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 User Guides 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: https://access.redhat.com/ecosystem/search/#/ecosystem
Ubuntu: http://www.ubuntu.com/certification/desktop

How to Use this Document

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

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

Ninth Edition: May 2019
Document part number: 862609-009

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 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 (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
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)	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
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 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 PCIex1 NIC				•	•
Onboard Components					
Onboard LAN - Intel 52574L Gigabit	•	•	•	•	•
Onboard LAN - Intel 52579LM Gigabit	•	•	•	•	•
Onboard Audio	•	•	•	•	•
Onboard SATA AHCI RAID	5	5	5	5	5
Onboard SCU RAID	5	5	5	5	5
Onboard SAS RAID	5	5	5	5	5
TPM Module/ Smart Card					
USB 3.0 support	8	•	•	•	•
Add Ons					
IEEE 1394B PCI-E Card		•	•	•	•
LSI 9260-8i and 9270-8i	5	5	5	5	5
Fusion ioFX 410GB PCIe Accelerator	12	12	12	12	12
Intel Xeon Phi 3120AIB Compute Processor		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
HP Slot Load DVD +/-RW Drive	•	•	•	•	•
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	•	•	•	•	•
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 - 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 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), 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.hplip.net.

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."