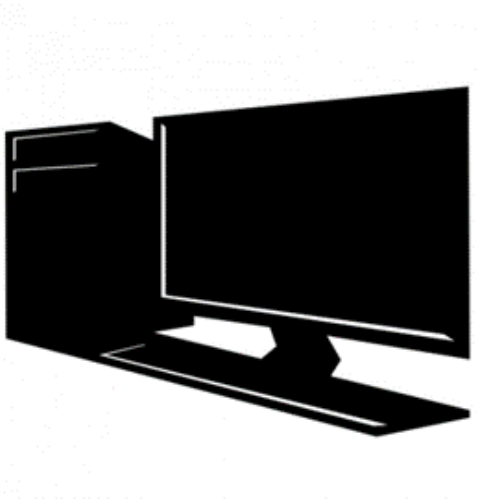
SOLIDWORKS Comprehensive Hardware Guide

TITLE:	SOLIDWORKS Comprehensive Hardware Guide
DATE:	September 2026
SUBJECT:	Hardware, laptops, desktops
ABSTRACT:	Advanced computer recommendations for SOLIDWORKS



This document has been written to provide insight into suggestions made in the Hawk Ridge Systems Hardware Recommendation document and to answer common hardware questions for users building custom systems to run SOLIDWORKS, SOLIDWORKS Simulation, and SOLIDWORKS Flow Simulation.

This is not a troubleshooting guide. If you have any technical issues with SOLIDWORKS, please contact Hawk Ridge Systems Technical Support.

©2026 Hawk Ridge Systems

HAWK RIDGE SYSTEMS

Contents

SOLIDWORKS Comprehensive Hardware Guide 1
- Operating Systems 3
- Virtual Machines and OS Support 4

Recommended Hardware 5
Upgrades For Advanced Users 6
- SOLIDWORKS Visualize 7

Graphics Card 8
- Intel Processor Graphics 9
- Intel Arc Pro Graphics Cards 9

Processors 9
Memory (RAM) 10
Storage 10
Required Components and Other Software 10
- Display 11
- Network Connection 11
- Input Device 11
- Microsoft Excel and Word 13

Optional Components and Software 13
Benchmarks 13
Other Hardware Guides 13
- SOLIDWORKS Authored 14
- Hawk Ridge Systems Authored 14

Introduction

The Hawk Ridge Systems hardware documents combine all of our knowledge regarding hardware and are derived from multiple sources, including but not limited to internal testing, customer experiences, user forums, hardware reviews, system/component availability, direct discussions with SOLIDWORKS representatives, and the SOLIDWORKS System Requirements.

Hardware recommendations are based on currently available hardware. Unless explicitly defined as no longer supported or confirmed by support as unsupported, it is assumed that older hardware with similar specifications should be able to run the current version of SOLIDWORKS. It should be noted that while users may stay on older hardware of equivalent specifications, there may be additional performance benefits from newer technology and "clean" systems.

Users who are concerned about whether their hardware meets the current specs should compare the specs of their systems to the current specs using benchmarks, user reviews, internal testing, and if still concerned, should contact Hawk Ridge Systems Technical Support.

While SOLIDWORKS does not publish specific optimal recommendations, the Recommended Hardware Guidelines have been written under the assumption that most users are looking for an optimal configuration rather than the bare minimum. For users looking for the minimum system requirements, please refer to the SOLIDWORKS System Requirements page.

Hawk Ridge Systems recommends pre-built computers from manufacturers like Dell, HP, and Lenovo because these manufacturers develop drivers specifically for their hardware and have extensive QA for consistent performance and reliability.

Unsupported & Not Recommended Platforms

While it may be possible to install or run SOLIDWORKS products on unsupported platforms, the extent of support that can be provided is limited. Customers using platforms not supported by SOLIDWORKS will be exposed to potential support limitations. To properly troubleshoot many issues with hardware and software, support representatives and developers need to be able to reproduce them. Hawk Ridge Systems personnel will attempt to reproduce issues that are submitted to them with the supported platforms. However, if the issues are not reproducible or identifiable, Hawk Ridge Systems support personnel will have to close any issues that reach this point, as they are not covered by SOLIDWORKS development.

Similarly, customers using "non-recommended" hardware may be exposed to similar issues that are generally less severe in nature, such as inconsistent behavior or limited performance. While these issues can be reported to development, a final resolution may not be obtainable or may result in an enhancement request to improve the software's functionality under these system configurations.

Operating Systems

All operating systems should be kept updated with Windows updates, except for graphics drivers. Refer to the following table for specific version support for various Windows operating systems and

SOLIDWORKS releases.

- √ Supported
- X Not Supported. Installation is not supported, and while the software may install and run on these operating systems, these configurations have not been tested and cannot be supported.

	2025	2026	2027
Windows 10	√*	X	X
Windows 11	√	√	√

1. SOLIDWORKS does not support Home or Basic versions of Windows. Only Business, Professional, Enterprise, and Ultimate versions are supported.

2. Windows 11 is currently the recommended operating system.

3. Windows 11 is supported for SOLIDWORKS 2022 SP2 and later.

4. SolidWorks 2025 SP5 was the last version of SolidWorks to support Windows 10.

Virtual Machines and OS Support

Please refer to the official SOLIDWORKS system requirements page for more information about supported virtual environments. Additionally, virtual environments are supported for use on Apple computers, although it is always recommended to install SOLIDWORKS on Windows. If it is necessary to install SOLIDWORKS on macOS, it is recommended by SOLIDWORKS to use Parallels. Boot Camp is not supported. Linux is also not a supported operating system for SOLIDWORKS.

Recommended Hardware

For an overview of specific hardware that we recommend for SOLIDWORKS 2027, please refer to the information below from our Recommended Hardware Guide.

Notebook PCs	
Out-Of-Box Solutions	Lenovo ThinkPad P Series Mobile Workstations Dell Pro Max/Precision Mobile Workstations HP ZBook 8 Mobile Workstations
Operating System	Windows 11 Professional 64-Bit
Graphics Card	NVIDIA RTX PRO 500/1000 Blackwell
Processor	Intel Core™ Ultra 7 AMD Ryzen AI 7/7 PRO
RAM	32GB
Storage	512GB SSD
Other (Required)	Microsoft Office 2024, 3-Button Mouse with Scroll Wheel

Desktop PCs	
Out-Of-Box Solutions	Lenovo ThinkStation P Series Dell Pro Max/Precision Desktop Workstations HP Z2 Tower
Operating System	Windows 11 Professional 64-Bit
Graphics Card	NVIDIA RTX PRO 2000 Blackwell/A1000/1000 Ada
Processor	Intel Core™ Ultra 7 AMD Ryzen 7 PRO
RAM	32GB
Storage	512GB SSD
Other (Required)	Microsoft Office 2024, 3-Button Mouse with Scroll Wheel

Upgrades For Advanced Users

Certain cases require upgraded hardware. These include:

- Working with large assemblies and/or complex models
- Extensive multitasking (Multiple programs or files running simultaneously)
- Heavy Visualize usage
- Heavy Simulation or Flow Simulation usage

These upgrades are listed with their associated benefits. Special attention should be paid to the use case to eliminate bottlenecks.

Component	Benefits	Notebook	Desktop
RAM	General Performance, Multi-Tasking, Capacity (Model, Rendering and Simulation Size/Complexity), Rendering and Simulation Speed	64-128GB	64-128GB
Processor	Rebuilding Features, General Performance, Simulation Solving and Meshing Speed, Multi-tasking, Open/Save, Rendering Speed	Intel Core™ Ultra 9 AMD Ryzen AI 9 HX PRO	Intel Core™ Ultra 9 AMD Ryzen 9 PRO
Storage	Open/Save Speed, Rebuild Time, General Performance	1TB+ M.2 PCIe SSD	1TB+ M.2 PCIe SSD
Graphics Card	Display Capacity (Number of Faces and Amount of Data Shown), Rotate/Pan/Zoom performance, Ray Tracing (requires RTX cards)	NVIDIA RTX 2000 Ada-Pro 5000 Blackwell	NVIDIA RTX 4000 Ada-Pro 6000 Blackwell

SOLIDWORKS Visualize

For SOLIDWORKS Visualize users, we make an exception to the recommendation that workstation-class graphics cards should be used in their systems. Visualize benchmarks have the best performance with NVIDIA GeForce graphics cards. This does not mean that NVIDIA workstation cards will not work, but the recommendation here is that if you have a workstation dedicated to SOLIDWORKS Visualize, the workstation should have an NVIDIA GeForce graphics card. This should help to maximize your cost-to-benefit ratio. Please see the article below for performance benchmarks:

SOLIDWORKS Hardware Benchmarks

SOLIDWORKS Visualize System Requirements:
System Requirements for SOLIDWORKS Visualize - 2027 - SOLIDWORKS Design Help

Graphics Card

Consumer or gaming graphics cards, such as the AMD Radeon and NVIDIA GeForce series, are not recommended due to performance and stability issues. Hawk Ridge Systems highly recommends the use of workstation graphics cards, such as the ones in the table below.

	Brand	Entry	Mid-range	High-end
Desktops	NVIDIA	RTX A400/1000	RTX 2000 Ada RTX PRO 2000 Blackwell	RTX PRO 4000-6000 Blackwell RTX 5000-6000 Ada
	AMD	Radeon PRO W7500	Radeon PRO W7700	Radeon AI PRO R9700 Radeon PRO W7900
Laptops	NVIDIA	RTX PRO 500 Blackwell RTX 500-1000 Ada	RTX PRO 1000/2000 Blackwell RTX 2000 Ada	RTX PRO 4000-5000 Blackwell RTX 5000 Ada

SOLIDWORKS maintains a list of certified graphics cards and their recommended drivers: Hardware Certification | SOLIDWORKS

- New systems or graphics cards may take several weeks to be certified, so please check back often to verify that they are certified before purchasing. In general, new cards that already have certified cards of the same family (for example, the NVIDIA RTX Blackwell family) will also be certified and will perform well with the latest driver for the system or card manufacturer until a certified/tested driver is available.
- If the card/system is listed for older versions of SOLIDWORKS, but not for current versions, the card/system is no longer certified by SOLIDWORKS, but it may still be supported. To check if it is still supported, review the list of older graphics cards still supported at the top of the SOLIDWORKS Hardware Certification site.
- When displaying greater amounts of graphical information (complex models, large monitors, multiple monitors, or high resolutions), more powerful graphics cards should be chosen to improve display performance.
- Currently, SOLIDWORKS does not leverage GPU processing.
- With Windows 10 and Windows 11, video cards with 256 MB or less will experience reduced performance due to architectural changes in the operating system.

Intel Processor Graphics

Intel processor graphics (integrated into the CPU) provide the graphics and display for many of the Intel Core and Xeon processors. These Intel GPUs are not hardware-certified by SOLIDWORKS. While they may provide basic graphics functionality, they are not recommended for SOLIDWORKS usage.

Intel Arc Pro Graphics Cards

In recent years, Intel has released dedicated graphics cards to compete with NVIDIA and AMD. There is a small number of their Intel Arc Pro cards that have been certified for SOLIDWORKS. They are not seen often in prebuilt systems sold by major manufacturers. However, we wanted to mention them as, in some cases, they can be a cheaper alternative to NVIDIA & AMD graphics cards while still being certified for SOLIDWORKS. For the latest information on the Certification for these cards, check out the Intel website & SOLIDWORKS Hardware Certification website.

Processors

SOLIDWORKS is a single-threaded application. This means that users should make decisions based on the capabilities of a single core rather than the entire processor. It is best to purchase processors with higher clock speeds and the latest architecture. The goal is to produce the most calculations per second on a single core. Keep in mind that AMD processors are rated differently than Intel processors.

Benchmarks that compare single processors to multi-core processors/multi-processor systems in SOLIDWORKS show that users who multi-task (Opening Drawings, Draw Compare, Boolean operations, Updating Views), Simulation, and Flow Simulation will benefit from parallel processing (multi-core or multi-processors). It should be noted that most parametric operations are required to be performed sequentially (like rebuilding features in the feature tree) and, by nature, are single-threaded.

For modern generation processors (Intel Core CPUs), Hyper-Threading should be enabled. Testing indicates substantial benefits with turbo boost and Hyper-Threading. However, results can vary depending on the hardware setup.

AMD RYZEN PRO Processors are a competitive alternative to Intel Ultra 7 & Ultra 9 Processors. When evaluating an AMD system, make sure that the graphics card is certified from the SOLIDWORKS Hardware Certification website.

Only x86 processors are officially supported for SOLIDWORKS use. ARM processors and other CPU architectures are not supported.

Memory (RAM)

It is recommended to install as much RAM as is feasible to improve performance and stability by:

- Increasing the opportunity for RAM to be allocated to applications instead of the slower, more volatile, hard drive-based page file.
- Reducing the amount of memory swapping between programs when there is not enough RAM to satisfy the needs of all programs.
- Improve the memory threshold for computers.

In most cases, more RAM is better. However, more RAM does not always equate to more speed. It is recommended to have enough RAM to handle the needs of your applications.

Faster RAM can also provide performance benefits, but please verify with your hardware manufacturer that faster RAM is compatible with your system and that existing RAM is of equal speed. Existing RAM that is slower may reduce the performance of new, faster RAM.

If you often work with extremely large assemblies in SOLIDWORKS (500MB+ or over 20,000 components), we recommend obtaining more than 32 GB of RAM. However, in most cases, 32 GB of RAM should be plenty. It is always best to open these types of files on other computers and note how much RAM is used in the Windows Task Manager.

Entry-level (minimum)	Mid-range	High-end
16 GB	32 GB	64 - 128 GB+

Storage

Having faster storage drives can affect the performance of the overall system as well as specific SOLIDWORKS functions, such as opening and saving documents. Finding specific SOLIDWORKS benchmarks for different storage drives will be difficult. SSDs are recommended by the SOLIDWORKS System Requirements.

Primary drives should have enough storage for the OS, other programs, virtual memory, temporary files, free space, file storage, SOLIDWORKS installer, and program files (Up to 17GB). The minimum storage space we recommend is 256GB. Getting 512GB or more is ideal.

Required Components and Other Software

Display

Widescreen monitors (16:9 or 16:10) are recommended because of the widescreen nature of the SOLIDWORKS interface.

When displaying greater amounts of graphical information (complex models, large monitors, multiple monitors, or high resolutions), more powerful graphics cards should be chosen to improve performance.

When using multiple monitors, the best compatibility is with monitors with the same resolution and color settings. This is the configuration that is used during SOLIDWORKS graphics card driver testing.

4K Monitors are becoming increasingly common. SOLIDWORKS began official support for 4K resolutions starting with version 2016 due to a user interface change to vector-based icons and fonts. If considering a 4K monitor, be aware that version 2016 and later is recommended for optimal usability.

Network Connection

An internet connection is required for:

- Access https://www.3ds.com/support/ for the knowledge base, technical articles, SPR tracking, etc.
- Downloading software updates (Depending on installed software, the download required averages around 1GB but can range from a few MB to 12GB. A High-speed internet connection is recommended.)
- Standalone license activation and obtaining SOLIDWORKS network licenses. (At a minimum, the activation process requires access to e-mail on at least one company computer)
- Remote support sessions and HRS Webinars/Training (High-speed internet connection is recommended).
- Use the 3DEXPERIENCE Platform and named-user licenses.

For optimal performance and less chance of latency or data loss, wired network connections are recommended for network licensing and accessing files over a network. Users working with wireless connections or VPN connections should borrow licenses and/or move files locally. Please note that license borrowing is not supported over a VPN. It should be noted that Hawk Ridge Systems does not recommend working with files over a network, and users who need this capability should consider a data management solution such as SOLIDWORKS PDM.

Remote desktop connections or VPN connections to SOLIDWORKS clients are not supported.

SOLIDWORKS is tested only with Microsoft's Windows Networking and Active Directory network environments. Novell networks and non-Windows-based network storage devices are not supported.

Input Device

A 3-button mouse with a scroll wheel is required. 3D Controllers can be used, but please check with the

manufacturer to ensure that they are compatible with the version of SOLIDWORKS that you are using.

Tablets/Digitizers are currently not supported but should work in sketch mode. Please contact the hardware manufacturer for any compatibility concerns or for information on configuring the tablet for use in SOLIDWORKS.

Microsoft Excel and Word

Microsoft Excel & Word versions should ideally be from the same period as your SOLIDWORKS version. The table below shows which versions of Word and Excel are supported by the more recent versions of SOLIDWORKS.

- √ Supported
- X Not Supported. Installation is not supported, and while the software may install and run on these operating systems, these configurations have not been tested and cannot be supported.

	2025	2026	2027
Excel/Word 2021	√	√*	X
Excel/Word 2024	√*	√	√

*SOLIDWORKS 2025 SP3 is the start of support for Microsoft Excel/Word 2024. SOLIDWORKS 2026 SP5 is the last release to support Microsoft Excel/Word 2021.

Optional Components and Software

- Anti-Virus/Anti-Spyware tools: Review Hawk Ridge recommendations: What are Antivirus Recommendations for SOLIDWORKS?
- System/Disk Imaging Software: This is not supported by SOLIDWORKS. If used, SOLIDWORKS should be installed after systems have been imaged or should be used with a network license.

Benchmarks

The best collection of SOLIDWORKS benchmark data is available at the SOLIDWORKS Benchmark Website. This data is shared by SOLIDWORKS users and utilizes the built-in Benchmark tool found in SOLIDWORKS RX. The RX tool is included in every installation of SOLIDWORKS and can be run at any time.

Here are our tips and notes from running benchmark tests:

- Use the same version of SOLIDWORKS and service pack when performing the RX Benchmark Test.
- Reboot the computer and do not use the computer while the RX Benchmark Test is running.
- System options can have a direct impact on performance. Use a Copy Settings Wizard file to standardize and test different options for valid results.
- Hard drive performance benchmarks apply to SOLIDWORKS for opening and saving functions.
- Graphics cards that perform well in OpenGL tests or in benchmarks for other 3D CAD applications based on OpenGL apply to SOLIDWORKS.
- Single-threaded application performance benchmarks apply to the majority of SOLIDWORKS functions, such as rebuilding.
- Multi-threaded application performance benchmarks apply to multi-threaded functions in SOLIDWORKS such as photo rendering and analysis. For more information about what processes are multi-threaded, please query the SOLIDWORKS Knowledge Base using the search term "multi" or review the comments above in the Processor section.
- Overall processor benchmarks will still give a decent idea of the performance of a processor if equal core processors are being compared. For example, the results of a quad-core vs. dual-core are not compared. If compared, it should be kept in mind that most processor benchmarks consider multi-threaded applications, which may skew the results towards the processor with more cores.

Some of the most common benchmarks used for evaluating existing systems or for choosing new ones are listed below. These benchmarks have been performed by third parties not associated with Hawk Ridge Systems, and the publishers should be contacted directly with any questions you might have.

- SOLIDWORKS RX Benchmark: https://www.solidworks.com/support/hardware-benchmarks
- Passmark (tests all components within a system): https://www.passmark.com

Other Hardware Guides

SOLIDWORKS Authored

- SOLIDWORKS and SW PDM System Requirements

Hawk Ridge Systems Authored

- Recommended Hardware Guide

For additional support, existing customers can submit a ticket or new customers can contact Hawk Ridge Systems.