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INSTALLING MICROSOFT WINDOWS SERVER 2016 ON HP Z2 MINI G4, Z240, Z440, Z640, AND Z840 WORKSTATIONS

BEFORE YOU BEGIN

Before starting this process, note the following:

- It is very important to be aware of the Microsoft Windows operating system licensing requirements. Contact your Microsoft licensing representative for the proper licensing requirements.
- The Web URLs listed in this document are for additional reference. URLs are subject to change or termination. HP makes no attempt to assure that these URLs are current.
- By providing this document, HP is not liable for providing any additional consulting services. Contact your HP Sales Representative or Channel Partner to arrange for additional HP Consulting Services.
- This document is not meant to be comprehensive in supporting all the possible configurations of the HP Z G4, HP Zx40, and HP Z2 Mini G4 Workstations. Instead, it provides sufficient information to enable key hardware devices.



Warning

You should always back up all important data (such as personal files, photos, videos, documents, applications, software) before beginning the converter process to avoid any possibility of losing your data. See <https://support.hp.com/us-en/document/c03270359> for more information.

Following the installation steps outlined in this document will erase your hard drive. If your hard drive already contains information you need to retain, be sure to make a backup copy to a separate location before proceeding with the installation.



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THINGS YOU NEED BEFORE YOU BEGIN

Make sure you have the following items before you begin:

- This document.
- Additional information that will assist your installation, such as: hardware inventory and applications and OS licensing.

SUPPORT PLAN

HP does not sell or support the Microsoft Windows Server 2016 operating system on the HP Z G4, HP Zx40, and HP Z2 Mini G4 Workstations.

Microsoft support

The HP Z240, Z440, Z640, and Z840 Workstations are certified by Microsoft for Windows 7 Professional 32- and 64-bit, Windows 8.1 Pro 64-bit, and Windows 10 Pro 64-bit operating systems. The HP Z2 Mini G4, Z4 G4, Z6 G4, and Z8 G4 Workstations are certified by Microsoft for Windows 7 Professional 64-bit and Windows 10 Pro 64-bit operating systems. The HP Z2 G4 Workstations are certified by Microsoft for the Windows 10 Pro 64-bit operating system. The HP Z G4, HP Zx40, and HP Z2 Mini G4 Workstations are not certified by Microsoft for any Windows Server operating system.

HP support

All HP support provided for the HP Z G4, HP Zx40, and HP Z2 Mini G4 Workstations is subject to and governed by the terms and conditions pursuant to which you received the system and its related package and options from HP. Hardware support will be covered under the standard warranty and support or related upgrade options that were purchased with the system. Support can only be provided if issues have been duplicated on a supported operating system.

OPERATING SYSTEM INSTALLATION PROCESS

This section will detail the steps to install Windows Server 2016 operating system (OS) on the desired HP Workstation.

Step 1: Have the Windows Server 2016 operating system media readily accessible.

Step 2: Obtain Plug-and-Play drivers for the HP Z G4, HP Zx40, and HP Z2 Mini G4 Workstations:

The Intel® storage drivers are required to install the OS on the HP Workstation system, and can be found in the driver list below. Additional drivers are needed after OS installation for full functionality of some system devices, including the chipset, management engine (ME), and onboard network adapter. HP recommends installing the latest drivers to ensure the best system performance. Refer to the driver list below for more information.

Updated drivers for HP Workstation products can be obtained from www.hp.com or the [HP SoftPaq Download Manager \(SDM\)](#). Microsoft Windows 10 Pro (64-bit) drivers should be used on HP Workstation products to substitute for Microsoft Windows Server 2016 drivers.

To obtain the appropriate drivers:

- Go to the appropriate site depending on the system being imaged:

- http://www.hp.com/support/Z2_Mini_G3
- http://www.hp.com/support/z240_Tower
- http://www.hp.com/support/Z240_Small_Form_Factor
- <http://www.hp.com/support/Z440>
- <http://www.hp.com/support/Z640>
- <http://www.hp.com/support/Z840>
- http://www.hp.com/support/Z2_Tower_G4
- http://www.hp.com/support/Z2_Small_Form_Factor_G4
- http://www.hp.com/support/Z2_Mini_G4

- Navigate to: Download drivers and software -> Microsoft Windows 10 (64-bit)



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Note: Installations using an LSI 9217-4i4e, LSI 9270-8i, or HP Z840 Workstation onboard SAS (LSI2308) will use the Microsoft Windows inbox SAS driver. Installations using Microsemi SmartHBA 2100-4i4e SAS require the Microsemi SAS driver, and can be found in the driver list below.

Step 3: Install Microsoft Windows Server 2016 operating system from DVD or USB media. Please refer to [Getting Started with Windows Server 2016](#) for information regarding the available installation options.

Note: If the system initially came with Windows 7 installed, you need to restore BIOS factory defaults before installing Windows Server 2016. (WARNING: By following these steps, any BIOS changes that have been made to the system since receiving the system will be reverted back to their factory settings). Restoring defaults is not necessary if the system shipped with Windows 8/8.1 or Windows 10 installed. To restore factory defaults:

- a. Power on the system
- b. Hit the F10 key until Entering Setup appears at the bottom of the screen
- c. Navigate to Main -> Apply Factory Defaults and Exit
- d. Select Apply Factory Defaults and Exit, hit the enter key
- e. Select Yes to Apply Factory Defaults and Exit

• To install using UEFI (Unified Extensible Firmware Interface)

To install using UEFI, boot to the media by hitting the F9 key during BIOS POST, and select the UEFI – DVD/CDROM option to boot to the optical drive containing the OS media, or UEFI – USB option to boot to your USB flash drive containing the OS media.

To use UEFI, the destination hard drive must not have an existing MBR partition. UEFI requires a new partitioning method referred to as GPT. (See the Microsoft “Windows and GPT FAQ” at <http://msdn.microsoft.com/en-us/windows/hardware/gg463525> for more details). If you wish to install via UEFI and ensure there is no existing MBR partition, delete the existing volumes shown during the Microsoft Windows Server 2016 setup. More information on installing via UEFI can be found in the HP Support Document “[HP Z420, Z620, and Z820 Workstations – Installing UEFI-Based Microsoft Windows 7 \(x64\)](#)”.

• To install using MBR (Master Boot Record)

To install using an MBR partition, boot to the media by hitting the F9 key during BIOS POST, and select Legacy – DVD/CDROM option to Legacy boot to the optical drive containing the OS media. Make sure Legacy Mode is enabled in the BIOS.

Step 4: Update drivers

HP recommends updating the drivers on the system. At the very least, the BIOS, chipset, network adapter, management engine, and graphics drivers should be updated to enable full system functionality and features.

Download the following Microsoft Windows 10 Pro (64-bit) driver or newer SoftPaqs:

Download link: [HP Softpaq Download Manager \(SDM\)](#)

DRIVER	VERSION	SOFTPAQ #	PURPOSE	LOCATION
HP Z440/Z640/Z840 Workstations System BIOS	2.31 Rev. A	Sp78893.exe	Updates the system BIOS	BIOS
HP Z240 Workstation System BIOS	1.35 Rev. A	Sp78599.exe	Updates the system BIOS	BIOS
HP Z2 Mini G4 Workstation BIOS	1.05 Rev. A	Sp78601.exe	Updates the system BIOS	BIOS
HP Z8 G4/Z6 G4 Workstations System BIOS	1.51 A 1	Sp88031.exe	Updates the system BIOS	BIOS
HP Z4 G4 Workstation System BIOS	1.53 A 1	Sp88029.exe	Updates the system BIOS	BIOS
HP Z2 G4 Workstation System BIOS	01.01.06 A 1	Sp91994.exe	Updates the system BIOS	BIOS
Intel® Chipset Software Installation Utility (HP Z440, Z640, Z840 series workstations)	10.1.2.19 Rev. A	Sp75814.exe	Updates some of the onboard devices within the system	Driver—Chipset
Intel® Chipset Software Installation Utility (Z240, Z2 Mini G4 series workstations)	10.1.1.38 Rev. A	Sp78347.exe	Updates some of the onboard devices within the system	Driver—Chipset
Intel® C622 Chipset Driver (HP Z8 G4, Z6 G4 series workstations)	10.1.2.86 Rev. A 1	Sp82179.exe	Updates some of the onboard devices within the system	Driver—Chipset
Intel® C422 Chipset Driver for Z4 G4 (HP Z4 G4 series workstations)	10.1.1.44 B 2	Sp86825.exe	Updates some of the onboard devices within the system	Driver—Chipset



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Intel® C246 Chipset Driver for Windows 10-64bit (HP Z2 G4 series workstations)	10.1.17695.8086 A 1	Sp91987.exe	Updates some of the onboard devices within the system	Driver—Chipset
Intel® Management Engine Software v11.6 (HP Z240, Z2 Mini G4, Z440, Z640, Z840 series workstations)	11.6.0.1045 Rev. A	Sp78890.exe	Updates the driver for the Intel® Management Engine (“ME”)	Software—System Management
Intel® Management Engine Software (HP Z8 G4, Z6 G4, Z4 G4 series workstations)	11.7.0.1068 Rev. A 1	Sp86885.exe	Updates the driver for the Intel® Management Engine (“ME”)	Software—System Management
Intel® Management Engine Software v 12.0 (HP Z2 G4 series workstations)	1828.12.0.1151 A 1	Sp89093.exe	Updates the driver for the Intel® Management Engine (“ME”)	Software—System Management
Intel® Network Connections Driver Release 21.1 for Windows® 10 64-bit	Package R21_1437654 Rev. A	Sp78207.exe	Updates the onboard and add-in network controllers	Driver—Network
Intel® Network Connections Driver Release 22.3.1 (HP Z8 G4, Z6 G4, Z4 G4 series workstations)	Package R22.3.1_471679 B 2	Sp85254.exe	Updates the onboard and add-in network controllers	Driver—Network
Intel® Network Connections Driver for the Intel® X722 Ports (HP Z8 G4, Z6 G4 series workstations)	1.7.148.0 A 1	Sp82429.exe	Updates the onboard and add-in network controllers	Driver—Network
Intel® Network Connections Drivers Release 23.2 (HP Z2 G4 series workstations)	R23.2_498137 A 1	Sp91808.exe	Updates the onboard and add-in network controllers	Driver—Network
Intel® Rapid Storage Technology Microsoft Windows® (HP Z440, Z640, Z840 series workstations)	4.5.6.1004 Rev. A	Sp78569.exe	Updates the driver for the Intel® storage controllers	Driver—Storage
Intel® Rapid Storage Technology Microsoft Windows® (HP Z240 series workstations)	15.2.2.1030 Rev. A	Sp78720.exe	Updates the driver for the Intel® storage controllers	Driver—Storage
Intel® Rapid Storage Technology Microsoft Windows® (HP Z2 Mini G4 series workstations)	15.2.1.1028 Rev. A	Sp78345.exe	Updates the driver for the Intel® storage controllers	Driver—Storage
Intel® Rapid Storage Technology Enterprise for Windows® 10 (HP Z8 G4, Z6 G4, Z4 G4 series workstations)	5.3.1.1020 Rev. A 1	Sp84844.exe	Updates the driver for the Intel® storage controllers	Driver—Storage
Intel® Rapid Storage Technology for Windows 10 (HP Z2 G4 series workstations)	16.5.3.1031 A 1	Sp92115.exe	Updates the driver for the Intel® storage controllers	Driver—Storage
Microsemi SmartHBA 2100-4i4e Driver (HP Z8 G4, Z6 G4, Z4 G4 series workstations)	63.32.0.64 A 1	Sp87321.exe	Updates the driver for the Microsemi 2100-4i4e SAS storage controller	Driver—Storage
Realtek Audio Driver Windows® 7/8/8.1/10 (HP Z240, Z440, Z640, Z840 series workstations)	6.0.1.7945 Rev. A	Sp78721.exe	Allows proper functionality of the Realtek audio device	Driver—Audio
Realtek Audio Driver Windows® 7/8/8.1/10 (HP Z2 Mini G4 series workstations)	6.0.1.7898 Rev. A	Sp78411.exe	Allows proper functionality of the Realtek audio device	Driver—Audio
Realtek HD Audio Driver for Windows® 7/10 (HP Z8 G4, Z6 G4, Z4 G4 series workstations)	6.0.1.8356 A 1	Sp85293.exe	Allows proper functionality of the Realtek audio device	Driver—Audio
Synaptics Audio Driver for Windows 10 64-bit (HP Z2 G4 series workstations)	8.65.292.0 A 3	Sp91696.exe	Allows proper functionality of the Synaptics audio device	Driver—Audio
Intel® PROset/Wireless for Bluetooth technology (HP Z2 Mini G4 series workstations)	19.00.1629.3590 Rev. B	Sp77547.exe	Updates the driver for the Bluetooth controller	Driver — Controllers
Intel® PROset/Wireless LAN technology driver (HP Z2 Mini G4 series workstations)	19.20.6 Rev. A	Sp78917.exe	Updates the Wireless LAN driver	Driver — Network



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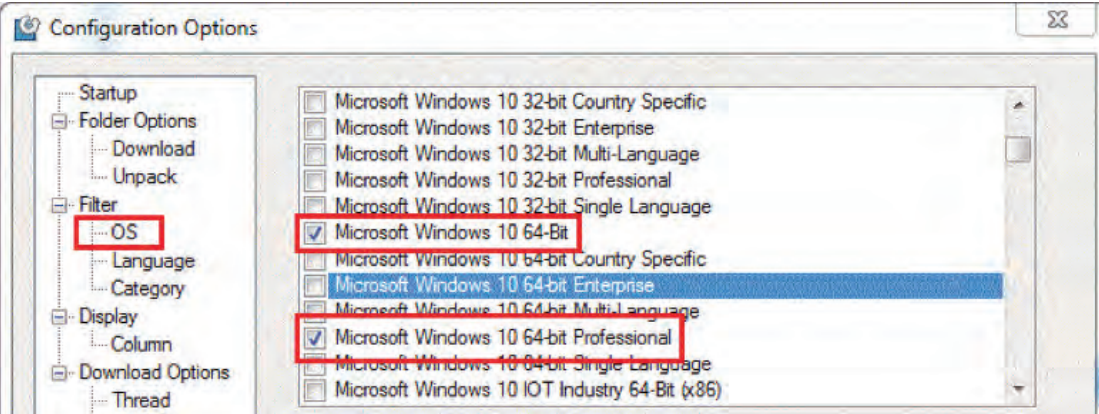
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DRIVER	VERSION	SOFTPQAQ #	PURPOSE	LOCATION
Intel® Wireless LAN Technology Driver for Windows 10 (HP Z2 G4 series workstations)	20.50.1.1 A 1	***	Updates the Wireless LAN driver	Driver – Network
Intel® Bluetooth Technology Driver for Windows 10 (HP Z2 G4 series workstations)	20.60.0.4 B 1	***	Updates the driver for the Bluetooth controller	Driver – Controllers

*** Intel® Bluetooth and Intel® Wireless LAN drivers for the Z2 G4 series workstations are not signed for the Windows® Server Operating System and may not install correctly.

When searching HP SDM for Softpaqs, ensure the following OS options are checked in Tools -> Configuration Options:



In the Product Catalog pane, make sure to select “Microsoft Windows 10 64-bit” as the desired OS for your HP workstation. Below is an example using the HP Z840 Workstation:





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SUMMARY

Thank you for your purchase of, and interest in, HP Workstations. We hope this document was useful. For additional products and services that might meet the needs for your organization, please contact your HP Sales Representative or Channel Partners.

APPENDIX A: ADDITIONAL HP SUPPORT URLS

- HP Workstations
<http://www8.hp.com/us/en/campaigns/workstations/overview.html>
- HP support and drivers
<http://welcome.hp.com/country/us/eng/support.html>
- HP driver subscriptions, alerts and notifications
<http://www.hp.com/united-states/subscribe/gateway>
- HP Z440, HP Z640, and HP Z840 Workstation Maintenance and Service Guide
<http://h10032.www1.hp.com/ctg/Manual/c04856247>
- HP Z240 Workstation Maintenance and Service Guide
<http://h10032.www1.hp.com/ctg/Manual/c04897695>
- HP Z2 Mini G4 Workstation Maintenance and Service Guide
<http://h10032.www1.hp.com/ctg/Manual/c05350570>
- HP Z8 G4 Workstation Maintenance and Service Guide
<http://h10032.www1.hp.com/ctg/Manual/c06005086>
- HP Z6 G4 Workstation Maintenance and Service Guide
<http://h10032.www1.hp.com/ctg/Manual/c05808375>
- HP Z4 G4 Workstation Maintenance and Service Guide
<http://h10032.www1.hp.com/ctg/Manual/c06009189>
- HP Z2 Tower G4 Workstation Maintenance and Service Guide
<http://h10032.www1.hp.com/ctg/Manual/c06099795>
- HP Z2 Small Form Factor G4 Workstation Maintenance and Service Guide
<http://h10032.www1.hp.com/ctg/Manual/c06099780>
- HP Z2 Mini G4 Workstation Maintenance and Service Guide
<http://h10032.www1.hp.com/ctg/Manual/c06099688>

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4AA6-9620ENW, July 2020.

