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MSC Apex® 2022.1

Installation Guide

HEXAGON

Required Hardware and Software Configurations

Hardware and Software Requirements

MSC Apex supports the following Microsoft Windows hardware and software.

Computer Requirements	
Hardware Platforms	Intel Core 2 Duo, I7 and Intel Xeon, Intel Core 2 Quad
Memory	8 GB Minimum 16 GB (or higher) Recommended
Swap Space/Page File	Swap = 1.5 times the memory size.
Disk Space	12-20GB*
Operating Systems	Windows 10 Professional 64-bit : 1903: Certified 1709, 1803: Available
Other	3 Button Mouse Active network card for licensing.
Graphics Devices	1280x1024 or higher resolution

The application may actually run with fewer resources than shown, but we recommend these minimums for practical use. These guidelines are based on typical use.

Note:	*Benchmark testing suggests that up to a 30% increase in performance of simulation can be realized if the operating system, MSC Apex installation and the Solver Scratch directory is on a Solid State Disk compared to the same installation on a SATA hard disk drive. MSC Apex may not be installed on shared or mapped network drives.

Virtual Machine Requirements

Virtual Machine Host Requirements	
Hardware Platform	Intel Xeon E Series Processors (2 CPUs)
Memory	256 GB Minimum
Disk Space	800 GB SSD
Graphics Card	NVidia Grid K1 or K2 or M6
Network	10 Gigabit
Network Connection Speed to VDI device	Minimum 5 Mbps upload/5 Mbps download or higher is recommended.
VM Client	VMware Horizon View 6.0
VMware Hypervisor	vSphere 5.5
Display Protocol	vDGA using PCoIP

	Virtual Machine Requirements
VM Operating Systems	Windows 10 Professional 64-bit
VM Virtual Processors	4
VM Memory	8 GB Minimum 16 GB (or higher) Recommended
VM Swap Space/Page File	Swap = 1.5 times the memory size.
VM Disk Space	12-20GB
VM Disk IOPs	1000
OpenGL	OpenGL 3.3 or higher
Screen Resolution	1280x1024 or higher resolution
Other	3 Button Mouse

MSC Apex also supports VMware Workstation 12 Player to create a virtual machine on a laptop or desktop.

In order to run Apex using Remote Desktop, the remote machine should have an Nvida Quadro card that is already included in the list of MSC Apex Supported Hardware (see MSC Apex Certified Hardware table below) and a driver version of 9.18.13.4105 or higher. For other cards; third party remote access tools (such as RealVNC) have to be used.

For the latest information on supported platforms for upcoming releases of Hexagon products, please visit the following web site: http://www.mscsoftware.com/Support/Platform-Support/Default.aspx

Peripheral Devices

3DCONNEXION's SpacePilot PRO, SpaceMouse PRO and SpaceNavigator products, have been tested with Apex. "3DxWare 10 for Windows (64-bit)" version "10.4.3" is the required driver.

Note: In order for your device to operate properly, you may have to copy

..\MSC Apex\2018-621976\clef\Framework\AppFrame\res\MSC_Apex_3dMouse.xml to C:\Program Files\3Dconnexion\3DxWare\3DxWinCore64\Cfg

The 3dConnexion Driver will automatically create an <appName>.xml 3dMouse configuration file for applications that have not already provided an xml file for the application. If you have problems, you should delete any found MSC_Apex*.xml files from the UserData…3dConnexion… folders.

Other Software Requirements

- Adobe Flash Player Version 11 or higher is required to view the tutorials that are included with MSC Apex.

Supported Graphics Cards and OpenGL Acceleration

Apex uses OpenGL acceleration. Any graphics board and driver combination that supports OpenGL version 3.3 or higher and 1280x1024 resolution or greater should work with the application. Hexagon has, however, tested the following specific graphics adapters to verify compatibility with the application on Windows. We cannot guarantee the functionality of other graphics devices.

Dual Graphics Cards

If running MSC Apex on a system with dual graphics cards, it is recommended that you choose to activate the high performance graphics processor instead of the integrated graphics for MSC Apex.For more information, please review the following SimCompanion article regarding usage and configuration of dual graphics cards:

https://simcompanion.mscsoftware.com/infocenter/index?page=content&id=KB8022950

MSC Apex Certified Hardware
Windows 10:

Brand-Model	RAM (GB)	CPU	Graphics Card	Graphics Card Memory	Graphics Card Driver
HP Zbook 15 G3	16	Intel(R) Core(TM) i7-6820HQ CPU @ 2.70GHz ~2.71GHz (8 CPUs)	NVIDIA Quadro M1000M	8GB	10.18.13.5461
HP Zbook 15u G3	16	Intel(R) Core(TM) i7-6600U CPU @ 2.60GHz ~2.81GHz (8 CPUs)	AMD FirePro W4190M	2GB	15.201.1701.1005
HP Zbook 15 G3	16	Intel(R) Xeon(R) CPU E5-1545M v5 @ 2.9GHz ~2.8GHz(8 CPUs), 16GB	Intel® Iris™ Pro Graphics P580	1GB	20.19.15.4444
HP Zbook 15 G3	16	Intel(R) Core(TM) i7-6820HQ CPU @ 2.70GHz ~2.70GHz (8 CPUs)	AMD FirePro W5170M	2GB	15.201.2601.1003
HP Zbook 17 G3	16	Intel(R) Core(TM) i7-6820HQ CPU @ 2.70GHz ~2.70GHz (8 CPUs)	NVIDIA Quadro M2000M	8GB	10.18.13.5461
HP Zbook 17 G3	16	Intel(R) Core(TM) i7-6820HQ CPU @ 2.70GHz ~2.70GHz (8 CPUs)	NVIDIA Quadro M5000M	8GB	10.18.13.5461
Dell Precision 7530	32	Intel(R) Xeon(R) E-2176M CPU @ 2.70GHz (12 CPUs), ~2.7GHz	NVIDIA Quadro P1000	4 GB	23.21.13.9827
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	NVIDIA Quadro RTX 6000	16 GB	24.21.14.1216

Brand-Model	RAM (GB)	CPU	Graphics Card	Graphics Card Memory	Graphics Card Driver
*HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	NVIDIA Quadro RTX 5000	16GB	24.21.14.1195
*HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	NVIDIA Quadro RTX 4000	16GB	24.21.14.1195
*HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	NVIDIA Quadro RTX 8000	16GB	25.21.14.1917
HP ProBook 650 G2	32	Intel(R) Core(TM) i7-6600U CPU @ 2.60GHz (4 CPUs), ~2.8GHz	AMD Radeon (TM) R7 M350	32GB	25.20.15031.5004
*HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	NVIDIA Quadro RTX 5000	16GB	25.21.14.1917
*HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	NVIDIA Quadro RTX 6000	24GB	25.21.14.1917
*HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	NVIDIA Quadro RTX 4000	8GB	25.21.14.1917
*HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	NVIDIA Quadro P2200	4GB	26.21.14.3064
*HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	AMD Radeon Pro WX 3200 Series	4GB	26.20.11002.1001

Brand-Model	RAM (GB)	CPU	Graphics Card	Graphics Card Memory	Graphics Card Driver
HP ZBook 14u G6	16	Intel(R) Core (TM) i7-8665U CPU @ 1.90GHz 2.11 GHz	AMD Radeon Pro WX3200 Graphics	8GB	25.20.15026.2
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	AMD Radeon Pro WX3200	4GB	26.20.11024.1
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	AMD Radeon Pro WX2100	2GB	26.20.11024.1
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	AMD Radeon Pro WX3100	4GB	26.20.11024.1
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	AMD Radeon Pro WX4100	4GB	26.20.11024.1
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	AMD Radeon Pro WX5100	8GB	26.20.11024.1
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	AMD Radeon Pro WX7100	8GB	26.20.11024.1
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	AMD Radeon Pro WX8200	8GB	26.20.11024.1
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	AMD Radeon Pro WX9100	16GB	26.20.11024.1

Brand-Model	RAM (GB)	CPU	Graphics Card	Graphics Card Memory	Graphics Card Driver
HP Zbook15u G4	16	Intel(R) Core(TM) i7-7600U CPU @ 2.80GHz (4 CPUs), ~2.9GHz	AMD FirePro W4190M	2 GB	21.19.142.32768
Dell Precision 7520	16	Intel(R) Core(TM) i7-7920HQ CPU @ 3.10GHz (8 CPUs), ~3.1GHz	AMD Radeon Pro WX 4130	2 GB	21.19.384.3
Dell Precision 7520	16	Intel(R) Xeon(R) CPU E3-1535M v6 @ 3.10GHz (8 CPUs), ~3.1GHz	AMD Radeon Pro WX 4150	4 GB	21.19.384.3
Dell Precision 7520	16	Intel(R) Core(TM) i7-7920HQ CPU @ 3.10GHz (8 CPUs), ~3.1GHz	NVIDIA Quadro M1200	4 GB	21.21.13.7586
Dell Precision 7520	16	Intel(R) Core(TM) i7-7920HQ CPU @ 3.10GHz (8 CPUs), ~3.1GHz	NVIDIA Quadro M2200	4 GB	21.21.13.7586
Dell Precision 7720	16	Intel(R) Core(TM) i7-7920HQ CPU @ 3.10GHz (8 CPUs), ~3.1GHz	AMD Radeon Pro WX 4130	2 GB	21.19.384.3
Dell Precision 7720	16	Intel(R) Core(TM) i7-7920HQ CPU @ 3.10GHz (8 CPUs), ~3.1GHz	AMD Radeon Pro WX 7100	8 GB	21.19.384.3
Dell Precision 7720	16	Intel(R) Core(TM) i7-7920HQ CPU @ 3.10GHz (8 CPUs), ~3.1GHz	NVIDIA Quadro P3000	6 GB	21.21.13.7586
Dell Precision 7720	16	Intel(R) Core(TM) i7-7920HQ CPU @ 3.10GHz (8 CPUs), ~3.1GHz	NVIDIA Quadro P4000	8 GB	21.21.13.7586

Brand-Model	RAM (GB)	CPU	Graphics Card	Graphics Card Memory	Graphics Card Driver
Dell Precision 7720	16	Intel(R) Xeon(R) CPU E3-1535M v6 @ 3.10GHz (8 CPUs), ~3.1GHz	NVIDIA Quadro P5000	16 GB	21.21.13.7586
Dell Precision T1500	16	Intel(R) Core(TM) i7 CPU 860 @ 2.80GHz, ~2.80GHz	AMD FirePro V4800(FireGL V)	4GB	15.201.2401.0
HP Zbook 15 G4	16	Intel(R) Core(TM) i7-7820HQ CPU @ 2.90GHz ~2.90GHz (8 CPUs)	NVIDIA Quadro M1200	4GB	377.43
HP Zbook 15 G4	16	Intel(R) Core(TM) i7-7820HQ CPU @ 2.90GHz ~2.90GHz (8 CPUs)	AMD Radeon Pro WX4150	4GB	16.40.3801.1002
HP Zbook 17 G4	16	Intel(R) Core(TM) i7-7820HQ CPU @ 2.90GHz ~2.90GHz (8 CPUs)	NVIDIA Quadro M2200	4GB	377.43
HP Zbook 17 G4	16	Intel(R) Core(TM) i7-7820HQ CPU @ 2.90GHz ~2.90GHz (8 CPUs)	NVIDIA Quadro P5000	16GB	377.43
HP Zbook Studio G4	16	Intel(R) Core(TM) i7-7820HQ CPU @ 2.90GHz ~2.90GHz (8 CPUs)	NVIDIA Quadro M1200	4GB	377.43
Dell Precision 7920 Tower	32	Intel(R) Xeon(R) Gold 6130 CPU @ 2.10GHz (64 CPUs), ~2.1GHz	NVIDIA Quadro P600	2GB	377.11
Dell Precision 7920 Tower	32	Intel(R) Xeon(R) Gold 6130 CPU @ 2.10GHz (64 CPUs), ~2.1GHz	NVIDIA Quadro P1000	4GB	377.11

Brand-Model	RAM (GB)	CPU	Graphics Card	Graphics Card Memory	Graphics Card Driver
Dell Precision 7920 Tower	32	Intel(R) Xeon(R) Gold 6130 CPU @ 2.10GHz (64 CPUs), ~2.1GHz	NVIDIA Quadro P2000	5GB	377.11
Dell Precision 7920 Tower	32	Intel(R) Xeon(R) Gold 6130 CPU @ 2.10GHz (64 CPUs), ~2.1GHz	NVIDIA Quadro P4000	8GB	377.11
Dell Precision 7920 Tower	32	Intel(R) Xeon(R) Gold 6130 CPU @ 2.10GHz (64 CPUs), ~2.1GHz	NVIDIA Quadro P5000	16GB	377.11
Dell Precision 7920 Tower	32	Intel(R) Xeon(R) Gold 6130 CPU @ 2.10GHz (64 CPUs), ~2.1GHz	NVIDIA Quadro P6000	24GB	377.11
Dell Precision 7920 Tower	32	Intel(R) Xeon(R) Gold 6130 CPU @ 2.10GHz (64 CPUs), ~2.1GHz	AMD Radeon WX4100	4GB	17.10.1730.1004
Dell Precision 7920 Tower	32	Intel(R) Xeon(R) Gold 6130 CPU @ 2.10GHz (64 CPUs), ~2.1GHz	AMD Radeon WX5100	8GB	17.10.1730.1004
Dell Precision 7920 Tower	32	Intel(R) Xeon(R) Gold 6130 CPU @ 2.10GHz (64 CPUs), ~2.1GHz	AMD Radeon WX7100	8GB	17.10.1730.1004
HP Z8 G4 Workstation	96	Intel(R) Xeon(R) Gold 6128 CPU @ 3.40GHz (24 CPUs), ~3.4GHz	AMD Radeon WX2100	2GB	22.19.640.2
HP Z8 G4 Workstation	96	Intel(R) Xeon(R) Gold 6128 CPU @ 3.40GHz (24 CPUs), ~3.4GHz	AMD Radeon WX3100	4GB	22.19.640.2

Brand-Model	RAM (GB)	CPU	Graphics Card	Graphics Card Memory	Graphics Card Driver
HP Z8 G4 Workstation	96	Intel(R) Xeon(R) Gold 6128 CPU @ 3.40GHz (24 CPUs), ~3.4GHz	AMD Radeon WX4100	4GB	22.19.640.2
HP Z8 G4 Workstation	96	Intel(R) Xeon(R) Gold 6128 CPU @ 3.40GHz (24 CPUs), ~3.4GHz	AMD Radeon WX9100	16GB	22.19.640.2
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8 CPUs), ~4.0GHz	AMD Radeon WX2100	2GB	22.19.640.2
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8 CPUs), ~4.0GHz	AMD Radeon WX3100	4GB	22.19.640.2
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8 CPUs), ~4.0GHz	AMD Radeon WX4100	4GB	22.19.640.2
*****HP Z8 G4 Workstation	96	Intel(R) Xeon(R) Gold 6128 CPU @ 3.40GHz (24 CPUs), ~3.4GHz	NVIDIA Quadro P4000	8GB	385.69
*HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8 CPUs), ~4.0GHz	NVIDIA Quadro P620	2GB	23.21.13.9077
*HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8 CPUs), ~4.0GHz	AMD Radeon WX9100	16GB	22.19.693.256
HP ZBook 14u G5	16	Intel(R) Core(TM) i7-8650U CPU @1.90GHz 2.11GHz	AMD Radeon Pro WX 3100	2GB	23.20.787.768

Brand-Model	RAM (GB)	CPU	Graphics Card	Graphics Card Memory	Graphics Card Driver
Dell Precision 7530	16	Intel(R) Core(TM) i7-8850H CPU @2.60GHz 2.59GHz	NVIDIA Quadro P2000	4GB	23.21.13.8908
Dell Precision 3530	16	Intel(R) Xeon(R) E-2176M CPU @2.70GHz 2.71GHz	NVIDIA Quadro P600	4GB	23.21.13.8908
Dell Precision 7730	16	Intel(R) Core(TM) i9-8950HK CPU @2.90GHz 2.90GHz	NVIDIA Quadro P3200	6GB	23.21.13.8908
HP ZBook 17 G5	16	Intel(R) Core(TM) i7-8850H CPU @ 2.60GHz (12 CPUs), ~2.6GHz	NVIDIA Quadro P5200	8GB	23.21.13.9148
******HP ZBook 17 G5	16	Intel(R) Core(TM) i7-8850H CPU @ 2.60GHz (12 CPUs), ~2.6GHz	NVIDIA Quadro P2000	8GB	23.21.13.9148
******HP ZBook Studio x360 G5	16	Intel(R) Core(TM) i7-8850H CPU @ 2.60GHz (12 CPUs), ~2.6GHz	NVIDIA Quadro P1000	8GB	23.21.13.9148
******HP ZBook 15 G5	16	Intel(R) Core(TM) i7-8850H CPU @ 2.60GHz (12 CPUs), ~2.6GHz	AMD Radeon (TM) Pro WX Series	8GB	24.20.12024.10
******Dell Precision 7730	16	Intel(R) Core(TM) i7-8850H CPU @ 2.60GHz (12 CPUs), ~2.6GHz	AMD Radeon (TM) Pro WX 7100 Graphics	8GB	24.20.12024.10
HP Z840	64	Intel (R) Xeon CPU E5-2620 v4 @2.10 GHz	AMD Radeon (TM) Pro WX 8200	8 GB	18.Q3
*******HP Z840	64	Intel (R) Xeon CPU E5-2620 v4 @2.10 GHz	AMD Radeon (TM) Pro WX 8200	8 GB	18.Q4

Brand-Model	RAM (GB)	CPU	Graphics Card	Graphics Card Memory	Graphics Card Driver
Dell Precision 7530	32	Intel(R) Xeon(R) E-2176M CPU @ 2.70GHz (12 CPUs), ~2.7GHz	NVIDIA Quadro P1000	4 GB	23.21.13.9827
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	NVIDIA Quadro RTX 6000	16 GB	24.21.14.1216
*HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	NVIDIA Quadro RTX 5000	16GB	24.21.14.1195
*HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	NVIDIA Quadro RTX 4000	16GB	24.21.14.1195
*HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	NVIDIA Quadro RTX 8000	16GB	25.21.14.1917
HP ProBook 650 G2	32	Intel(R) Core(TM) i7-6600U CPU @ 2.60GHz (4 CPUs), ~2.8GHz	AMD Radeon (TM) R7 M350	32GB	25.20.15031.5004
*HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	NVIDIA Quadro RTX 5000	16GB	25.21.14.1917
*HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	NVIDIA Quadro RTX 6000	24GB	25.21.14.1917
*HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	NVIDIA Quadro RTX 4000	8GB	25.21.14.1917

Brand-Model	RAM (GB)	CPU	Graphics Card	Graphics Card Memory	Graphics Card Driver
*HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	NVIDIA Quadro P2200	4GB	26.21.14.3064
*HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	AMD Radeon Pro WX 3200 Series	4GB	26.20.11002.1001
HP ZBook 14u G6	16	Intel(R) Core (TM) i7-8665U CPU @ 1.90GHz 2.11 GHz	AMD Radeon Pro WX3200 Graphics	8GB	25.20.15026.2
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	AMD Radeon Pro WX3200	4GB	26.20.11024.1
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	AMD Radeon Pro WX2100	2GB	26.20.11024.1
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	AMD Radeon Pro WX3100	4GB	26.20.11024.1
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	AMD Radeon Pro WX4100	4GB	26.20.11024.1
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	AMD Radeon Pro WX5100	8GB	26.20.11024.1
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	AMD Radeon Pro WX7100	8GB	26.20.11024.1

Brand-Model	RAM (GB)	CPU	Graphics Card	Graphics Card Memory	Graphics Card Driver
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	AMD Radeon Pro WX8200	8GB	26.20.11024.1
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	AMD Radeon Pro WX9100	16GB	26.20.11024.1
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	AMD Radeon Pro W5700	8GB	19. Q4
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	AMD Radon Pro W5500	8GB	20. Q1
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	AMD Radon Pro WX3100	4GB	20. Q1
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	AMD Radon Pro WX3200	4GB	20. Q1
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	AMD Radon Pro WX4100	4GB	20. Q1
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	AMD Radon Pro WX5100	8GB	20. Q1
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	AMD Radon Pro WX7100	8GB	20. Q1

Brand-Model	RAM (GB)	CPU	Graphics Card	Graphics Card Memory	Graphics Card Driver
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	AMD Radon Pro WX8200	8GB	20. Q1
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	AMD Radon Pro WX9100	8GB	20. Q1
HP Z4 G4 Workstation	32	Intel(R) Xeon(R) W-2125 CPU @ 4.00GHz (8CPUs), ~4.0GHz	AMD Radon Pro WX5700	8GB	20. Q1
HP ZBook 15 G6	16	Intel(R) Core(TM) i7-9850H CPU @2.60GHz(12 CPUs)~2.6GHz	NVIDIA Quadro T1000	4GB	25.21.14.2591
HP ZBook 15 G6	16	Intel(R) Core(TM) i7-9850H CPU @2.60GHz(12 CPUs)~2.6GHz	NVIDIA Quadro RTX3000	6GB	25.21.14.2591
HP ZBook 17 G6	16	Intel(R) Core(TM) i7-9850H CPU @2.60GHz(12 CPUs)~2.6GHz	NVIDIA Quadro RTX5000	16GB	25.21.14.2591
Dell Precision 7540	16	Intel(R) Core(TM) i7-9750H CPU @ 2.60GHz (12 CPUs), ~2.6GHz	AMD Radeon(TM) Pro WX3200 Graphics	4GB	26.20.13028.13
Dell Precision 7540	16	Intel(R) Core(TM) i7-9750H CPU @ 2.60GHz (12 CPUs), ~2.6GHz	NVIDIA Quadro T2000	4GB	26.21.14.4219
Dell Precision 7740	16	Intel(R)Xeon(R)E-2276M CPU @2.80GHz (12CPUs),~2.8GHz	NVIDIA Quadro RTX 5000	16GB	26.21.14.4219

Brand-Model	RAM (GB)	CPU	Graphics Card	Graphics Card Memory	Graphics Card Driver
HP ZBook Fury 17 G7	16	Intel(R) Core(TM) i7-10850H CPU @2.70GHz	NVIDIA Quadro RTX5000	8GB	27.20.11027.4001
HP ZBook Fury 15 G7	16	Intel(R) Core(TM) i7-10850H CPU @2.70GHz	AMD Radeon(TM) Pro W5500M	8GB	27.21.14.5167
HP Zbook Studio G7	32	Intel(R) Core(TM) i7-10850H CPU @2.70GHz	NVIDIA Quadro RTX4000	16GB	27.21.14.5167
HP Zbook Studio G7	16	IIntel(R) Core(TM) i7-10850H CPU @2.70GHz	NVIDIA Quadro RTX3000	8GB	27.21.14.5167
HP Zbook Studio G7	16	Intel(R) Core(TM) i7-10850H CPU @2.70GHz	NVIDIA Quadro T2000	8GB	27.21.14.5167
HP Zbook Studio G7	16	Intel(R) Core(TM) i7-10850H CPU @3.00GHz	NVIDIA Quadro T1000	8GB	27.21.14.5167
HP Zbook Firefly 14 G8	16	Intel(R) Core(TM) i7-1185G7 CPU @2.70GHz	NVIDIA T500	8GB	27.21.14.5256
HP ZBook Fury 15 G8	16	Intel(R) Core(TM) i7-10850H CPU @2.50GHz	AMD Radeon(TM) Pro W6600M	8GB	21.10.16.03
HP Zbook Studio G8	32	Intel(R) Core(TM) i7-10850H CPU @2.50GHz	NVIDIA RTX A2000	16GB	27.21.14.6294
Dell Precision 7750	64	Intel(R) Core(TM) i9-10880H CPU @2.30GHz	NVIDIA Quadro RTX5000	32GB	27.21.14.5148
Dell Precision 7560	32	Intel(R) Core(TM) i7-11600H CPU @2.90GHz	NVIDIA RTX A2000	16GB	27.21.14.6259
Dell Precision 7550	16	Intel(R) Core(TM) i9-10850H CPU @2.70GHz	NVIDIA Quadro RTX3000	8GB	27.21.14.5148

Brand-Model	RAM (GB)	CPU	Graphics Card	Graphics Card Memory	Graphics Card Driver
Dell Precision 7550	16	Intel(R) Core(TM) i7-10880H CPU @2.30GHz	NVIDIA Quadro T1000	8GB	27.21.14.5148
Dell Precision 3561	16	Intel(R) Core(TM) i9-11950H CPU @2.60GHz	NVIDIA T600	8GB	27.21.14.6209
Dell Precision 3551	32	Intel(R) Core(TM) i7-10875H CPU @2.30GHz	NVIDIA Quadro P620	16GB	27.21.14.5148

Notes:	■ If graphical issues still remain with driver update to the latest version, please make sure to update BIOS
	■ For cards with no driver information, please use the latest version certified by the vendor.
	■ If the application is unable to launch and prompts an error regarding your graphics card, using NVidia/ AMD Control Center and adding MSC_Apex.exe to its 3D settings might resolve the issue

* HP Z640 is the HP Z440 with expandability of second processor. The Z440, Z640 and Z840 are all the same Intel Chipset.

**While the application does run on this configuration, there are currently known issues which are being investigated.

Also Supported on HP(Per HP certification process)
- ZBook FireFly 14 & 15 G7 NVIDIA Quadro P520
- ZBook Power G7 NVIDIA Quadro P620, T1000, T2000
- ZBook Studio/Fury 15 & 17 G7 NVIDIA Quadro T1000, T2000, RTX 3000, RTX 4000, RTX 5000
- ZBook 15 & 17 G7 AMD Radeon Pro W5500M
- ZBook FireFly 14 & 15 G8 NVIDIA T500
- ZBook Studio/Fury 15 & 17 G8 NVIDIA T600, T1200, RTX A2000, RTX A3000, RTX A4000, RTX A5000
- ZBook Power G8 NVIDIA T600, T1200, RTX A2000
- Z4/Z6 Desktops per certification of HP Z840.

Important: We can not guarantee the functionality of other graphics devices.

Privileges Requirements

You need administrator privileges to install the application. This allows for C++ runtime libraries and .NET components to be installed.

Installing MSC Apex

If you are downloading from the Solutions Download Center, download the self-extracting archive (.exe) and follow these steps:

- Copy the self-extracting archive (.exe) file to a temporary subdirectory with enough disk space.
- Double-click on the installer and follow the prompts.
- If you are installing localized documentation files, install them after you have installed the MSC Apex executable.

Allowing Installation With Security Software

In order to install MSC Apex, the application and its lockserver must be allowed to execute by any security software on the system. MSC Apex is whitelisted with Symantec, but users with other security software must add exceptions that allow the MSC Apex lockserver to run. If these exceptions are not made, the security software will prevent MSC Apex from installing.

If a security error occurs during Apex installation, users should manually add Apex installation folder to their security software's exception list and then start the lock server using lsconfig.bat. lsconfig.bat is located at :

"<INSTALLATION_FOLDER>\leaf\Services\EOM\WIN8664\bin\lsconfig.bat".

Silent Installation Option

The MSC Apex installer provides a silent installation option where the responses to prompts during one installation may be recorded and repeated to create subsequent identical installations.

Recording an installation

You can record a silent install response file by running an installer with the -r option, which will store the responses in a .iss file that may be used for subsequent installations. For example, to install MSC Apex and record the installation responses to D:\my_response.iss, run the following command:

```
apex_2022_1_windows64.exe -r -f1"D:\my_response.iss"
```

Playing back a recorded installation

To perform additional installations using the responses that were stored in the my_response.iss file run the following command:

```
apex_2022_1_windows64.exe -s -f1"D:\my_response.iss"
```

Notation for Localized Language Silent Installation

To have the silent installation install in a language other than the default of English, you may add the following flags to your command:

- German: -L1031
- Japanese: -L1041

- French: -L1036
- Chinese (Simplified): -L2052

For example, to use the above language flags and install MSC Apex and its associated documentation in German you should run the following command:

```
apex_2022_1_windows64.exe -s -L1031 -f1"D:\mygerman1.iss"
```

Licensing

Once the Setup program has installed all of the files, it will prompt for the licensing information.

Note that global setting of license servers (by explicitly defining the MSC_LICENSE_FILE environment variable for your computer) supersedes the license setting done by MSC Apex during installation.

For more information regarding licensing, please see the MSC Licensing 11.13 User's Guide.