon Pro WX 7100	14	14	14	14	14	14
NVIDIA NVS 310 1GB	-	-	-	-	-	-
NVIDIA NVS 315	-	-	-	-	-	-
NVIDIA NVS 510	-	-	-	-	-	-
NVIDIA Quadro K1200	-	-	-	-	-	-
NVIDIA Quadro K420 2GB	-	-	-	-	-	-
NVIDIA Quadro K620	-	-	-	-	-	-
NVIDIA Quadro K2200	-	-	-	-	-	-
NVIDIA Quadro M2000 4GB	12	12	12	12	12	12
NVIDIA Quadro M4000	12	12	12	12	12	12
NVIDIA Quadro M5000 8GB	12	12	12	12	12	12
NVIDIA Quadro P2000	12	12	12	12	12	12
NVIDIA Quadro P4000	12	12	12	12	12	12
System RAM						
Minimum (GB)	4GB	4GB	4GB	4GB	4GB	4GB
Maximum (GB)	64GB	64GB	64GB	64GB	64GB	64GB
Hard Disks						
All Supported Solid State Disk Drives	-	-	-	-	-	-
All Supported SATA Disk Drives less than 3TB	-	-	-	-	-	-
All Supported SATA Disk Drives 3TB and larger	4	4	4	4	4	4
All Supported USB Drive Keys	-	-	-	-	-	-
HP Z Turbo Drive PCIe-attached storage	5	5	5	5	5	5
Intel 750 Series PCIe Storage	5	5	5	5	5	5
Network Cards (no modem support)						
Intel I210-T1 GbE PCIe NIC	-	-	-	-	-	-
Intel I350-T2 Dual-Port and I350-T4 Quad-Port 1 GbE PCIe NIC	-	-	-	-	-	-
Intel X520 10GbE Dual Port Adapter (and HP SFP+ SR Transceiver)	-	-	-	-	-	-
Intel X540 10GbE Base-T Dual Port Adapter (RJ45 - Copper)	-	-	-	-	-	-
Intel 8260 802.11 a/b/g/n/ac & Bluetooth PCIe	13	13	13	13	13	13
Onboard Components						
Wired LAN - Intel I219LM Gigabit Ethernet	-	-	-	-	-	-
Onboard Audio (Realtek ALC221 codec)	10	10	10	10	10	10
Onboard SATA RAID	3	3	3	3	3	3
Add Ons						
Thunderbolt™ PCIe card (see footnote 6)	-	-	-	-	-	-
Removable CD/DVD Media						
HP DVD-ROM Drive	-	-	-	-	-	-
HP DVD RW Supermulti Drive	7	7	7	7	7	7
HP BD-RE (Blu-Ray writer)	7	7	7	7	7	7
Input/Output Devices (no spaceball support)						
HP Scroll Mouse, USB	-	-	-	-	-	-
HP Standard Keyboard, USB	-	-	-	-	-	-
HP Keyboard and Mouse, PS/2	-	-	-	-	-	-
TPM Module/Smart Card	9	9	9	9	9	9
HP Media Card Reader	-	-	-	-	-	-
HP Printers	8	8	8	8	8	8
All Supported Monitors	-	-	-	-	-	-

footnote 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.

footnote 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 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.

footnote 3 - 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.

footnote 4 - 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.

footnote 5 - 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.

footnote 6 - 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.

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

footnote 8 - For more info about Linux driver support for HP printers, go to <http://www.hpip.net>.

footnote 9 - Support for the TPM or other security devices varies by OS distribution.

footnote 10 - 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.

footnote 11 - 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.

footnote 12 - HP recommends the following minimum NVIDIA driver versions for M4000 and M5000 (352.41), M2000 (361.45.11), P2000 and P4000 (375.39).

footnote 13 - 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.

footnote 14 - AMD Radeon Pro graphics cards are supported by the newer amdgp-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 amdgp-pro driver for SLED 11.

Linux Hardware Matrix for HP Workstations

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.**

This page is not complete without the General Notes (first page of the matrix).

Product Items/Features (Blank box or unlisted means the 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 2)						
No Graphics Card	-	-	-	-	-	-
Intel® Onboard graphics (HD 530/HD P530 for v5, HD 630/HD P630 for v6)	11	11	11	11	11	11
AMD FirePro W2100	-	-	-	-	-	-
AMD FirePro W4300	-	-	-	-	-	-
NVIDIA NVS 310 1GB	-	-	-	-	-	-
NVIDIA NVS 315	-	-	-	-	-	-
NVIDIA NVS 510	-	-	-	-	-	-
NVIDIA Quadro K1200	-	-	-	-	-	-
NVIDIA Quadro K420 2GB	-	-	-	-	-	-
NVIDIA Quadro K620	-	-	-	-	-	-
System RAM						
Minimum (GB)	4GB	4GB	4GB	4GB	4GB	4GB
Maximum (GB)	64GB	64GB	64GB	64GB	64GB	64GB
Hard Disks						
All Supported SSD Disk Drives	-	-	-	-	-	-
All Supported SATA Disk Drives less than 3TB	-	-	-	-	-	-
All Supported SATA Disk Drives 3TB and larger	4	4	4	4	4	4
All Supported USB Drive Keys	-	-	-	-	-	-
HP Z Turbo Drive PCIe-attached storage	5	5	5	5	5	5
Network Cards (no modem support)						
Intel i210-T1 GbE PCIe NIC	-	-	-	-	-	-
Intel i350-T2 Dual-Port i350-T4 Quad-Port 1GbE PCIe NIC	-	-	-	-	-	-
Intel X520 10GbE Dual Port Adapter (and HP SFP+ SR Transceiver)	-	-	-	-	-	-
Intel X540 10GbE Base-T Dual Port Adapter (RJ45 - Copper)	-	-	-	-	-	-
Intel 8260 802.11 a/b/g/n/ac & Bluetooth PCIe	12	12	12	12	12	12
Onboard Components						
Wired LAN - Intel i219LM Gigabit Ethernet	-	-	-	-	-	-
Onboard Audio (Realtek ALC221 codec)	10	10	10	10	10	10
Onboard SATA RAID	3	3	3	3	3	3
Add Ons						
Thunderbolt™ PCI-E Card (see footnote 6)						
Removable CD/DVD Media						
HP DVD-ROM Drive	-	-	-	-	-	-
HP DVD+RW Supermulti Drive	7	7	7	7	7	7
HP BD-RE (Blu-Ray writer)	7	7	7	7	7	7
Input/Output Devices (no spaceball support)						
HP Scroll Mouse, USB	-	-	-	-	-	-
HP Standard Keyboard, USB	-	-	-	-	-	-
HP Keyboard and Mouse, PS/2	-	-	-	-	-	-
TPM Module/ Smart Card	9	9	9	9	9	9
HP Media Card Reader	-	-	-	-	-	-
HP Printers	8	8	8	8	8	8
All Supported Monitors	-	-	-	-	-	-

footnote 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.

footnote 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 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.

footnote 3 - 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.

footnote 4 - 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.

footnote 5 - 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.

footnote 6 - 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.

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

footnote 8 - For more info about Linux driver support for HP printers, go to <http://www.hpip.net>.

footnote 9 - Support for the TPM or other security devices varies by OS distribution.

footnote 10 - 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.

footnote 11 - 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.

footnote 12 - 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.

Linux Hardware Matrix for HP Workstations						
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.						
This page is not complete without the General Notes (first page of the matrix).						
Product Items/Features (Blank box or unlisted -> 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 2)						
No Graphics Card	-	-	-	-	-	-
AMD FirePro W2100	-	-	-	-	-	-
AMD FirePro W4300	-	-	-	-	-	-
AMD FirePro W5100	-	-	-	-	-	-
AMD FirePro W7100	-	-	-	-	-	-
AMD Radeon Pro WX 4100	15	15	15	15	15	15
AMD Radeon Pro WX 7100	15	15	15	15	15	15
NVIDIA NVS 310 512MB and 1GB	-	-	-	-	-	-
NVIDIA NVS 315 1GB	-	-	-	-	-	-
NVIDIA NVS 510 2GB	-	-	-	-	-	-
NVS Quadro K420 1GB and 2GB	-	-	-	-	-	-
NVIDIA Quadro K620 2GB	-	-	-	-	-	-
NVIDIA Quadro K2200 4GB	-	-	-	-	-	-
NVIDIA Quadro K4200 4GB	-	-	-	-	-	-
NVIDIA Quadro K5200 8GB	-	-	-	-	-	-
NVIDIA Quadro K6000 12GB	-	-	-	-	-	-
NVIDIA Quadro M2000 4GB	12	12	12	12	12	12
NVIDIA Quadro M4000 8GB	12	12	12	12	12	12
NVIDIA Quadro M5000 8GB	12	12	12	12	12	12
NVIDIA Quadro P2000	12	12	12	12	12	12
NVIDIA Quadro P4000	12	12	12	12	12	12
High Performance GPU Computing						
NVIDIA Tesla K40	11	11	11	11	11	11
System RAM						
Minimum (GB)	4GB	4GB	4GB	4GB	4GB	4GB
Maximum (GB)	128GB	128GB	128GB	128GB	128GB	128GB
Hard Disks						
All Supported SAS Disk Drives	3	3	3	3	3	3
All Supported Solid State Drives	-	-	-	-	-	-
All Supported SATA Disk Drives less than 3TB	-	-	-	-	-	-
Supported SATA Disk Drives 3TB and larger	4	4	4	4	4	4
All Supported USB Drive Keys	-	-	-	-	-	-
HP Z Turbo Drive and Z Turbo QuadPro PCIe-attached storage	5	5	5	5	5	5
Intel 750 Series PCIe Storage	5	5	5	5	5	5
Network Cards (no modem support)						
Intel Ethernet i210-T1 PCIe NIC	-	-	-	-	-	-
Intel I350-T2 Dual-Port I350-T4 Quad-Port 1 GbE PCIe NIC	-	-	-	-	-	-
Intel X540 10GbBase-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	13	13	13	13	13	13
Onboard Components						
Integrated Intel SATA sSATA Controller	3	3	3	3	3	3
Wired LAN - Intel i218LM Gigabit Ethernet	9	9	9	9	9	9
Onboard Audio (Realtek ALC221 codec)	-	-	-	-	-	-
Onboard SATA RAID	3	3	3	3	3	3
Add Ons						
LSI 9217-4i4e 8-port SAS 6Gb/s RAID Controller	3	3	3	3	3	3
LSI 9270-8i 8-port SAS 6Gb/s ROC RAID Controller & iBBU9 battery backup unit	3	3	3	3	3	3
Thunderbolt™ PCIe card (see footnote 6)	-	-	-	-	-	-
1394b Firewire PCIe card	-	-	-	-	-	-
Removable CD/DVD Media						
HP DVD-ROM Drive	-	-	-	-	-	-
HP DVD RW Supermulti Drive	7	7	7	7	7	7
HP BD-RE (Blu-Ray writer)	7	7	7	7	7	7
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 10)	-	-	-	-	-	-
HP Media Card Reader	-	-	-	-	-	-
HP Printers	8	8	8	8	8	8
All Supported Monitors	-	-	-	-	-	-

Footnote 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.

Footnote 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/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").

Footnote 3 - 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).

Footnote 4 - 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.

Footnote 5 - 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.

Footnote 6 - 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.

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

Footnote 8 - For more info about Linux driver support for HP printers, go to <http://www.hplip.net>.

Footnote 9 - SLED 11/SP3 requires an update kernel to operate this on-board network interface properly. Please check with SuSE support for the appropriate update.

Footnote 10 - The TPM and Smartcard readers can be used with the addition of extra software packages which support operation of these devices.

Footnote 11 - 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.

Footnote 12 - HP recommends the following minimum NVIDIA driver versions for M4000 and M5000 (352.41), M2000 (361.45.11), P2000 and P4000 (375.39).

Footnote 13 - As of this edition of the table, only a few enterprise distributions have support for the Intel B260 WLAN/BT combo device. Look for updates from the distributors.

Footnote 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.

Footnote 15 - 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.

Linux Hardware Matrix for HP Workstations						
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.						
This page is not complete without the General Notes (first page of the matrix).						
Product Items/Features (Blank box or unlisted -> 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 & E5-26xx Xeon® processors (see footnote 14)	-	-	-	-	-	-
Graphics Card (Video Card) (see footnote 2)						
No Graphics Card	-	-	-	-	-	-
AMD FirePro W2100	-	-	-	-	-	-
AMD FirePro W4300	-	-	-	-	-	-
AMD FirePro W5100	-	-	-	-	-	-
AMD FirePro W7100	-	-	-	-	-	-
AMD Radeon Pro WX 4100	15	15	15	15	15	15
AMD Radeon Pro WX 7100	15	15	15	15	15	15
NVIDIA NVS 310 512MB and 1GB	-	-	-	-	-	-
NVIDIA NVS 315 1GB	-	-	-	-	-	-
NVIDIA NVS 510 2GB	-	-	-	-	-	-
NVS Quadro K420 1GB and 2GB	-	-	-	-	-	-
NVIDIA Quadro K620 2GB	-	-	-	-	-	-
NVIDIA Quadro K2200 4GB	-	-	-	-	-	-
NVIDIA Quadro K4200 4GB	-	-	-	-	-	-
NVIDIA Quadro K5200 8GB	-	-	-	-	-	-
NVIDIA Quadro K6000 12GB	-	-	-	-	-	-
NVIDIA Quadro M2000 4GB	12	12	12	12	12	12
NVIDIA Quadro M4000 8GB	12	12	12	12	12	12
NVIDIA Quadro M5000 8GB	12	12	12	12	12	12
NVIDIA Quadro M6000 12GB and 24GB	12	12	12	12	12	12
NVIDIA Quadro P2000	12	12	12	12	12	12
NVIDIA Quadro P4000	12	12	12	12	12	12
NVIDIA Quadro P5000	12	12	12	12	12	12
NVIDIA Quadro P6000	12	12	12	12	12	12
High Performance GPU Computing						
NVIDIA Tesla K40	11	11	11	11	11	11
System RAM						
Minimum (GB)	4GB	4GB	4GB	4GB	4GB	4GB
Maximum (GB) (with two processors installed)	256GB	256GB	256GB	256GB	256GB	256GB
Hard Disks						
All Supported SAS Disk Drives	3	3	3	3	3	3
All Supported Solid State Drives	-	-	-	-	-	-
All Supported SATA Disk Drives less than 3TB	-	-	-	-	-	-
Supported SATA Disk Drives 3TB and larger	4	4	4	4	4	4
All Supported USB Drive Keys	-	-	-	-	-	-
HP Z Turbo Drive and Z Turbo QuadPro PCIe-attached storage	5	5	5	5	5	5
Intel 750 Series PCIe Storage	5	5	5	5	5	5
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 10GbBase-T Dual Port Adapter (RJ45-Copper)	3	3	3	3	3	3
Intel 7260 802.11a/b/g/n PCIe WLAN NIC	-	-	-	-	-	-
Intel 8260 802.11 a/b/g/n/ac & Bluetooth PCIe	13	13	13	13	13	13
Onboard Components						
Integrated Intel SATA sSATA Controller	3	3	3	3	3	3
Wired LAN - Intel i218LM Gigabit Ethernet	9	9	-	-	-	-
Onboard Audio (Realtek ALC221 codec)	-	-	-	-	-	-
Onboard SATA RAID	3	3	3	3	3	3
Add Ons						
LSI 9217-44e 8-port SAS 6Gb/s RAID Controller	3	3	3	3	3	3
LSI 9270-Bi 8-port SAS 6Gb/s ROC RAID Controller & iBBU9 battery backup unit	3	3	3	3	3	3
Thunderbolt™ PCIe card (see footnote 6)	-	-	-	-	-	-
1394b Firewire PCIe card	-	-	-	-	-	-
Removable CD/DVD Media						
HP DVD-ROM Drive	-	-	-	-	-	-
HP DVD RW Supermulti Drive	7	7	7	7	7	7
HP BD-RE (Blu-Ray writer)	7	7	7	7	7	7
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 10)	-	-	-	-	-	-
HP Media Card Reader	-	-	-	-	-	-
HP Printers	8	8	8	8	8	8
All Supported Monitors	-	-	-	-	-	-

Footnote 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.

Footnote 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/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").

Footnote 3 - Hardware RAID is supported using the LSI 9217-44e (RAID 0/1/1E/10 SATA & SAS) and the LSI 9270-Bi (RAID 0/1/5/6/10 SATA & SAS). SATA RAID is supported on sSATA ports (0/1/5/10 SATA only).

Footnote 4 - 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.

Footnote 5 - 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.

Footnote 6 - 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.

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

Footnote 8 - For more info about Linux driver support for HP printers, go to <http://www.hpip.net>.

Footnote 9 - SLED 11/SP3 requires an update kernel to operate this on-board network interface properly. Please check with SuSE support for the appropriate update.

Footnote 10 - The TPM and Smartcard readers can be used with the addition of extra software packages which support operation of these devices.

Footnote 11 - 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.

Footnote 12 - 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 and P4000 (375.39), P5000 and P6000 (367.57).

Footnote 13 - 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.

Footnote 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.

Footnote 15 - 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.

Linux Hardware Matrix for HP Workstations

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.**

This page is not complete without the General Notes (first page of the matrix).

Product Items/Features (Blank box or unlisted -> 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) E5-26xx Xeon® processors (see footnote 15)	-	-	-	-	-	-
Graphics Card (Video Card) (see footnote 2)						
No Graphics Card	-	-	-	-	-	-
AMD FirePro W2100	-	-	-	-	-	-
AMD FirePro W4300	-	-	-	-	-	-
AMD FirePro W5100	-	-	-	-	-	-
AMD FirePro W7100	-	-	-	-	-	-
AMD Radeon Pro WX 4100	16	16	16	16	16	16
AMD Radeon Pro WX 7100	16	16	16	16	16	16
NVIDIA NVS 310 512MB and 1GB	-	-	-	-	-	-
NVIDIA NVS 315 1GB	-	-	-	-	-	-
NVIDIA NVS 510 2GB	-	-	-	-	-	-
NVS Quadro K420 1GB and 2GB	-	-	-	-	-	-
NVIDIA Quadro K620 2GB	-	-	-	-	-	-
NVIDIA Quadro K1200	-	-	-	-	-	-
NVIDIA Quadro K2200 4GB	-	-	-	-	-	-
NVIDIA Quadro K4200 4GB	-	-	-	-	-	-
NVIDIA Quadro K5200 8GB	-	-	-	-	-	-
NVIDIA Quadro K6000 12GB	-	-	-	-	-	-
NVIDIA Quadro M2000 4GB	12	12	12	12	12	12
NVIDIA Quadro M4000 8GB	12	12	12	12	12	12
NVIDIA Quadro M5000 8GB	12	12	12	12	12	12
NVIDIA Quadro M6000 12GB and 24GB	12	12	12	12	12	12
NVIDIA Quadro P2000	12	12	12	12	12	12
NVIDIA Quadro P4000	12	12	12	12	12	12
NVIDIA Quadro P5000	12	12	12	12	12	12
NVIDIA Quadro P6000	12	12	12	12	12	12
High Performance GPU Computing						
NVIDIA Tesla K40	11	11	11	11	11	11
System RAM						
Minimum (GB)	4GB	4GB	4GB	4GB	4GB	4GB
Maximum (GB) (see footnote 13)	1024GB	1024GB	1024GB	1024GB	1024GB	1024GB
Hard Disks						
All Supported SAS Disk Drives	3	3	3	3	3	3
All Supported Solid State Drives	-	-	-	-	-	-
All Supported SATA Disk Drives less than 3TB	-	-	-	-	-	-
Supported SATA Disk Drives 3TB and larger	4	4	4	4	4	4
All Supported USB Drive Keys	-	-	-	-	-	-
HP Z Turbo Drive and Z Turbo QuadPro PCIe-attached storage	5	5	5	5	5	5
Intel 750 Series PCIe Storage	5	5	5	5	5	5
Network Cards (no modem support)						
Intel Ethernet I210-T1 PCIe NIC	-	-	-	-	-	-
i350-T4 Quad-Port 1GbE NIC	-	-	-	-	-	-
Intel 361T 1GbE dual port PCIe NIC	-	-	-	-	-	-
Intel Ethernet X520 10GbE dual port PCIe NIC	-	-	-	-	-	-
Intel X540 10GbBase-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	14	14	14	14	14	14
Onboard Components						
Integrated Intel SATA sSATA Controller	3	3	3	3	3	3
Integrated LSI 2308 SAS Controller with RAID	3	3	3	3	3	3
Wired LAN - Intel I210 Gigabit Ethernet	-	-	-	-	-	-
Wired LAN - Intel I218LM Gigabit Ethernet	9	9	-	-	-	-
Onboard Audio (Realtek ALC221 codec)	-	-	-	-	-	-
Onboard SATA RAID	3	3	3	3	3	3
Add Ons						
LSI 9270-8i 8-port SAS 6Gb/s ROC RAID Controller & iBBU9 battery backup unit	3	3	3	3	3	3
Thunderbolt™ PCIe card (see footnote 6)	-	-	-	-	-	-
1394b Firewire PCIe card	-	-	-	-	-	-
Removable CD/DVD Media						
HP DVD-ROM Drive	-	-	-	-	-	-
HP DVD RW Supermulti Drive	7	7	7	7	7	7
HP BD-RE (Blu-Ray writer)	7	7	7	7	7	7
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 10)	-	-	-	-	-	-
HP Media Card Reader	-	-	-	-	-	-
HP Printers	8	8	8	8	8	8
All Supported Monitors	-	-	-	-	-	-

footnote 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.

footnote 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/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").

footnote 3 - 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).

footnote 4 - 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.

footnote 5 - 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.

footnote 6 - 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.

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

footnote 8 - For more info about Linux driver support for HP printers, go to <http://www.hpip.net>.

footnote 9 - SLED 11/SP3 requires an update kernel to operate this on-board network interface properly. Please check with SuSE support for the appropriate update.

footnote 10 - The TPM and Smartcard readers can be used with the addition of extra software packages which support operation of these devices.

footnote 11 - 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.

footnote 12 - 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 and P4000 (375.39), P5000 and P6000 (367.57).

footnote 13 - 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.

footnote 14 - 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.

footnote 15 - 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.

footnote 16 - 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.

Linux Hardware Matrix for HP Workstations

HP Z420 Workstation

This page is not complete without the General Notes (first page of the matrix).

Product Items/Features (Blank box or unlisted means the component is NOT functional w/ as-is OS)	RHEL DT 5.8 or later (x86_64)	RHEL WS 6.2 or later (x86_64)	SLED11 SP2 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	9	9	-	-	-
Hyperthreading	-	-	-	-	-
Firmware features					
CSM (Compatibility Support Module) Mode	-	-	-	-	-
Z:1 UEFI Mode	-	-	-	-	-
Intel AMT remote manageability	-	-	-	-	-
Graphics Card (Video Card)					
No Graphics Card	-	-	-	-	-
NVIDIA NVS 300	-	-	-	-	-
NVIDIA NVS 310	-	-	-	-	-
NVIDIA NVS 315	-	-	-	-	-
NVIDIA Quadro 410	-	-	-	-	-
NVIDIA Quadro NVS 450	-	-	-	-	-
NVIDIA NVS 510	-	-	-	-	-
NVIDIA Quadro 600	-	-	-	-	-
NVIDIA Quadro 2000	-	-	-	-	-
NVIDIA Quadro 4000	-	-	-	-	-
NVIDIA Quadro 5000	-	-	-	-	-
NVIDIA Quadro 6000	-	-	-	-	-
NVIDIA Tesla C2075	-	-	-	-	-
NVIDIA Quadro K600	-	-	-	-	-
NVIDIA Quadro K2000	-	-	-	-	-
NVIDIA Quadro K4000	-	-	-	-	-
NVIDIA Quadro K5000	-	-	-	-	-
NVIDIA Quadro K6000	-	-	-	-	-
NVIDIA Tesla K20C	10	10	10	10	10
NVIDIA Tesla K40	10	10	10	10	10
AMD Z270 PCIe	-	-	-	-	-
AMD v3800 PCIe	-	-	-	-	-
AMD v4800 PCIe	-	-	-	-	-
AMD v5800 PCIe	-	-	-	-	-
AMD v7900 PCIe	-	-	-	-	-
AMD w7000	-	-	-	-	-
System RAM					
Minimum (GB)	2GB	2GB	2GB	2GB	2GB
Maximum (GB)	64GB	64GB	64GB	64GB	64GB
Hard Disks					
All Supported SAS Disk Drives	5	5	5	5	5
All Supported SSD Disk Drives	-	-	-	-	-
All Supported SATA Disk Drives less than 3TB	-	-	-	-	-
All Supported SATA Disk Drives 3TB and larger	7	7	7	7	7
All Supported USB Drive Keys	-	-	-	-	-
Z Turbo Drive PCIe-attached storage	13	13	13	13	13
Network Cards (no modem support)					
Broadsheet 5711 PCIe	-	-	-	-	-
Intel Pro 1000 CT Gigabit PCI	-	-	-	-	-
HP NC360T and 361T PCIe Dual Port Gigabit NIC	2	2	2	2	2
HP X520 10GbE Dual Port Adapter (and SFP+ SR Transceiver)	-	-	-	-	-
Intel i210-T1 GbE PCIe NIC	-	-	-	-	-
Wireless Intel 6205 or 7260 802.110 a/b/g/n PCIe1 NIC	-	-	-	-	-
Onboard Components					
Onboard LAN - Intel 5257 9.1M Gigabit	-	-	-	-	-
Onboard SATA RAID	5	5	5	5	5
Onboard SAS RAID	5	5	5	5	5
USB 3.0 Support	8	-	-	-	-
Add Ons					
IEEE 1394B PCI-E Card	-	-	-	-	-
LSI 9212-4i and LSI 9217-4i4e	5	5	5	5	5
LSI 9260-8i and 9270-8i	2	2	2	2	2
Fusion ioFX 410GB PCIe Accelerator	12	12	12	12	12
Thunderbolt™ PCI-E Card (see footnote 11)	-	-	-	-	-
Removable CD/DVD Media					
HP 16x DVD-ROM Drive	-	-	-	-	-
HP 16x Super Multi DVD+RW	4	4	4	4	4
HP BD-RE (Blu-Ray writer)	-	-	-	-	-
Input/Output Devices (no spaceball support)					
HP 3-Button Mouse, PS/2	-	-	-	-	-
HP Scroll Mouse, PS/2	-	-	-	-	-
HP Optical Scroll Mouse, USB	-	-	-	-	-
HP Standard Keyboard, USB/PS2	-	-	-	-	-
TPM Module/ Smart Card	-	-	-	-	-
HP Media Card Reader	-	-	-	-	-
HP Printers	6	6	6	6	6
All Supported Monitors	-	-	-	-	-

footnote 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.

footnote 2 - May not be orderable integrated into systems. Order AMO (After Market Option) kit if that is the case.

footnote 3 - 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/z420>. Under **Download options**, select **Get drivers, software & firmware**. Under **Download options**, select **Get drivers, software & firmware**. HP Workstations can be ordered with a variety of localization options that may vary by platform.

footnote 4 - 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.

footnote 5 - Hardware RAID is supported using the LSI 9212-4i and 9217-4i4e (RAID 0, 1, 10 SATA & SAS), and for the LSI 9260-8i and 9270-8i (RAID 0, 1, 5, 10 SATA & SAS). SATA RAID is now supported on AHCI ports (0,1,5,10) and SCU ports (0,1,5,10).

footnote 6 - For more info about Linux driver support for HP printers, go to <http://www.hpip.net>.

footnote 7 - In general, single drives or volumes larger than 2.2TB can only be fully accessed using GPT formatting. New 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.

footnote 8 - USB 3.0 ports are completely non-functional under RHEL 5 due to absence of a driver for the port controller.

footnote 9 - This platform was originally certified with Intel "Sandy Bridge" CPUs. The minimum versions of RHEL needed to use Intel "Ivy Bridge" CPUs are RHEL 5.9 and RHEL 6.4.

footnote 10 - The NVIDIA K20C and K40 are GPU-compute devices without graphics. The base OS will more or less ignore them. To make use of these devices, the proprietary driver must be installed. The minimum driver version for support of K40 is 319.72.

footnote 11 - 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, neither SLED 11 SP3 nor RHEL 6.5 incorporates significant Thunderbolt support.

footnote 12 - The Fusion ioFX device requires proprietary kernel module and utilities not included in any open-source Linux distribution. Customers who order the device from HP are entitled to downloads using their device serial number. Go to support.fusionio.com to get started. Not all distributions are supported.

footnote 13 - The Z Turbo Drive PCIe-attached storage device has its own controller and is supported by the standard ahci kernel module in supported OSes.

Linux Hardware Matrix for HP Workstations

HP Z620 Workstation

This page is not complete without the General Notes (first page of the matrix).

Product Items/Features (Blank box or unlisted means the component is NOT functional w/ as-is OS)	RHEL DT 5.8 or later (x86_64)	RHEL W5 6.2 or later (x86_64)	SLED11 SP2 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 (1 & 2 CPU configs)	9	9	-	-	-
Hyperthreading	-	-	-	-	-
Firmware Features					
CSM (Compatibility Support Module) Mode	-	-	-	-	-
2.1 UEFI Mode	-	-	-	-	-
Intel AMT remote manageability	-	-	-	-	-
Graphics Card (Video Card)					
No Graphics Card	-	-	-	-	-
NVIDIA NVS 300	-	-	-	-	-
NVIDIA NVS 310	-	-	-	-	-
NVIDIA NVS 315	-	-	-	-	-
NVIDIA Quadro 410	-	-	-	-	-
NVIDIA Quadro NVS 450	-	-	-	-	-
NVIDIA NVS 510	-	-	-	-	-
NVIDIA Quadro 600	-	-	-	-	-
NVIDIA Quadro 2000	-	-	-	-	-
NVIDIA Quadro 4000	-	-	-	-	-
NVIDIA Quadro 5000	-	-	-	-	-
NVIDIA Quadro 6000	-	-	-	-	-
NVIDIA Tesla C2075	-	-	-	-	-
NVIDIA Quadro K600	-	-	-	-	-
NVIDIA Quadro K2000	-	-	-	-	-
NVIDIA Quadro K4000	-	-	-	-	-
NVIDIA Quadro K5000	-	-	-	-	-
NVIDIA Quadro K6000	-	-	-	-	-
NVIDIA Tesla K20C	10	10	10	10	10
NVIDIA Tesla K40	10	10	10	10	10
AMD 2270 PCIe	-	-	-	-	-
AMD v3900 PCIe	-	-	-	-	-
AMD v4900 PCIe	-	-	-	-	-
AMD v5900 PCIe	-	-	-	-	-
AMD v7900 PCIe	-	-	-	-	-
AMD w7000	-	-	-	-	-
System RAM					
Minimum (GB)	2GB	2GB	2GB	2GB	2GB
Maximum (GB)	96GB	96GB	96GB	96GB	96GB
Hard Disks					
All Supported SAS Disk Drives	5	5	5	5	5
All Supported SSD Disk Drives	-	-	-	-	-
All Supported SATA Disk Drives less than 3TB	-	-	-	-	-
All Supported SATA Disk Drives 3TB and larger	7	7	7	7	7
All Supported USB Drive Keys	-	-	-	-	-
Z Turbo Drive PCIe-attached storage	13	13	13	13	13
Network Cards (no modem support)					
Broadcom 5761 PCIe	-	-	-	-	-
Intel Pro 1000 CT Gigabit PCI	-	-	-	-	-
HP NC3601 and 3611 PCIe Dual Port Gigabit NIC	-	-	-	-	-
HP X520 10GbE Dual Port Adapter (and SFP+ SFP Transceiver)	2	2	2	2	2
Intel i210-T1 GbE PCIe NIC	-	-	-	-	-
Wireless Intel 6205 or 7260 802.110 a/b/g/n PCIe x1 NIC	-	-	-	-	-
Onboard Components					
Onboard LAN - Intel 525/4L Gigabit	-	-	-	-	-
Onboard LAN - Intel 525/9LGM Gigabit	-	-	-	-	-
Onboard Audio	-	-	-	-	-
Onboard SATA RAID	5	5	5	5	5
TPM Module/ Smart Card	-	-	-	-	-
USB 3.0 support	8	-	-	-	-
Add Ons					
IEEE 1394B PCI-E Card	-	-	-	-	-
LSI 9212-4i and LSI 9217-4i4e	5	5	5	5	5
LSI 9260-8i and 9270-8i	2	2	2	2	2
Fusion ioFX 410GB PCIe Accelerator	12	12	12	12	12
Thunderbolt™ PCI-E Card (see footnote 11)	-	-	-	-	-
Removable CD/DVD Media					
HP 16x DVD-ROM Drive	-	-	-	-	-
HP 16x Super Multi DVD+RW Drive	4	4	4	4	4
HP Slot Load DVD +/-RW Drive	4	4	4	4	4
HP BD-RE (Blu-Ray writer)	-	-	-	-	-
Input/Output Devices (no spaceball support)					
HP 3-Button Mouse, PS/2	-	-	-	-	-
HP Scroll Mouse, PS/2	-	-	-	-	-
HP Optical Scroll Mouse, USB	-	-	-	-	-
HP Standard Keyboard, USB/PS2	-	-	-	-	-
TPM Module/ Smart Card	-	-	-	-	-
HP Media Card Reader	-	-	-	-	-
HP Printers	6	6	6	6	6
All Supported Monitors	-	-	-	-	-

Footnote 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.

Footnote 2 - May not be orderable integrated into systems. Order AMO (After Market Option) kit if that is the case.

Footnote 3 - 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/z620>. Under **Download options**, select **Get drivers, software & firmware**. HP Workstations can be ordered with a variety of localization options that may vary by platform.

Footnote 4 - 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.

Footnote 5 - Hardware RAID is supported using the LSI 9212-4i and 9217-4i4e (RAID 0, 1, 10 SATA & SAS), and for the LSI 9260-8i and 9270-8i (RAID 0, 1, 5 SATA & SAS). SATA RAID is now supported on AHCI ports(0,1,5,10) and SCU ports(0,1,5,10).

Footnote 6 - For more info about Linux driver support for HP printers, go to <http://www.hpip.net>.

Footnote 7 - In general, single drives or volumes larger than 2.2TB 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.

Footnote 8 - USB 3.0 ports are completely non-functional under RHEL 5 due to absence of a driver for the port controller.

Footnote 9 - This platform was originally certified with Intel "Sandy Bridge" CPUs. The minimum versions of RHEL needed to use Intel "Ivy Bridge" CPUs are RHEL 5.9 and RHEL 6.4.

Footnote 10 - The NVIDIA K20C and K40 are GPU-compute devices without graphics. The base OS will more or less ignore them. To make use of these devices, the proprietary driver must be installed. The minimum driver version for support of K40 is 319.72.

Footnote 11 - 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, neither SLED 11 SP3 nor RHEL 6.5 incorporates significant Thunderbolt support.

Footnote 12 - The Fusion ioFX device requires proprietary kernel module and utilities not included in any open-source Linux distribution. Customers who order the device from HP are entitled to downloads using their device serial number. Go to support.fusionio.com to get started. Not all distributions are supported.

Footnote 13 - The Z Turbo Drive PCIe-attached storage device has its own controller and is supported by the standard ahci kernel module in supported OSes.

Linux Hardware Matrix for HP Workstations						
HP Z820 Workstation						
This page is not complete without the General Notes (first page of the matrix).						
Product Items/Features (Blank box or unlisted means the component is NOT functional w/ as-is OS)	RHEL DT 5.8 or later (x86_64)	RHEL W5 6.2 or later (x86_64)	SLED11 SP2 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 (1 & 2 CPU configs)	9	9	-	-	-	-
Hyperthreading	-	-	-	-	-	-
Firmware features						
CSM (Compatibility Support Module) Mode	-	-	-	-	-	-
2.1 UEFI Mode	-	-	-	-	-	-
Intel AMT remote manageability	-	-	-	-	-	-
Graphics Card (Video Card)						
No Graphics Card	-	-	-	-	-	-
NVIDIA NVS 300	-	-	-	-	-	-
NVIDIA NVS 310	-	-	-	-	-	-
NVIDIA NVS 315	-	-	-	-	-	-
NVIDIA Quadro 410	-	-	-	-	-	-
NVIDIA Quadro NVS 450	2	2	2	2	2	2
NVIDIA NVS 510	-	-	-	-	-	-
NVIDIA Quadro 600	-	-	-	-	-	-
NVIDIA Quadro 2000	-	-	-	-	-	-
NVIDIA Quadro 4000	-	-	-	-	-	-
NVIDIA Quadro 5000	-	-	-	-	-	-
NVIDIA Quadro 6000	-	-	-	-	-	-
NVIDIA Tesla C2075	-	-	-	-	-	-
NVIDIA Quadro K600	-	-	-	-	-	-
NVIDIA Quadro K2000	-	-	-	-	-	-
NVIDIA Quadro K4000	-	-	-	-	-	-
NVIDIA Quadro K5000	-	-	-	-	-	-
NVIDIA Quadro K6000	-	-	-	-	-	-
NVIDIA Tesla K20C	10	10	10	10	10	10
NVIDIA Tesla K40	10	10	10	10	10	10
AMD 2270 PCIe	-	-	-	-	-	-
AMD v3900 PCIe	-	-	-	-	-	-
AMD v4900 PCIe	-	-	-	-	-	-
AMD v5900 PCIe	-	-	-	-	-	-
AMD v7900 PCIe	-	-	-	-	-	-
AMD w7000	-	-	-	-	-	-
System RAM						
Minimum (GB)	2GB	2GB	2GB	2GB	2GB	2GB
Maximum (GB)	512GB	512GB	512GB	512GB	512GB	512GB
Hard Disks						
All Supported SAS Disk Drives	-	-	-	-	-	-
All Supported SSD Disk Drives	-	-	-	-	-	-
All Supported SATA Disk Drives less than 3TB	-	-	-	-	-	-
Support SATA Disk Drives 3TB and larger	7	7	7	7	7	7
All Supported USB Drive Keys	-	-	-	-	-	-
Z Turbo Drive PCIe-attached storage	13	13	13	13	13	13
Network Cards (no modem support)						
Broadcom 5761 PCIe	-	-	-	-	-	-
Intel Pro 1000 CT Gigabit PCI	-	-	-	-	-	-
HP NC360T and 361T PCIe Dual Port Gigabit NIC	2	2	2	2	2	2
HP X520 TOGBE Dual Port Adapter (and SFP+ SR Transceiver)	-	-	-	-	-	-
Intel i210-T1 GbE PCIe NIC	-	-	-	-	-	-
Wireless Intel 6205 or 7260 802.110 a/b/g/n PCIe1x1 NIC	-	-	-	-	-	-
Onboard Components						
Onboard LAN - Intel i3574L Gigabit	-	-	-	-	-	-
Onboard LAN - Intel i5259LM Gigabit	-	-	-	-	-	-
Onboard Audio	-	-	-	-	-	-
Onboard SATA AHCI RAID	5	5	5	5	5	5
Onboard SCSI RAID	5	5	5	5	5	5
Onboard SAS RAID	5	5	5	5	5	5
TPM Module/ Smart Card	-	-	-	-	-	-
USB 3.0 support	8	-	-	-	-	-
Add Ons						
IEEE 1394B PCI-E Card	-	-	-	-	-	-
LSI 9260-Bi and 9270-Bi	5	5	5	5	5	5
Fusion ioFX 410GB PCIe Accelerator	12	12	12	12	12	12
Intel Xeon Phi 3120A1B Compute Processor	-	14	14	14	14	14
Thunderbolt™ PCI-E Card (see footnote 11)	-	-	-	-	-	-
Removable CD/DVD Media						
HP 16x DVD-ROM Drive	-	-	-	-	-	-
HP 16x Super Multi DVD+RW	4	4	4	4	4	4
HP Slot Load DVD+/-RW Drive	-	-	-	-	-	-
HP RD-RE (Blu-Ray writer)	-	-	-	-	-	-
Input/Output Devices (no spaceball support)						
HP 3-Button Mouse, PS/2	-	-	-	-	-	-
HP Scroll Mouse, PS/2	-	-	-	-	-	-
HP Optical Scroll Mouse, USB	-	-	-	-	-	-
HP Standard Keyboard, USB/PS2	-	-	-	-	-	-
HP Media Card Reader	-	-	-	-	-	-
HP Printers	6	6	6	6	6	6
All Supported Monitors	-	-	-	-	-	-
Footnote 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.						
Footnote 2 - Not orderable integrated into systems. Order AMO (After Market Option) kit.						
Footnote 3 - 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/z820 . Under Download options , select Get drivers, software & firmware . HP Workstations can be ordered with a variety of localization options that may vary by platform.						
Footnote 4 - Linux grows of 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.						
Footnote 5 - Hardware RAID is supported using the LSI 9212-4i and 9217-44e (RAID 0, 1, 10 SATA & SAS), and for the LSI 9260-Bi and 9270-Bi (RAID 0, 1, 5 SATA & SAS), and on-board LSI 2308 (RAID 0, 1, 10 SATA & SAS). SATA RAID is now supported on AHCI ports (0,1) and SCU ports(0,1,5,10).						
Footnote 6 - For more info about Linux driver support for HP printers, go to http://www.hp.com .						
Footnote 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 UEFI boot support. OSes listed can all access GPT-formatted data volumes.						
Footnote 8 - USB 3.0 ports are completely non-functional under RHEL 5 due to absence of a driver for the port controller.						
Footnote 9 - This platform was originally certified with Intel "Sandy Bridge" CPUs. The minimum versions of RHEL needed to use Intel "ivy Bridge" CPUs are RHEL 5.9 and RHEL 6.4.						
Footnote 10 - The NVIDIA K20C and K40 are GPU-compute devices without graphics. The base OS will more or less ignore them. To make use of these devices, the proprietary driver must be installed. The minimum driver version for support of K40 is 319.72.						
Footnote 11 - 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, neither SLED 11 SP3 nor RHEL 6.5 incorporates significant Thunderbolt support.						
Footnote 12 - The Fusion ioFX device requires proprietary kernel module and utilities not included in any open-source Linux distribution. Customers who order the device from HP are entitled to downloads using their device serial number. Go to support.fusionio.com to get started. Not all distributions are supported.						
Footnote 13 - The Z Turbo Drive PCIe-attached storage device has its own controller and is supported by the standard ahci kernel module in supported OSes.						
Footnote 14 - The Intel Xeon Phi coprocessor is available as an after-market accessory only. There is no in-box support in typical Linux distributions. Software must be obtained from Intel's site: https://software.intel.com/en-us/mic-developer . You can find more information on the HP Support Page for this platform under the RHEL 6 or SLED 11 OSes. Look for the item entitled "Linux Driver Quick Start Guide for Intel Phi Coprocessors on HP Workstations."						

Linux Hardware Matrix for HP Workstations

HP Z200 SFF Workstation

This page is not complete without the General Notes (first page of the matrix).

Product Items/Features (Blank box or unlisted -> component is NOT functional w/ as-is OS)	RHEL DT 5.5 or later (x86 & x86_64)	RHEL WS 6.0 or later (x86 & x86_64)	SLED11 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 (1 CPU configs)	-	-	-
Hyperthreading	-	-	-
Graphics Card (Video Card) (see footnote 2)			
No Graphics Card	-	-	-
Intel Onboard Graphics	VESA Driver Only	Intel Driver Only	Intel Driver Only
NVIDIA Quadro NVS 295	-	-	-
NVIDIA Quadro NVS 300	-	-	-
NVIDIA Quadro FX380 LP (Low Profile)	-	-	-
NVIDIA Quadro Q600	-	-	-
ATI v3800 PCIe - Single Card Supported	-	-	-
System RAM			
Minimum (GB)	1GB	1GB	1GB
Maximum (GB)	16GB	16GB	16GB
Hard Disks			
All Supported SAS Disk Drives			
All Supported SSD Disk Drives	-	-	-
All Supported SATA Disk Drives	-	-	-
All Supported USB Drive Keys	-	-	-
Network Cards (no modem support)			
Intel Pro 1000 CT Gigabit PCI	-	-	-
Broadcom 5761 PCIe	-	-	-
Onboard Components			
Onboard LAN - Intel 82578DM Gigabit Ethernet	-	-	-
Onboard Audio	-	-	-
Onboard SATA RAID	4	4	4
Add Ons			
IEEE 1394A PCI Card		-	-
IEEE 1394A PCI-E Card		-	-
IEEE 1394B PCI-E Card		-	-
SATA Controllers	5	5	5
Creative Sound Blaster X-Fi	-	-	-
Removable CD/DVD Media			
HP 16x DVD-ROM Drive	-	-	-
HP 16x Super Multi DVD+RW	3	3	3
HP BD-RE (writer)	-	-	-
Input/Output Devices (no spaceball support)			
HP 3-Button Mouse, PS/2	-	-	-
HP Scroll Mouse, PS/2	-	-	-
HP Optical Scroll Mouse, USB	-	-	-
HP Standard Keyboard, USB/PS2	-	-	-
TPM Module/ Smart Card			
22 in 1 Card Reader	-	-	-
HP Printers	6	6	6
All Supported Monitors	-	-	-

footnote 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.

footnote 2 - Get the latest drivers, "HP Installer Kit for Linux - HP Driver CD for Red Hat Enterprise Linux 5.4", and "HP Installer Kit for Linux - HP Driver CD for SuSE Linux Enterprise Desktop 11" ISO images from <http://www.hp.com/support/z200SFF>. Under **Download options**, select **Get drivers, software & firmware**.

footnote 3 - Linux growisofs supports DVD+RW and Blu-ray media on Red Hat EL 5 Desktop or later and SLED11 or later. For drives that have the Lightscribe functionality, go to www.lightscribe.com for software to enable the labeling feature.

footnote 4 - Hardware RAID is not supported on SATA drives.

footnote 5 - The Z200 SFF can support up to 2 SATA drives.

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

footnote 7 - Hyperthreading is supported on all platforms when the processor allows it.

Linux Hardware Matrix for HP Workstations

HP Z200 CMT Workstation

This page is not complete without the General Notes (first page of the matrix).

Product Items/Features (Blank box or unlisted -> component is NOT functional w/ as-is OS)	RHEL DT 5.4 or later (x86 & x86_64)	RHEL WS 6.0 or later (x86 & x86_64)	SLED11 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 (1 CPU configs)	-	-	-
Hyperthreading	-	-	-
Graphics Card (Video Card) (see footnote 2)			
No Graphics Card	-	-	-
Intel Onboard Graphics	VESA Driver Only	Intel Driver Only	Intel Driver Only
NVIDIA Quadro NVS 295	-	-	-
NVIDIA Quadro NVS 300	-	-	-
NVIDIA Quadro FX380	-	-	-
NVIDIA Quadro FX580	-	-	-
NVIDIA Quadro Q600	-	-	-
NVIDIA Quadro FX1800	-	-	-
NVIDIA Quadro Q2000	-	-	-
NVIDIA Quadro FX3800	-	-	-
ATI v3700 PCIe - Single Card Supported	-	-	-
ATI v5700 PCIe - Single Card Supported	-	-	-
ATI v7750 PCIe - Single Card Supported	-	-	-
ATI v3800 PCIe - Single Card Supported	-	-	-
ATI v4800 PCIe - Single Card Supported	-	-	-
ATI v5800 PCIe - Single Card Supported	-	-	-
System RAM			
Minimum (GB)	1GB	1GB	1GB
Maximum (GB)	16GB	16GB	16GB
Hard Disks			
All Supported SAS Disk Drives			
All Supported SSD Disk Drives	-	-	-
All Supported SATA Disk Drives	-	-	-
All Supported USB Drive Keys	-	-	-
Network Cards (no modem support)			
Intel Pro 1000 CT Gigabit PCI	-	-	-
Broadcom 5761 PCIe	-	-	-
Onboard Components			
Onboard LAN - Intel 82578DM Gigabit Ethernet	-	-	-
Onboard Audio	-	-	-
Onboard SATA RAID	4	4	4
Add Ons			
IEEE 1394A PCI Card		-	-
IEEE 1394A PCI-E Card		-	-
IEEE 1394B PCI-E Card		-	-
SATA Controllers	5	5	5
Creative Sound Blaster X-Fi	-	-	-
Removable CD/DVD Media			
HP 16x DVD-ROM Drive	-	-	-
HP 16x Super Multi DVD+RW	3	3	3
HP BD-RE (writer)	-	-	-
Input/Output Devices (no spaceball support)			
HP 3-Button Mouse, PS/2	-	-	-
HP Scroll Mouse, PS/2	-	-	-
HP Optical Scroll Mouse, USB	-	-	-
HP Standard Keyboard, USB/PS2	-	-	-
TPM Module/ Smart Card			
22 in 1 Card Reader	-	-	-
HP Printers	6	6	6
All Supported Monitors	-	-	-

footnote 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.

footnote 2 - Get the latest drivers, "HP Installer Kit for Linux - HP Driver CD for Red Hat Enterprise Linux 5.4", and "HP Installer Kit for Linux - HP Driver CD for SuSE Linux Enterprise Desktop 11" ISO images from <http://www.hp.com/support/z200>. Under Download options, select Get drivers, software & firmware.

footnote 3 - Linux growisofs supports DVD+RW and Blu-ray media on Red Hat EL 5 Desktop or later and SLED11 or later. For drives that have the Lightscribe functionality, go to www.lightscribe.com for software to enable the labeling feature.

footnote 4 - Hardware RAID is not supported on SATA drives.

footnote 5 - The Z200 can support up to 3 SATA drives.

footnote 6 - For more info about Linux driver support for HP printers, go to <http://www.hpip.net>.

footnote 7 - Hyperthreading is supported on all platforms when the processor allows it.

Linux Hardware Matrix for HP Workstations

HP Z210 SFF Workstation

This page is not complete without the General Notes (first page of the matrix).

Product Items/Features (Blank box or unlisted means the component is NOT functional w/ as-is OS)	RHEL DT 5.6 or later (x86 & x86_64)	RHEL WS 6.0 or later (x86 & x86_64)	SLED11 SP1 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 (1 CPU configs)	•	•	•
Hyperthreading	•	•	•
Graphics Card (Video Card) (see footnote 2)			
No Graphics Card	•	•	•
Intel Onboard Graphics	VESA Driver Only	Intel Driver Only	Intel Driver Only
NVIDIA Quadro NVS 295	•	•	•
NVIDIA Quadro NVS 300	•	•	•
NVIDIA Quadro Q400	•	•	•
NVIDIA Quadro Q600	•	•	•
ATI v2270 PCIe - Single Card Supported	•	•	•
ATI v3800 PCIe - Single Card Supported	•	•	•
System RAM			
Minimum (GB)	1GB	1GB	1GB
Maximum (GB)	16GB	16GB	16GB
Hard Disks			
All Supported SAS Disk Drives			
All Supported SSD Disk Drives	•	•	•
All Supported SATA Disk Drives	•	•	•
All Supported USB Drive Keys	•	•	•
Network Cards (no modem support)			
Intel Pro 1000 CT Gigabit PCI	•	•	•
Broadcom 5761 PCIe	•	•	•
Onboard Components			
Onboard LAN - Intel 82579LM Gigabit Ethernet	2	2	2
Onboard Audio	•	•	•
Onboard SATA RAID	4	4	4
Add Ons			
IEEE 1394A PCI Card		•	•
IEEE 1394A PCI-E Card		•	•
IEEE 1394B PCI-E Card		•	•
USB 3.0 PCI-E Card		•	•
SATA Controllers	5	5	5
Creative Sound Blaster X-Fi	•	•	•
Removable CD/DVD Media			
HP 16x DVD-ROM Drive	•	•	•
HP 16x Super Multi DVD+RW	3	3	3
HP BD-RE (writer)	•	•	•
Input/Output Devices (no spaceball support)			
HP 3-Button Mouse, PS/2	•	•	•
HP Scroll Mouse, PS/2	•	•	•
HP Optical Scroll Mouse, USB	•	•	•
HP Standard Keyboard, USB/PS2	•	•	•
TPM Module/ Smart Card			
22 in 1 Card Reader	•	•	•
HP Printers	6	6	6
All Supported Monitors	•	•	•

footnote 1 - Localization supported: (ABA US English, ABC French Canadian, ABD Germany, ABE Spain, ABF France, ABG Australia, ABU UK English, ABJ Japan, AB2 China (PRC), AB4 Singapore/ Malaysia, ABZ Italy, AB5 Hong Kong, ACF Japan-English, ACJ India-English, AB0 Taiwan, AK6 Europe A4, AC0 Belgium, ABS Sweden, ABB Int'l English).

footnote 2 - Get the latest drivers, "HP Installer Kit for Linux - HP Driver CD for Red Hat Enterprise Linux 5.4", and "HP Installer Kit for Linux - HP Driver CD for SuSE Linux Enterprise Desktop 11" ISO images from <http://www.hp.com/support/z210SFF>. Under **Download options**, select **Get drivers, software & firmware**.

footnote 3 - Linux growisofs supports DVD+RW and Blu-ray media on Red Hat EL 5 Desktop or later and SLED11 or later. For drives that have the Lightscribe functionality, go to www.lightscribe.com for software to enable the labeling feature.

footnote 4 - Hardware RAID is not supported on SATA drives.

footnote 5 - The Z210 SFF can support up to 2 SATA drives.

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

footnote 7 - Hyperthreading is supported on all platforms when the processor allows it.

Linux Hardware Matrix for HP Workstations

HP Z210 CMT Workstation

This page is not complete without the General Notes (first page of the matrix).

Product Items/Features (Blank box or unlisted means the component is NOT functional w/ as-is OS)	RHEL DT 5.6 or later (x86 & x86_64)	RHEL WS 6.0 or later (x86 & x86_64)	SLED11 SP1 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 (1 CPU configs)	-	-	-
Hyperthreading	-	-	-
Graphics Card (Video Card) (see footnote 2)			
No Graphics Card	-	-	-
Intel Onboard Graphics	VESA Driver Only	Intel Driver Only	Intel Driver Only
NVIDIA Quadro NVS 295	-	-	-
NVIDIA Quadro NVS 300	-	-	-
NVIDIA Quadro Q400	-	-	-
NVIDIA Quadro Q600	-	-	-
NVIDIA Quadro Q2000	-	-	-
ATI v2270 PCIe - Single Card Supported	-	-	-
ATI v3800 PCIe - Single Card Supported	-	-	-
ATI v4800 PCIe - Single Card Supported	-	-	-
ATI v4900 PCIe - Single Card Supported	-	-	-
ATI v5800 PCIe - Single Card Supported	-	-	-
ATI v5900 PCIe - Single Card Supported	-	-	-
ATI v7900 PCIe - Single Card Supported	-	-	-
System RAM			
Minimum (GB)	1GB	1GB	1GB
Maximum (GB)	16GB	16GB	16GB
Hard Disks			
All Supported SAS Disk Drives			
All Supported SSD Disk Drives	-	-	-
All Supported SATA Disk Drives	-	-	-
All Supported USB Drive Keys	-	-	-
Network Cards (no modem support)			
Intel Pro 1000 CT Gigabit PCI	-	-	-
Broadcom 5761 PCIe	-	-	-
Onboard Components			
Onboard LAN - Intel 82579LM Gigabit Ethernet	2	2	2
Onboard Audio	-	-	-
Onboard SATA RAID	4	4	4
Add Ons			
IEEE 1394A PCI Card		-	-
IEEE 1394A PCI-E Card		-	-
IEEE 1394B PCI-E Card		-	-
USB 3.0 PCI-E Card		-	-
SATA Controllers	5	5	5
Creative Sound Blaster X-Fi	-	-	-
Removable CD/DVD Media			
HP 16x DVD-ROM Drive	-	-	-
HP 16x Super Multi DVD+RW	3	3	3
HP BD-RE (writer)	-	-	-
Input/Output Devices (no spaceball support)			
HP 3-Button Mouse, PS/2	-	-	-
HP Scroll Mouse, PS/2	-	-	-
HP Optical Scroll Mouse, USB	-	-	-
HP Standard Keyboard, USB/PS2	-	-	-
TPM Module/ Smart Card			
Z2 in 1 Card Reader	-	-	-
HP Printers	6	6	6
All Supported Monitors	-	-	-

footnote 1 - Localization supported: (ABA US English, ABC French Canadian, ABD Germany, ABE Spain, ABF France, ABG Australia, ABU UK English, ABJ Japan, ABZ China (PRC), AB4 Singapore/ Malaysia, ABZ Italy, AB5 Hong Kong, ACF Japan-English, ACJ India-English, ABO Taiwan, AK6 Europe A4, ACO Belgium, ABS Sweden, ABB Int'l English).

footnote 2 - Get the latest drivers, "HP Installer Kit for Linux - HP Driver CD for Red Hat Enterprise Linux 5.4", and "HP Installer Kit for Linux - HP Driver CD for SuSE Linux Enterprise Desktop 11" ISO images from <http://www.hp.com/support/z210CMT>. Under **Download options**, select **Get drivers, software & firmware**.

footnote 3 - Linux growisofs supports DVD+RW and Blu-ray media on Red Hat EL 5 Desktop or later and SLED11 or later. For drives that have the Lightscribe functionality, go to www.lightscribe.com for software to enable the labeling feature.

footnote 4 - Hardware RAID is not supported on SATA drives.

footnote 5 - The Z210 CMT can support up to 2 SATA drives.

footnote 6 - For more info about Linux driver support for HP printers, go to <http://www.hpip.net>.

footnote 7 - Hyperthreading is supported on all platforms when the processor allows it.

Linux Hardware Matrix for HP Workstations

HP Z220 SFF 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.

This page is not complete without the General Notes (first page of the matrix).

Product Items/Features (Blank box or unlisted means the component is NOT functional w/ as-is OS)	RHEL DT 5.8 or later (x86_64)	RHEL WS 6.3 or later (x86_64)	SLED11 SP2 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	VESA Driver Only	8	8
NVIDIA NVS 300	-	-	-
NVIDIA NVS 310	-	-	-
NVIDIA Quadro 410	-	-	-
NVIDIA NVS 510	-	-	-
NVIDIA Quadro Q600	-	-	-
NVIDIA Quadro K600	-	-	-
AMD 2270	-	-	-
AMD v3900	-	-	-
System RAM			
Minimum (GB)	2GB	2GB	2GB
Maximum (GB)	32GB	32GB	32GB
Hard Disks			
SATA Controllers	5	5	5
All Supported SAS Disk Drives			
All Supported SSD Disk Drives	-	-	-
All Supported SATA Disk Drives	-	-	-
All Supported USB Drive Keys	-	-	-
Network Cards (no modem support)			
Intel GbE CT NIC	-	-	-
Broadcom NetXtreme PCIe	-	-	-
Onboard Components			
Onboard LAN - Intel 82579 Gigabit Ethernet	2	-	-
Onboard Audio	-	-	-
Onboard SATA RAID	4	4	4
Onboard USB 3.0	-	-	-
Add Ons			
IEEE 1394A and 1394B PCI-E Cards		-	-
USB 3.0 PCI-E Card		-	-
Removable CD/DVD Media			
HP 16x DVD-ROM Drive	-	-	-
HP 16x Super Multi DVD+RW	3	3	3
HP BD-RE (writer)	-	-	-
Input/Output Devices (no spaceball support)			
HP Mouse, PS/2 or USB	-	-	-
HP Optical Scroll Mouse, USB	-	-	-
HP Standard Keyboard, USB/PS2	-	-	-
TPM Module/ Smart Card			
22 in 1 Card Reader	-	-	-
HP Printers	6	6	6
All Supported Monitors	-	-	-

footnote 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.

footnote 2 - Get the latest drivers, "HP Installer Kit for Linux - HP Driver CD for Red Hat Enterprise Linux 5," "HP Installer Kit for Linux - HP Driver CD for Red Hat Enterprise Linux 6" and "HP Installer Kit for Linux - HP Driver CD for SUSE Linux Enterprise Desktop 11" ISO images from <http://www.hp.com/support/z220SFF>. Under **Download options**, select **Get drivers, software & firmware**.

footnote 3 - Linux growisofs supports DVD+RW and Blu-ray media on Red Hat EL 5 Desktop or later and SLED11 or later. For drives that have the Lightscribe functionality, go to www.lightscribe.com for software to enable the labeling feature.

footnote 4 - Hardware RAID is not supported on SATA drives.

footnote 5 - The Z220 SFF can support up to 2 SATA drives.

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

footnote 7 - Hyperthreading is supported on all platforms when the processor allows it.

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

Linux Hardware Matrix for HP Workstations			
HP Z220 CMT 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.			
<i>This page is not complete without the General Notes (first page of the matrix).</i>			
Product Items/Features (Blank box or unlisted means the component is NOT functional w/ as-is OS)	RHEL DT 5.8 or later (x86_64)	RHEL WS 6.3 or later (x86_64)	SLED11 SP2 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	VESA Driver Only	8	8
NVIDIA NVS 300	-	-	-
NVIDIA NVS 310	-	-	-
NVIDIA Quadro 410	-	-	-
NVIDIA NVS 510	-	-	-
NVIDIA Quadro Q600	-	-	-
NVIDIA Quadro Q2000	-	-	-
NVIDIA Quadro Q4000	-	-	-
NVIDIA Quadro K600	-	-	-
NVIDIA Quadro K2000	-	-	-
NVIDIA Quadro K4000	-	-	-
AMD 2270	-	-	-
AMD v3900	-	-	-
AMD v4900	-	-	-
AMD v5900	-	-	-
AMD v7900	-	-	-
AMD w7000	-	-	-
System RAM			
Minimum (GB)	2GB	2GB	2GB
Maximum (GB)	32GB	32GB	32GB
Hard Disks			
SATA Controllers	5	5	5
All Supported SAS Disk Drives			
All Supported SSD Disk Drives	-	-	-
All Supported SATA Disk Drives	-	-	-
All Supported USB Drive Keys	-	-	-
Network Cards (no modem support)			
Intel GBE CT NIC	-	-	-
Broadcom NetXtreme PCIe	-	-	-
HP X520 10GbE Dual Port Adapter (and SFP+ SR Transceiver)	-	-	-
Onboard Components			
Onboard LAN - Intel 82579 Gigabit Ethernet	2	-	-
Onboard Audio	-	-	-
Onboard SATA RAID	4	4	4
Onboard USB 3.0	-	-	-
Add Ons			
IEEE 1394A and 1394B PCI-E Cards		-	-
USB 3.0 PCI-E Card		-	-
Removable CD/DVD Media			
HP 16x DVD-ROM Drive	-	-	-
HP 16x Super Multi DVD+RW	3	3	3
HP BD-RE (writer)	-	-	-
Input/Output Devices (no spaceball support)			
HP Mouse, PS/2 or USB	-	-	-
HP Optical Scroll Mouse, USB	-	-	-
HP Standard Keyboard, USB/PS2	-	-	-
TPM Module/ Smart Card			
22 in 1 Card Reader	-	-	-
HP Printers	6	6	6
All Supported Monitors	-	-	-

footnote 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.

footnote 2 - Get the latest drivers, "HP Installer Kit for Linux - HP Driver CD for Red Hat Enterprise Linux 5," "HP Installer Kit for Linux - HP Driver CD for Red Hat Enterprise Linux 6" and "HP Installer Kit for Linux - HP Driver CD for SUSE Linux Enterprise Desktop 11" ISO images from <http://www.hp.com/support/z220CMT>. Under **Download options**, select **Get drivers, software & firmware**.

footnote 3 - Linux growisofs supports DVD+RW and Blu-ray media on Red Hat EL 5 Desktop or later and SLED11 or later. For drives that have the Lightscribe functionality, go to www.lightscribe.com for software to enable the labeling feature.

footnote 4 - Hardware RAID is not supported on SATA drives.

footnote 5 - The Z220 CMT can support up to 3 SATA drives.

footnote 6 - For more info about Linux driver support for HP printers, go to <http://www.hpip.net>.

footnote 7 - Hyperthreading is supported on all platforms when the processor allows it.

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

Linux Hardware Matrix for HP Workstations

HP Z228 Microtower Workstation

Certifications pending

This page is not complete without the General Notes (first page of the matrix).

Product Items/Features (Blank box or unlisted means the 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)	2GB	2GB	2GB	2GB
Maximum (GB)	32GB	32GB	32GB	32GB
Hard Disks				
SATA Controllers	5	5	5	5
All Supported SSD Disk Drives	•	•	•	•
All Supported SATA Disk Drives less than 3TB	•	•	•	•
All Supported SATA Disk Drives 3TB 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	•	•	•	•
HP Standard Keyboard, USB/PS2	•	•	•	•
TPM Module/ Smart Card				
HP Media Card Reader	•	•	•	•
HP Printers	6	6	6	6
All Supported Monitors	•	•	•	•

footnote 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.

footnote 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.

footnote 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.

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

footnote 5 - The Z228 can support up to 2 SATA drives.

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

footnote 7 - In general, single drives or volumes larger than 2.2TB 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.

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

Linux Hardware Matrix for HP Workstations

HP Z230 SFF Workstation

Originally certified with SLED 11 SP3 (x86_64), RHEL 6.5 (x86_64). Also certified with RHEL 7.0.

This page is not complete without the General Notes (first page of the matrix).

Product Items/Features (Blank box or unlisted means the 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 310	-	-	-	-
NVIDIA NVS 315	-	-	-	-
NVIDIA Quadro 410	-	-	-	-
NVIDIA NVS 510	-	-	-	-
NVIDIA Quadro K420	-	-	-	-
NVIDIA Quadro K600	-	-	-	-
NVIDIA Quadro K620	-	-	-	-
NVIDIA Quadro K1200	-	-	-	-
AMD FirePro v3900	-	-	-	-
AMD FirePro W2100	-	-	-	-
System RAM				
Minimum (GB)	2GB	2GB	2GB	2GB
Maximum (GB)	32GB	32GB	32GB	32GB
Hard Disks				
SATA Controllers	5	5	5	5
All Supported SAS Disk Drives				
All Supported SSD Disk Drives	-	-	-	-
All Supported SATA Disk Drives less than 3TB	-	-	-	-
All Supported SATA Disk Drives 3TB and larger	7	7	7	7
All Supported USB Drive Keys	-	-	-	-
Z Turbo Drive PCIe-attached storage	10	10	10	10
Network Cards (no modem support)				
Intel i210-T1 GbE PCIe NIC	-	-	-	-
Wireless Intel 6205 or 7260 802.110 a/b/g/n PCIe1 NIC	11	-	-	-
HP X520 10GbE Dual Port Adapter (and SFP+ SR Transceiver)	-	-	-	-
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	-	-	-	-
Thunderbolt™ PCI-E Card (see footnote 9)				
Removable CD/DVD Media				
HP 16x DVD-ROM Drive	-	-	-	-
HP 16x Super Multi DVD+RW	3	3	3	3
HP BD-RE (Blu-Ray writer)	3	3	3	3
Input/Output Devices (no spaceball support)				
HP Mouse, PS/2 or USB	-	-	-	-
HP Standard Keyboard, USB/PS2	-	-	-	-
TPM Module/ Smart Card				
HP Media Card Reader	-	-	-	-
HP Printers	6	6	6	6
All Supported Monitors	-	-	-	-

footnote 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.

footnote 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 z230 in the **Enter my HP model number** field, select **Find my product**, and then select **HP Z230 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.

footnote 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.

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

footnote 5 - The Z230 SFF can support up to 2 SATA drives.

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

footnote 7 - In general, single drives or volumes larger than 2.2TB 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.

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

footnote 9 - 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, neither SLED 11 SP3 nor RHEL 6.5 incorporates significant Thunderbolt support.

footnote 10 - The Z Turbo Drive PCIe-attached storage device has its own controller and is supported by the standard ahci kernel module in supported OSes.

footnote 11 - Support for this device is available in updates from SUSE or from the HP Installer Kit for Linux disk image (see footnote 2).

Linux Hardware Matrix for HP Workstations				
HP Z230 Tower Workstation				
Originally certified with SLED 11 SP3 (x86_64), RHEL 6.5 (x86_64). Also certified with RHEL 7.0.				
This page is not complete without the General Notes (first page of the matrix).				
Product Items/Features (Blank box or unlisted means the 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 310	-	-	-	-
NVIDIA NVS 315	-	-	-	-
NVIDIA Quadro 410	-	-	-	-
NVIDIA NVS 510	-	-	-	-
NVIDIA Quadro K420	-	-	-	-
NVIDIA Quadro K600	-	-	-	-
NVIDIA Quadro K620	-	-	-	-
NVIDIA Quadro K2000	-	-	-	-
NVIDIA Quadro K2200	-	-	-	-
NVIDIA Quadro K4000	-	-	-	-
NVIDIA Quadro K4200	-	-	-	-
AMD FirePro v3900	-	-	-	-
AMD FirePro W2100	-	-	-	-
AMD FirePro W5100	-	-	-	-
AMD FirePro W7000	-	-	-	-
AMD FirePro W7100	-	-	-	-
System RAM				
Minimum (GB)	2GB	2GB	2GB	2GB
Maximum (GB)	32GB	32GB	32GB	32GB
Hard Disks				
SATA Controllers	5	5	5	5
All Supported SAS Disk Drives	-	-	-	-
All Supported SSD Disk Drives	-	-	-	-
All Supported SATA Disk Drives less than 3TB	-	-	-	-
All Supported SATA Disk Drives 3TB and larger	7	7	7	7
All Supported USB Drive Keys	-	-	-	-
Z Turbo Drive PCIe-attached storage	10	10	10	10
Network Cards (no modem support)				
Intel i210-T1 GbE PCIe NIC	-	-	-	-
Intel X540 10GbBase-T Dual Port Adapter (RJ45 -Copper)	-	-	-	-
Wireless Intel 6205 or 7260 802.110 a/b/g/n PCIe1 NIC	11	-	-	-
HP X520 10GbE Dual Port Adapter (and SFP+ SR Transceiver)	-	-	-	-
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	-	-	-	-
Creative Recon3D PCIe Audio Card	-	-	-	-
Thunderbolt™ PCI-E Card (see footnote 9)	-	-	-	-
Removable CD/DVD Media				
HP 16x DVD-ROM Drive	-	-	-	-
HP 16x Super Multi DVD+RW	3	3	3	3
HP BD-RE (Blu-Ray writer)	3	3	3	3
Input/Output Devices (no spaceball support)				
HP Mouse, PS/2 or USB	-	-	-	-
HP Standard Keyboard, USB/PS2	-	-	-	-
TPM Module/ Smart Card	-	-	-	-
HP Media Card Reader	-	-	-	-
HP Printers	6	6	6	6
All Supported Monitors	-	-	-	-

footnote 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.

footnote 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 `z230` in the **Enter my HP model number** field, select **Find my product**, and then select **HP Z230 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.

footnote 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.

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

footnote 5 - The Z230 Tower can support up to 3 SATA drives.

footnote 6 - For more info about Linux driver support for HP printers, go to <http://www.hp.com>.

footnote 7 - In general, single drives or volumes larger than 2.2TB 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.

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

footnote 9 - 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, neither SLED 11 SP3 nor RHEL 6.5 incorporates significant Thunderbolt support.

footnote 10 - The Z Turbo Drive PCIe-attached storage device has its own controller and is supported by the standard ahci kernel module in supported OSes.

footnote 11 - Support for this device is available in updates from SUSE or from the HP Installer Kit for Linux disk image (see footnote 2).

Linux Hardware Matrix for HP Workstations

HP Z400 Workstation

This page is not complete without the General Notes (first page of the matrix).

Product Items/Features (Blank box or unlisted means the component is NOT functional w/ as-is OS)	RHEL WS 4.8 or later (x86 & EM64T)	RHEL DT 5.3 or later (x86 & x86_64)	RHEL WS 6.0 or later (x86 & x86_64)	SLED11 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 (1 CPU configs)	-	-	-	-
Hyperthreading	-	-	-	-
Graphics Card (Video Card) (see footnote 2)				
No Graphics Card	-	-	-	-
NVIDIA Quadro NVS 295	-	-	-	-
NVIDIA Quadro NVS 300	-	-	-	-
NVIDIA Quadro NVS 450	-	-	-	-
NVIDIA Quadro FX380	-	-	-	-
NVIDIA Quadro 400	-	-	-	-
NVIDIA Quadro FX580	-	-	-	-
NVIDIA Quadro 600	-	-	-	-
NVIDIA Quadro FX1800	-	-	-	-
NVIDIA Quadro 2000	-	-	-	-
NVIDIA Quadro FX3800	-	-	-	-
NVIDIA Quadro 4000	-	-	-	-
NVIDIA Quadro FX4800	-	-	-	-
NVIDIA Quadro 5000	-	-	-	-
NVIDIA Tesla C2075	-	-	-	-
ATI v2270 PCIe - Single Card Supported	-	-	-	-
ATI v3700 PCIe - Single Card Supported	-	-	-	-
ATI v5700 PCIe - Single Card Supported	-	-	-	-
ATI v7750 PCIe - Single Card Supported	-	-	-	-
ATI v3800 PCIe - Single Card Supported	-	-	-	-
ATI v3900 PCIe - Single Card Supported	-	-	-	-
ATI v4800 PCIe - Single Card Supported	-	-	-	-
ATI v4900 PCIe - Single Card Supported	-	-	-	-
ATI v5800 PCIe - Single Card Supported	-	-	-	-
ATI v5900 PCIe - Single Card Supported	-	-	-	-
ATI v7900 PCIe - Single Card Supported	-	-	-	-
System RAM				
Minimum (GB)	1GB	1GB	1GB	1GB
Maximum (GB)	24GB	24GB	24GB	24GB
Hard Disks				
All Supported SAS Disk Drives	4	4	4	4
All Supported SSD Disk Drives	-	-	-	-
All Supported SATA Disk Drives	4,5	4,5	4,5	4,5
All Supported USB Drive Keys	-	-	-	-
Network Cards (no modem support)				
Broadcom 5761 PCIe	-	-	-	-
Intel Pro 1000 CT Gigabit PCI	-	-	-	-
Intel NC360T PCIe Dual Port Gigabit NIC	-	-	-	-
Onboard Components				
Onboard LAN - Broadcom 5764 10/100/1000	-	-	-	-
Onboard Audio	-	-	-	-
Onboard SATA RAID	4	4	4	4
Add Ons				
LSI 3041E SAS Card	4	4	4	4
LSI 8888 ELP	4	4	4	4
LSI 9212-4i	4	4	4	4
LSI 9260-8i	4	4	4	4
IEEE 1394A PCI Card			-	-
IEEE 1394A PCI-E Card			-	-
IEEE 1394B PCI-E Card			-	-
USB 3.0 PCI-E Card			-	-
Creative Sound Blaster X-Fi			-	-
Removable CD/DVD Media				
HP 16x DVD-ROM Drive	-	-	-	-
HP 16x Super Multi DVD+RW	3	3	3	3
HP BD-RE (writer)	-	-	-	-
Input/Output Devices (no spaceball support)				
HP 3-Button Mouse, PS/2	-	-	-	-
HP Scroll Mouse, PS/2	-	-	-	-
HP Optical Scroll Mouse, USB	-	-	-	-
HP Standard Keyboard, USB/PS2	-	-	-	-
TPM Module/ Smart Card				
Z2 in 1 Card Reader				
HP Printers	6	6	6	6
All Supported Monitors	-	-	-	-

footnote 1 - Localization supported: (ABA US English, ABC French Canadian, ABD Germany, ABE Spain, ABF France, ABG Australia, ABU UK English, ABJ Japan, AB2 China (PRC), AB4 Singapore/ Malaysia, ABZ Italy, AB5 Hong Kong, ACF Japan-English, ACJ India-English, ABO Taiwan, AK6 Europe A4, ACO Belgium, ABS Sweden, ABB Int'l English).

footnote 2 - Get the latest drivers, "HP Installer Kit for Linux - HP Driver CD for Red Hat Enterprise Linux 4.7", "HP Installer Kit for Linux - HP Driver CD for Red Hat Enterprise Linux 5.3", and "HP Installer Kit for Linux - HP Driver CD for SuSE Linux Enterprise Desktop 11" ISO images from <http://www.hp.com/support/z400>. Under **Download options**, select **Get drivers, software & firmware**.

footnote 3 - Linux growisofs supports DVD+RW and Blu-ray media on Red Hat EL WS 4 or later, Red Hat EL 5 Desktop or later and SLED11 or later. For drives that have the Lightscribe functionality, go to www.lightscribe.com for software to enable the labeling feature.

footnote 4 - Hardware RAID is supported using the LSI 3041E (RAID 0, 1 SAS only), LSI 8888 ELP (RAID 0, 1, 5 SAS only), LSI 9212 (RAID 0, 1 SAS only) and the LSI 9260-8i (RAID 0, 1, 5 SAS only). SATA RAID is not supported.

footnote 5 - The Z400 can support up to 4 SATA drives. To support the third and fourth SATA drives, you must acquire the Optical Bay Conversion Kit for each drive.

footnote 6 - For more info about Linux driver support for HP printers, go to <http://www.hpip.net>.

footnote 7 - Hyperthreading is supported on platforms when the processor allows it. There are one or two low-end processors which do not support turbo mode or hyperthreading.

Linux Hardware Matrix for HP Workstations

HP Z600 Workstation

This page is not complete without the General Notes (first page of the matrix).

Product Items/Features (Blank box or unlisted means the component is NOT functional w/ as-is OS)	RHEL WS 4.8 or later (x86 & EM64T)	RHEL DT 5.3 or later (x86 & x86_64)	RHEL WS 6.0 or later (x86 & x86_64)	SLED11 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 (1 & 2 CPU configs)	-	-	-	-
Hyperthreading	-	-	-	-
Graphics Card (Video Card) (see footnote 2)				
No Graphics Card	-	-	-	-
NVIDIA Quadro NVS 295	-	-	-	-
NVIDIA Quadro NVS 300	-	-	-	-
NVIDIA Quadro NVS 450	-	-	-	-
NVIDIA Quadro FX380	-	-	-	-
NVIDIA Quadro 400	-	-	-	-
NVIDIA Quadro FX580	-	-	-	-
NVIDIA Quadro 600	-	-	-	-
NVIDIA Quadro FX1800	-	-	-	-
NVIDIA Quadro 2000	-	-	-	-
NVIDIA Quadro FX3800	-	-	-	-
NVIDIA Quadro 4000	-	-	-	-
NVIDIA Quadro FX4800	-	-	-	-
NVIDIA Quadro 5000	-	-	-	-
NVIDIA Quadro 6000	-	-	-	-
ATI v2270 PCIe - Single Card Supported	-	-	-	-
ATI v3700 PCIe - Single Card Supported	-	-	-	-
ATI v5700 PCIe - Single Card Supported	-	-	-	-
ATI v7750 PCIe - Single Card Supported	-	-	-	-
ATI v3800 PCIe - Single Card Supported	-	-	-	-
ATI v3900 PCIe - Single Card Supported	-	-	-	-
ATI v4800 PCIe - Single Card Supported	-	-	-	-
ATI v4900 PCIe - Single Card Supported	-	-	-	-
ATI v5800 PCIe - Single Card Supported	-	-	-	-
ATI v5900 PCIe - Single Card Supported	-	-	-	-
ATI v7900 PCIe - Single Card Supported	-	-	-	-
System RAM				
Minimum (GB)	1GB	1GB	1GB	1GB
Maximum (GB)	48GB	48GB	48GB	48GB
Hard Disks				
All Supported SAS Disk Drives	5	5	5	5
All Supported SSD Disk Drives	-	-	-	-
All Supported SATA Disk Drives	5	5	5	5
All Supported USB Drive Keys	-	-	-	-
Network Cards (no modem support)				
Broadcom 5761 PCIe	-	-	-	-
Intel Pro 1000 CT Gigabit PCI	-	-	-	-
Intel NC360T PCIe Dual Port Gigabit NIC	-	-	-	-
Onboard Components				
Onboard LAN - Broadcom 5764 10/100/1000	-	-	-	-
Onboard Audio	-	-	-	-
Onboard SATA RAID	5	5	5	5
Add Ons				
LSI 3041E SAS Card	5	5	5	5
LSI 8888 ELP	5	5	5	5
LSI 9212-4i	5	5	5	5
LSI 9260-8i	5	5	5	5
IEEE 1394A PCI Card	-	-	-	-
IEEE 1394A PCI-E Card	-	-	-	-
IEEE 1394B PCI-E Card	-	-	-	-
USB 3.0 PCI-E Card	-	-	-	-
Creative Sound Blaster X-Fi	-	-	-	-
Removable CD/DVD Media				
HP 16x DVD-ROM Drive	-	-	-	-
HP 16x Super Multi DVD+RW	4	4	4	4
HP BD-RE (writer)	-	-	-	-
Input/Output Devices (no spaceball support)				
HP 3-Button Mouse, PS/2	-	-	-	-
HP Scroll Mouse, PS/2	-	-	-	-
HP Optical Scroll Mouse, USB	-	-	-	-
HP Standard Keyboard, USB/PS2	-	-	-	-
TPM Module/ Smart Card	-	-	-	-
22 in 1 Card Reader	-	-	-	-
HP Printers	6	6	6	6
All Supported Monitors	-	-	-	-

footnote 1 - Localization supported: (ABA US English, ABC French Canadian, ABD Germany, ABE Spain, ABF France, ABG Australia, ABU UK English, ABJ Japan, ABZ China (PRC), AB4 Singapore/ Malaysia, ABZ Italy, AB5 Hong Kong, ACF Japan-English, ACJ India-English.

footnote 2 - Not orderable integrated into systems. Order AMO (After Market Only) kit.

footnote 3 - Get the latest drivers, "HP Installer Kit for Linux - HP Driver CD for Red Hat Enterprise Linux 4.7", "HP Installer Kit for Linux - HP Driver CD for Red Hat Enterprise Linux 5.3", and "HP Installer Kit for Linux - HP Driver CD for SuSE Linux Enterprise Desktop 11" ISO images from <http://www.hp.com/support/z600>. Under **Download options**, select **Get drivers, software & firmware**.

footnote 4 - Linux growisofs supports DVD+RW and Blu-ray media on Red Hat EL WS 4 or later, Red Hat EL 5 Desktop or later and SLED11 or later. For drives that have the Lightscribe functionality, go to www.lightscribe.com for software to enable the labeling feature.

footnote 5 - Hardware RAID is supported using the LSI 3041E (RAID 0, 1 SAS only), LSI 8888 ELP (RAID 0, 1, 5 SAS only), LSI 9212 (RAID 0, 1 SAS only), and the LSI 9260-8i (RAID 0, 1, 5 SAS only). SATA RAID is not supported.

footnote 6 - For more info about Linux driver support for HP printers, go to <http://www.hpip.net>.

footnote 7 - Hyperthreading is supported on platforms when the processor allows it. There are one or two low-end processors which do not support turbo mode or hyperthreading.

Linux Hardware Matrix for HP Workstations

HP Z800 Workstation

This page is not complete without the General Notes (first page of the matrix).

Product Items/Features (Blank box or unlisted means the component is NOT functional w/ as-is OS)	RHEL WS 4.8 or later (x86 & EM64T)	RHEL DT 5.3 or later (x86 & x86_64)	RHEL WS 6.0 or later (x86 & x86_64)	SLED11 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 (1 & 2 CPU configs)	-	-	-	-
Hyperthreading	-	-	-	-
Graphics Card (Video Card) (see footnote 2)				
No Graphics Card	-	-	-	-
NVIDIA Quadro NVS 295	-	-	-	-
NVIDIA Quadro NVS 300	-	-	-	-
NVIDIA Quadro NVS 450	-	-	-	-
NVIDIA Quadro FX380	-	-	-	-
NVIDIA Quadro 400	-	-	-	-
NVIDIA Quadro FX580	-	-	-	-
NVIDIA Quadro 600	-	-	-	-
NVIDIA Quadro FX1800	-	-	-	-
NVIDIA Quadro 2000	-	-	-	-
NVIDIA Quadro FX3800	-	-	-	-
NVIDIA Quadro 4000	-	-	-	-
NVIDIA Quadro FX4800	-	-	-	-
NVIDIA Quadro 5000	-	-	-	-
NVIDIA Quadro FX5800	-	-	-	-
NVIDIA Quadro 6000	-	-	-	-
Tesla C1060	-	-	-	-
Tesla 3GB C2050	-	-	-	-
NVIDIA Tesla C2075	-	-	-	-
ATI v2270 PCIe - Single Card Supported	-	-	-	-
ATI v3700 PCIe - Single Card Supported	-	-	-	-
ATI v5700 PCIe - Single Card Supported	-	-	-	-
ATI v7750 PCIe - Single Card Supported	-	-	-	-
ATI v3800 PCIe - Single Card Supported	-	-	-	-
ATI v3900 PCIe - Single Card Supported	-	-	-	-
ATI v4800 PCIe - Single Card Supported	-	-	-	-
ATI v4900 PCIe - Single Card Supported	-	-	-	-
ATI v5800 PCIe - Single Card Supported	-	-	-	-
ATI v5900 PCIe - Single Card Supported	-	-	-	-
ATI v7900 PCIe - Single Card Supported	-	-	-	-
ATI v8800 PCIe - Single Card Supported	-	-	-	-
System RAM				
Minimum (GB)	1GB	1GB	1GB	1GB
Maximum (GB)	192GB	192GB	192GB	192GB
Hard Disks				
All Supported SAS Disk Drives	5	5	5	5
All Supported SSD Disk Drives	-	-	-	-
All Supported SATA Disk Drives	5	5	5	5
All Supported USB Drive Keys	-	-	-	-
Network Cards (no modem support)				
Broadcom 5764 PCIe	-	-	-	-
Intel Pro 1000 CT Gigabit PCI	-	-	-	-
Intel NC360T PCIe Dual Port Gigabit NIC	-	-	-	-
Intel Pro 1000 GT Gigabit PCI	-	-	-	-
Onboard Components				
Onboard LAN - Broadcom 5764 10/100/1000	-	-	-	-
Onboard Audio	-	-	-	-
Onboard SATA RAID	5	5	5	5
Onboard SAS RAID	5	5	5	5
Add Ons				
IEEE 1394A PCI Card			-	-
IEEE 1394A PCI-E Card			-	-
IEEE 1394B PCI-E Card			-	-
USB 3.0 PCI-E Card			-	-
Creative Sound Blaster X-Fi		-	-	-
LSI 8888 ELP	5	5	5	5
LSI 9260-8i	5	5	5	5
Removable CD/DVD Media				
HP 16x DVD-ROM Drive	-	-	-	-
HP 16x Super Multi DVD+RW	4	4	4	4
HP BD-RE (writer)	-	-	-	-
Input/Output Devices (no spaceball support)				
HP 3-Button Mouse, PS/2	-	-	-	-
HP Scroll Mouse, PS/2	-	-	-	-
HP Optical Scroll Mouse, USB	-	-	-	-
HP Standard Keyboard, USB/PS2	-	-	-	-
TPM Module/ Smart Card				
22 in 1 Card Reader		-	-	-
HP Printers	6	6	6	6
All Supported Monitors	-	-	-	-

Footnote 1 - Localization supported: (ABA US English, ABC French Canadian, ABD Germany, ABE Spain, ABF France, ABG Australia, ABU UK English, ABJ Japan, AB2 China (PRC), AB4 Singapore/ Malaysia, ABZ Italy, ABS Hong Kong, ACF Japan-English, ACJ India-English).

Footnote 2 - Not orderable integrated into systems. Order AMO (After Market Only) kit.

Footnote 3 - Get the latest drivers, "HP Installer Kit for Linux - HP Driver CD for Red Hat Enterprise Linux 4.7", "HP Installer Kit for Linux - HP Driver CD for Red Hat Enterprise Linux 5.3", and "HP Installer Kit for Linux - HP Driver CD for SuSE Linux Enterprise Desktop 11" ISO images from <http://www.hp.com/support/z800>. Under **Download options**, select **Get drivers, software & firmware**.

Footnote 4 - Linux growisofs supports DVD+RW and Blu-ray media on Red Hat EL WS 4 or later, Red Hat EL 5 Desktop or later and SLED11 or later. For drives that have the Lightscribe functionality, go to www.lightscribe.com for software to enable the labeling feature.

Footnote 5 - Hardware RAID is supported using the LSI 8888 ELP (RAID 0, 1, 5 SAS only), LSI 8888 ELP (RAID 0, 1, 5 SAS only), LSI 9260-8i (RAID 0, 1, 5 SAS only), and the Onboard SAS RAID (RAID 0,1). SATA RAID is not supported.

Footnote 6 - For more info about Linux driver support for HP printers, go to <http://www.hpip.net>.

Footnote 7 - Hyperthreading is supported on platforms when the processor allows it. There are one or two low-end processors which do not support turbo mode or hyperthreading.