#### Windows 10 and Windows 11 Installation

Lenovo ThinkStation P3 Tower, P3 Ultra, P3 Tiny



Lenovo

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#### Overview

The purpose of this document is to provide guidance for users on how to install a Windows 10 or Windows 11 retail operating system on the ThinkStation P3 system.

#### Section 1 – Booting to Windows Installation Media

The first step before installing Windows is to create an installation media. This media can be created using Microsoft's Windows Installation Assistant Tool, which can be found on Microsoft's support website.

1. Insert the Windows installation media (either through USB or CD/DVD) and power on the system. Press the F12 key whenever the following Lenovo splash screen appears.



2. Select the proper Windows bootable installation media option from the F12 boot menu. Only bootable drives will be visible in this menu. If the system successfully boots to the installation media, proceed to <u>Section 2</u>.

ThinkStation.	Startup Device M Uefi Boot Options: Network 1-[UEFI: PXE IPv4 I USB HDD 1-[UEFI: Samsung	enu ntel(R) Ethernet Connection (22) I219-LM] Flash Drive 1100, Partition 1]	
<u>වී</u> Boot Menu හි App Menu	Enter Setup		
Lenovo.	<ul> <li>↔ Select Menu</li> <li>tode</li> </ul>	Enter Select > Sub-Menu	ESC Exit
		Version 2.21.0052. Copyright (C) 2022 AMI	

Note: Legacy boot is not supported on the P3 platforms. Only UEFI bootable options will be available.

 If the system fails to boot to the selected startup device, it may be necessary to disable Secure Boot. BIOS can be accessed by pressing "F1" on the Lenovo splash screen. From the main menu, select "Security", then scroll down the list on the right and select "Secure Boot".

ThinkStation	default setting. [No] - Flash BIOS to a previous or current version is allowed.		
	Windows UEFI Firmware Update	Enabled	~
	This option enables or disables windows UEFI firmware update feature. [Enabled] Allow windows UEFI firmware update. [Disabled] BIOS will skip windows UEFI firmware update.	L	
Start Menu	Smart USB Protection	Disabled	~
Main	Smart USB Protection could block copying data from the computer to the USB storage device in Windows		
A Devices	Read Only mode: the user can copy data from USB storage device to the Computer but cannot copy data from the computer to USB storage device No Access mode: the user cannot use USB storage device in Windows		
🛠 Advanced	secure wipe	Disabled	~
D Power	[Enabled] Display the "secure wipe" option on the F12 BIOS Startup Menu. Users can select this option to securely erase HDD data.		
🔒 Security	[Disabled] Hidden the "secure wipe" option on the F12 BIOS Startup Menu.		
Startup	> TCG Feature Setup		
5	Contains TCG security features.		
L→ Exit	> Secure Boot		
	Customizable Secure Boot settings		
	> Certificate-based BIOS Authentication		
Lenovo	> Computrace		
F1 Help	↓ Select Item +/- Change Values	F9 Setup Defaults	

4. In the drop-down box select "Disabled". It is highly recommended to turn this option back to "Enabled" once the Windows installation is completed.

ThinkStation	←	
I IIIINVLULIUII.	Secure Boot	
	System Mode	Deployed Mode
Start Menu	Secure Boot	Enabled
🛱 Main	[Enabled] Enables Secure Boot,BIOS will prevent un-authorised OS be loaded. [Disabled] Disables Secure Boot	Enabled
谷 Devices	feroneice) e concerce e conc	Disabled
₩ Advanced	> Restore Factory Keys	
O Power	Restore Factory Keys will put secure boot into factory defaults.	
🔒 Security	> Reset Platform to Setup Mode	
🖧 Startup	Reset to setup mode will move secure boot to setup mode.	
	> Exit Deployed Mode	
	Transition between Deployment and User Mode.	
	Allow Microsoft 3rd Party UEFI CA	Enabled 🗸
Lenovo	Ensolved initiosoft state Party UEELCA will be installed in Secure Boot DB. This device will trust it in Secure Boot. [Disabled] Microsoft 3rd Party UEFI CA will be removed in Secure Boot DB. NOTE: If add-on Cards are supported, Microsoft 3rd Party UEFI CA will not be	
F1 Help	↓ Select Item +/- Change Values	F9 Setup Defaults
ESC Exit	←→ Select Menu Enter Select > Sub-Menu	F10 Save and Exit

5. Select F10 to "Save and Exit" BIOS.

<b>ThinkStation</b>	← Secure Boot		
Start Menu       Main       Devices       Advanced       Power       Security       Startup       Exit	System Mode Secure Boot,BIOS will prevent un-authorised OS be Loaded. [Disable] Save & Restart Save configuration and restart? Restore Fac Secure Plat Reset to set Save Secure Plat Reset to set R	Deployed Mode Disabled	~
Lenovo.	Allow Microsoft 3rd Party UEFI CA [Enabled] Microsoft 3rd Party UEFI CA will be installed in Secure Boot DB. [Disabled] Microsoft 3rd Party UEFI CA will be removed in Secure Boot DB. NOTE: If add-on Cards are supported, Microsoft 3rd Party UEFI CA will not be	Enabled	~
F1 Help ESC Exit	14     Select Item     +/-     Change Values       €→     Select Menu     Enter     Select > Sub-Menu	F9 Setup Defaults F10 Save and Exit	

6. If the user is still encountering issues booting into the Windows Installation Media, enter BIOS on startup and press F9 to load the factory default BIOS settings or select the "Exit" menu option along the left column and then select "Load Factory Defaults" and select "Yes" at the prompt. Save the change by pressing F10.

Note: This will reset any BIOS setting changes made by the user.

ThinkStation	Save Changes and Exit Exit system Setup after saving the	changes.		
	Discard Changes and Exit Exit system Setup without saving	any changes.		
Start Menu	Save Custom Defaults Save the current changes as the cu	ustomized BIOS default settings.		
🛱 Main				
<b>쓴</b> Devices	Load Custom Defaults Restore/Load customized defaults	s settings.		
₩ Advanced	Load Factory Defaults			
D Power	Restore/Load Factory defaults val	ues for all the Setup options.		
🕂 Security				
🙇 Startup				
→ Exit				
Lenovo				
F1 Help	<b>↑</b> ↓ Select Item	+/- Change Values	F9 Setup Defaults	
ESC Exit	←→ Select Menu	Enter Select > Sub-Menu	F10 Save and Exit	
	,	Version 2.21.0052. Copyright (C) 2022 AMI		

<b>ThinkStation</b> . Start Menu	Save Changes and Exit Exit system Setup after saving the changes. Discard Changes and Exit Exit system Setup without saving any changes. Save Custom Defaults Save the current changes as the customized BIOS default settings.	
<ul> <li>Main</li> <li></li></ul>	Load Cust Restore/Loa Load Facto Restore/Loa Ves No	
FI Help ESC Exit	№     Select Item     +/-     Change Values     19     Setup Defaults       ↔     Select Menu     Enter     Select > Sub-Menu     E10     Save and Exit	

#### Section 2 – Windows Installation

Follow the steps below to proceed with the Windows installation. The installations for Windows 10 and Windows 11 are nearly identical, so these steps can be used for either OS version.

1. Select the following Language, Time, and Keyboard Layout and select "Next".

📫 Windows Setup	
-Windows*	
Languag <u>e</u> to install: <mark>(English (United States)</mark>	•
Time and currency formati English (United States)	<u>·</u>
Enter your language and other preferences and click "Next"	to continue.
© 2015 Microsoft Corporation. All rights reserved.	Next

2. Select "Install now" option.

📫 Windows Setup		- 0	×
	Windows		
	Install now		
Bepair your computer			
© 2015 Microsoft Corporation. All rights reserved.			

3. Enter the product key to activate Windows and press "Next", or press "I don't have a product key" to enter a valid product key later after the operating system has been installed.

9	🔏 Windows Setup		<u> </u>
	Activate Windows		
	If this is the first time you're installing Windows on 1 you need to enter a valid Windows product key. You email you received after buying a digital copy of Wi Windows came in.	this PC (or you're installing a different edition) Ir product key should be in the confirmation ndows or on a label inside the box that	
	The product key looks like this: XXXXX-XXXXX-XXXX	(X-XXXXX-XXXXX	
	If you're reinstalling Windows, select I don't have a automatically activated later.	product key. Your copy of Windows will be	
Pr	ivacy statement	I don't have a product key	Next

4. Some Windows installation media may have the option to select which edition should be installed.

Vindows 10 Home         x64         9/8/2022           Vindows 10 Home N         x64         9/8/2022           Vindows 10 Home Single Language         x64         9/8/2022           Vindows 10 Education         x64         9/8/2022           Vindows 10 Education N         x64         9/8/2022           Vindows 10 Education N         x64         9/8/2022           Vindows 10 Pro         x64         9/8/2022           Vindows 10 Pro N         x64         9/8/2022           scription:         ndows 10 Home         x64	)perating system	Architecture	Date modified
Vindows 10 Home N         x64         9/8/2022           Vindows 10 Home Single Language         x64         9/8/2022           Vindows 10 Education         x64         9/8/2022           Vindows 10 Education N         x64         9/8/2022           Vindows 10 Education N         x64         9/8/2022           Vindows 10 Pro         x64         9/8/2022           Vindows 10 Pro N         x64         9/8/2022           scription:         ndows 10 Home         Note	Vindows 10 Home	х64	9/8/2022
Vindows 10 Home Single Language         x64         9/8/2022           Vindows 10 Education         x64         9/8/2022           Vindows 10 Education N         x64         9/8/2022           Vindows 10 Education N         x64         9/8/2022           Vindows 10 Pro         x64         9/8/2022           Vindows 10 Pro N         x64         9/8/2022           scription:         ndows 10 Home	Vindows 10 Home N	x64	9/8/2022
Vindows 10 Education         x64         9/8/2022           Vindows 10 Education N         x64         9/8/2022           Vindows 10 Pro         x64         9/8/2022           Vindows 10 Pro N         x64         9/8/2022           scription:         ndows 10 Home	Vindows 10 Home Single Language	х64	9/8/2022
Vindows 10 Education N         x64         9/8/2022           Vindows 10 Pro         x64         9/8/2022           Vindows 10 Pro N         x64         9/8/2022           scription:         ndows 10 Home         Image: Non-State State	Vindows 10 Education	x64	9/8/2022
Vindows 10 Pro         x64         9/8/2022           Vindows 10 Pro N         x64         9/8/2022           scription:	Vindows 10 Education N	x64	9/8/2022
Vindows 10 Pro N x64 9/8/2022 scription: ndows 10 Home	Vindows 10 Pro	x64	9/8/2022
scription: ndows 10 Home	Vindows 10 Pro N	х64	9/8/2022
	scription: ndows 10 Home		

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5. Check the box next to "I accept the license terms" and select "Next".

Applicable notices and lice	ense terms
MICROSOFT SOFTWARE	LICENSE TERMS
WINDOWS OPERATING	SYSTEM
IF YOU LIVE IN (OR IF YOU UNITED STATES, PLEASE AND CLASS ACTION WA DISPUTES ARE RESOLVE	OUR PRINCIPAL PLACE OF BUSINESS IS IN) THE READ THE BINDING ARBITRATION CLAUSE IVER IN SECTION 11. IT AFFECTS HOW D.
Thank you for choosing	Microsoft!
Depending on how you ol agreement between (i) yo	otained the Windows software, this is a license u and the device manufacturer or software installer $\  \   \checkmark$
I accent the license terms	

- 6. Choose the type of installation to perform.
  - <u>To upgrade Windows from an earlier version of Windows</u>, select the "Upgrade" option below.
  - <u>To perform a clean OS installation</u>, select "Custom: Install Windows only (advanced)" option below. *For instructional purposes, this option was selected below.*

pgrade: Install Windows and keep files, settin the files, settings, and applications are moved to Windo ailable when a supported version of Windows is alrea	<b>ngs, and applications</b> ows with this option. This option is only dy running on the computer.
ustom: Install Windows only (advanced)	
e files, settings, and applications aren't moved to Win ake changes to partitions and drives, start the compu- commend backing up your files before you continue.	ndows with this option. If you want to ter using the installation disc. We
	42

If the user wishes to install Windows on drives configured in RAID, they
may encounter missing selectable volumes, as seen below. Jump to
<u>Section 3</u> for instruction on how to download & install supported RAID
drivers to allow Windows to see the RAIDed volumes.

If the target drive is not RAIDed, select the unallocated space, and click "Next".

Name		Total size Free spa.	Туре	
€ Befresh		Eormat	New	
A Load drivera	Extend	~		

Name		Total size	Free space	Туре
Orive 1 Una	illocated Space	953.9 GB	953.9 GB	
• Refrech	Delete	Format	Mew.	
<u>≯ R</u> efresh	X Delete	✓ Format	<mark>∦</mark> N <u>e</u> w	

8. The "Installing Windows" screen.



9. After the installation completes, the system will automatically reboot. The system should boot into Windows setup for the user to select regional and privacy preferences. The screens for this process can change periodically as newer versions of Windows are released. Make the appropriate personal choices for each selection to complete the Windows setup.

**Note:** It may be necessary to remove the installation media to prevent the system from restarting the Windows installation.

10. At this point, it will be necessary to download and install the appropriate device specific drivers. With a clean Windows installation these will typically include the chipset device driver, GPU video driver, and the appropriate network device driver. The user can check Window's Device Manager for any unidentified devices that need drivers. Any additional peripherals added to the system should also be configured with the proper device drivers. The device drivers for all Lenovo systems and supported peripherals can be found on the Lenovo Support website.

Windows 10 Default Desktop

#### Windows 11 Default Desktop



#### Section 3 – RAID Driver Installation

This section will provide instructions on how to install supported Intel RAID drivers during the Windows Installation process, which would allow RAIDed drive volumes to be selectable during the OS install. If the user is using an unsupported RAID controller, they will need to acquire the driver from the controller vendor or manufacturer.

If the user's system is configured for RAID and they see the screen below, it is likely the RAID driver will need to be loaded.

Name	Total size Free spa	. Туре	
ۥ Befresh	Eormat		

For this process, the user will need a second system with a working OS and internet connection to download the driver package from the Lenovo Support site. A working USB drive will also be required. The Windows installation USB can be used if a second USB is not available, though it will require the original system to be safely turned off before removing the USB. Furthermore, the install process will restart from the beginning once the USB is reinserted & booted to later.

 On the second system, use a web browser and go to the Lenovo Support site, search for the correct system by name and machine type (MT, typically combinations of four numbers and/or letters). Once found, select "Drivers & Software" and "Manual Driver Update". Select "Storage".



2. Select the corresponding driver for the Operating System being installed. The following steps will use the Windows 10 driver as an example.

	< Back To Manual Driver List Storage (3)					
-	Search by Keywords	Q Operating Syst	ems	<ul> <li>✓ Release</li> </ul>	e Date	~
23 Workstation	All Updates (3) Critical (1)	Recommended (2)				
I ninkStation)	File name	Size w	Version w	Release Date 💙	Severity ①	Options
Enter Serial Number	<ul> <li>Intel Rapid Storage Technolog Windows 11 (Version 22H2) -</li> </ul>	py Driver for 2.894 MB - ThinkStation P3	19.2.1.1006	26 Oct 2022	Critical	Details
Detect Product O Change Product	This package provides the sof	Itware for Intel Rapid Storage Technolo	gy Driver.			
Product Home	<ul> <li>Intel Rapid Storage Technolog Windows 10 IOT - ThinkStatic</li> </ul>	gy Driver for 2.894 MB on P3	19.2.1.1006	14 Jun 2022	Recommended	Details
1	This package isostall the Intel	Rapid Storage Technology Driver				
L Drivers & Software	C Intel Reald Planets Technolog	- Del (1	10.0.0.1000	DF 4 0000	Bernanded	Dutch
Troubleshoot & Diagnose	Windows 10 (Version 21H2, 2 21H2) - ThinkStation P3	22H2), 11 (Version	17.20.1003	25 Apr 2022	Recommended	Lectars
How To's	This package provides the sof	Itware for Intel Rapid Storage Technolo	gy Driver.			
- 100 105	Intel Rapid Storage Technolog	y Driver 2.88 MB	19.2.0.1003	25 Apr 2022	Recommended	Download
Guides & Manuals	View Checksum					
Warranty & Services	README	4.1 KB	19.2.0.1003	25 Apr 2022	Recommended	Download
Repair Status	View Checksum					
Parts	Additional Resources					
🖲 Trade-In	Popular Topics: Drivers, Drivers Upd	istoris and issues. late				
Contact Us						
O More						

3. Run the driver executable and select "I accept the agreement", then click Next.

Setup - Intel RSI driver —	
Please read the following important information before continuing.	C
Please read the following License Agreement. You must accept the terms of this agreement before continuing with the installation.	;
Lenovo License Agreement	^
L505-0009-01 04/2007	-
This Lenovo License Agreement (the "Agreement") applies to each Lenovo Software	
Product that You acquire, whether it is preinstalled on or included with a Lenovo hardware product, acquired separately, or downloaded by You from a Lenovo Web site or a third-party Web site approved by Lenovo. It also applies	
to any updates or patches to these Software Products.	~
I accept the agreement	
C I do not accept the agreement	
- North	<b>C</b>
Next	Cance

4. Select "Extract Only", then Next.

🛃 Setup - Intel RST driver		_		$\times$
Extract Or Install Do you want to Extract or Install the appl Inno Setup Modified by Lenovo - 2019/09	ication? /26 Script Version :	5.11	(	
Click "Next" to "Install" now or choose "E:	ktract only" if you w	rant to install	later.	
	< Back	Next	Ca	ncel

5. If not done already, insert a USB into the second system. If one is not available, the original system can be shut down and the Windows Installation USB then ejected and inserted into the second computer. Click "Browse" to select the root or another directory to save the drivers to. Once the file path is selected, click "Extract".

🛃 Setup - Intel RST driver	_		×
Select Destination Location Where should the Intel RST driver be installed?			
Setup will install the Intel RST driver into the following folder. To continue, click "Extract" or click "Browse" to select the folde	r of your	choice.	
C:\DRIVERS\u1ra126us17\20232601.10365734		Browse	
< Back	Extract	Ca	ancel

6. Click Finish. The USB key can be ejected from the second system.



7. Insert the USB into the original system. If the Windows Installation USB was used, the process will restart from the beginning once the system is powered back on. After the USB key has been inserted & the installation process is at this step, select "Load Driver".

		Total size Free spa.	_ Туре	
100040000000000	× Delete	Format		

8. Select "Browse" to find the driver.



9. Expand the USB drive and select the directory that has the Intel RAID drivers that were added in the previous steps. Directory names may vary based on driver versions.

Intel(R) Chipset SA	Browse for Folder	-	MD)\iaStorAC.in
	Browse to the driver, and then dick OK.		
	Occuments     Music     Music     Music     Modes     CCCOMA_V6#FRE_EN-US_DV9 (C:)     boot     efl     x64 (Non-Intel® VMD)	^	
<	> support	~	>

10. Verify that the system has identified the drivers necessary for the RAID array and select "Next". Exact driver names may vary based on the system and driver version.

Intel(R) Chips	et SATA/PCIe RST Premium	
<		>

11. Verify that the drive can now be seen properly. Return to Section 2 to finish the Windows installation. If the drive cannot be seen, repeat the steps in this section using a different driver if others are available.

pace	953.9	GB	953.9 GB	
<u>D</u> elete	<u>Eormat</u>		<mark>₩</mark> N <u>e</u> w	
	<u>D</u> elete	Delete	Delete JEormat	Delete Zermat <mark>*New</mark>

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## Section 4 – Revision History

Version	Date	Author	Changes/Updates
v1.0	5/25/23	Chris C.	Initial Release