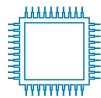




## PRECISION 5820 TOWER

# Big power in an innovative compact design.



### POWERFUL PERFORMANCE

The Dell Precision 5820 Tower delivers high performance for your most demanding applications with the latest Intel® Xeon® and Core® X Series processors and up to 512GB of fast 2666MHz memory. In addition, every Dell Precision comes with the exclusive Dell Precision Optimizer, which automatically tunes your workstation to run some of the most popular (ISV) applications at the fastest speeds possible. DPO Premium is a new AI-based version which optimizes your workstation, based upon how you use it, providing true customization.



### INNOVATIVE DESIGN

The front FlexBay design supports a range of modules from scalable storage to security options, you can build the workstation designed for your creative expertise. Secure your data with the optional Smart Card (CAC/PIV) reader, hot swap NVMe SSDs and lockable hard drive carriers. The best-in-class smart design includes integrated front and rear handles for easy deployment and moves, and an externally accessible tool-less (lockable) power supply for superior serviceability.



### LATEST TECHNOLOGY

Ready for complex projects, including artificial intelligence and virtual reality workflows, with next generation Radeon™ Pro and NVIDIA Quadro® professional graphics, with support for up to 600W of graphics power. Front access FlexBays provide outstanding storage expandability, up to 60TB with SATA, SAS and PCIe M.2/U.2 NVMe solid state drives, featuring hot-swap access, so you never have to stop creating.



### OUTSTANDING RELIABILITY

The revolutionary multichannel thermal design delivers advanced cooling and acoustics so you can enjoy longer productivity under heavy workloads. Precision workstations are tested and are Independent Software Vendor certified to ensure the high-performance applications you rely on every day run smoothly.

# Built for business

## Dell Technologies Unified Workspace

Dell Technologies Unified Workspace is the most comprehensive solution to deploy, secure, manage and support virtually all devices from the cloud. We designed this revolutionary solution with intelligence and automation providing you with visibility across the entire endpoint environment. We help you save time, improve user experience, optimize resources and strengthen security.



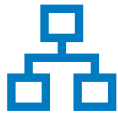
DEPLOY

Our modern deployment solution, ProDeploy in the Unified Workspace allows you to revolutionize the way deployment gets done. By spending just one hour for set up, IT can then hand deployment to Dell and have preconfigured systems shipped directly to the end users--wherever they are.



SECURE

Dell Endpoint Security for the Unified Workspace helps you manage growing cyber risks while embracing workforce transformation. With Dell SafeGuard and Response powered by Secureworks, you gain actionable insight to help you quickly and efficiently prevent, detect and respond to cyber-attacks - keeping your environment free from harm.



MANAGE

We integrated our hardware management solution Dell Client Command Suite with VMware Workspace ONE, allowing you to take advantage of unified endpoint management (UEM) and manage the firmware, operating system and applications for all devices from the Workspace ONE console. UEM simplifies the management of the entire environment saving IT time from having to work between separate consoles for PCs and phones.



SUPPORT

ProSupport Plus continues to be the only predictive and proactive support in the market. When compared to key competitors, ProSupport Plus with SupportAssist reduced time to resolve a failed hard drive with up to 11x faster time to resolution\*

\*Based on a Principled Technologies test report, "Spend Less Time and Effort Troubleshooting Laptop Hardware Failures" dated April 2018. Testing omitted by Dell, conducted in the United States. Actual results will vary. Full report: <http://facts.pt/L52XKM>

# Features & Technical Specifications

## PRECISION 5820 TOWER

Feature	Precision 5820 Tower Technical Specifications	Feature	Precision 5820 Tower Technical Specifications
Processor Options	Intel® Xeon® Processor W-2000 Family and Core X Series CPUs with up to 18 cores and Intel Advanced Vector Extensions, Intel Trusted Execution Technology, Intel AES New instructions, Optimized Intel Turbo Boost and optional Intel vPro™ technology (Xeon W CPUs only) (Important Note: Features and Supported Configurations will differ between 5820 Tower Workstations with Intel® Xeon® W Processors and 5820 Tower Workstations with Intel® Core™ X Processors. Please see systems on Dell.com/Precision for specific configuration details.)	Storage Options <sup>2</sup>	PCIe backplane chassis with integrated Intel controller and up to 4 with MegaRAID 9460* NVMe hardware RAID controller option - see controller section Note: Precision PCIe FlexBay backplane and single M.2 Module (incl. 1 M.2 PCIe/NVMe carrier) kits are available for customers to convert standard FlexBays* to support Intel and MegaRAID NVMe controller options. (different kits) Only 1 front accessible M.2 NVMe PCIe SSD is supported, due to reduced PCIe lane support on Core X I9 and I7 Series CPUs NVMe RAID 0,1 option (Intel RSTe vROC)* Up to 4 x M.2 NVMe PCIe SSDs via 1 x Dell Ultra-Speed Drive Quad x16 card. NVMe RAID 0,1,10 option (Intel RSTe vROC).
Operating System Options	Windows 10 Pro for Workstations (up to 4 Cores) Windows 10 Pro for Workstations (4 Cores Plus) Windows 10 Pro - for Core X Series CPUs Red Hat Enterprise Linux 8.0 Ubuntu Linux 18.04 Suse Linux (SLES 12 SP2) supported* NeoKylin 6.0 SP5 (China only) *	M.2 NVMe PCIe SSDs	Up to 4 x 2TB drives on 1 Dell Precision Ultra-Speed Drive Quad x16 card.
Chipset	Intel® C422 (Skylake/Cascade Lake W) ; Intel X299 (Skylake/Cascade Lake X)	Front FlexBay M.2/U.2 NVMe PCIe SSDs	Up to 4 x 2TB M.2 drives
Memory Options <sup>1</sup>	Four channel memory up to 512GB 2666MHz and up to 256GB 2933MHz DDR4 (RDIMM) ECC memory. (Up to 256GB 2666MHz DDR4 (UDIMM) Non-ECC memory) 8 DIMM slots. Note: Memory speed is dependent on specific Intel Xeon or Core X Processor installed.	Intel® Optane™905P SSDs	Up to 4 x 960GB drives
Graphics Options <sup>1</sup>	Support for 2 PCI Express® x16 Gen 3 graphics card - up to 600W with maximum of up to 2 x 300W double width graphics cards. Not all graphics card offerings are available with Core X I9 and I7 Series CPUs <b>High end 3D cards:</b> Radeon™ Pro WX 9100 Radeon™ Pro SSG NVIDIA Quadro GV100 NVIDIA Quadro P6000 NVIDIA Quadro P5000 Nvidia Quadro RTX 8000 Nvidia Quadro RTX 6000 Nvidia RTX 5000 <b>Mid-range 3D cards:</b> Radeon™ Pro WX 7100 Radeon™ Pro WX 5100 Radeon™ Pro WX 4100 NVIDIA Quadro P4000 NVIDIA Quadro P2000 NVIDIA Quadro P2200 NVIDIA Quadro RTX 4000 <b>Entry 3D cards:</b> Radeon™ Pro WX 3200 Radeon™ Pro WX 2100 NVIDIA Quadro P1000 NVIDIA Quadro P620 NVIDIA Quadro P400 <b>Professional 2D cards:</b> NVIDIA NVS 310	2.5" SATA SSD	Up to 6 x 1.9TB drives
Storage Options <sup>2</sup>	Front accessible FlexBays support up to 4 x 2.5"/3.5" SATA HDD/SSDs and up to 6 x 2.5" and 5 x 3.5" drives with 5.25" bay populated. Up to 2 front accessible (hot plug) M.2/U.2 NVMe PCIe SSDs are supported in FlexBay 1 on enabled	2.5" SATA 7200 RPM	Up to 6 x 1TB drives
		3.5" SATA 7200 RPM Hard Drives	Up to 5 x 12TB Enterprise Drives
		2.5" SAS SSD	Up to 6 x 800GB drives
		3.5" SAS 7200 RPM 12Gb/s	Up to 5 x 4TB
		2.5" SAS 10K RPM 12Gb/s	Up to 6 x 1.8TB
		2.5" SAS 15K RPM 12Gb/s	Up to 6 x 600GB
		M.2 PCIe SED SSD	512GB and 1TB Not all storage offerings (including SAS drives) are available with Core X Series CPUs
		Storage Controller	<b>Integrated:</b> Intel® chipset SATA controller (6Gb/s) with 6 SATA ports plus 2 dedicated ports for optical drives. Intel RSTe software RAID 0,1,5,10* Intel RSTe (vROC) software RAID 0,1,10 option (motherboard activation key) for M.2 NVMe PCIe SSDs on Dell Ultra-Speed Drive Quad card, Duo x8 card (RAID 0,1) and for 2 x front FlexBay M.2/U.2 NVMe PCIe SSDs* (RAID 0,1) or front FlexBay NVMe PCIe SSDs (RAID 0,1) Customer kit available for Intel RSTe (vROC) motherboard activation key for NVMe RAID support. <b>Optional:</b> Broadcom MegaRAID® SAS 9440-8i 12Gb/s SAS (6Gb/s SATA) PCIe controller, 8 ports, Software RAID 0,1,5,10.* MegaRAID® SAS 9460-16i 12Gb/s SAS (6Gb/s SATA) PCIe controller (4GB cache with Flash module/Super Cap backup) Hardware RAID 0,1,5,10.* MegaRAID 9460* controller NVMe option supports up to 4 front FlexBay M.2/U.2 NVMe PCIe SSDs with Hardware RAID 0,1,5,10

# Features & Technical Specifications

## PRECISION 5820 TOWER

Feature	Precision 5820 Tower Technical Specifications	Feature	Precision 5820 Tower Technical Specifications
Communications	<p><b>Integrated:</b> Intel® i219 Gigabit Ethernet controllers with Intel Remote Wake UP, PXE and Jumbo frames support</p> <p><b>Optional:</b> Intel® i210 10/100/1000 single port PCIe (Gen 3 x1) gigabit network card, Intel® X550-T2 10GbE dual port PCIe (Gen 3 x4) network card</p>	Security Options (Check regional availability)	Trusted Platform Module (TPM 2.0); Optional CAC/PIV card reader for slimline bay, chassis Intrusion switch; Setup/BIOS Password; I/O Interface Security; Kensington® lock slot, Padlock ring, lockable power supply; Optional hard drive locking sleds (key lock), Dell Data Guardian, Dell Endpoint Security Suite Enterprise, Lockable front bezel (covers FlexBays), Front FlexBay NVMe drives are removable (hot swap).
Audio Controller	Integrated Realtek ALC3234 High Definition Audio Codec (2 Channel)	Manageability <sup>3</sup>	AMT or vPro with DASH support* Dell vPro Enhancements (Grasslake)* SNMT/CIM vis OMCI Dell Command Suite
Speakers	Internal Speaker; Optional Dell 2.0 stereo speaker systems available and Dell sound bar for select flat-panel displays	Regulatory and Environmental	Energy Star® configurations available* including 80 PLUS® registered Gold power supplies; EPEAT® registered (see <a href="http://epeat.net">epeat.net</a> for specific registration rating/status by country); China CECP; GS Mark. For a complete listing of declarations & certifications, see Dell's regulatory & compliance homepage at <a href="http://dell.com/regulatory_compliance">dell.com/regulatory_compliance</a>
Add-in cards	<p><b>Optional:</b> Dell Precision Ultra-Speed Drive Duo (HH/HL,x8) &amp; Ultra-Speed drive Quad (FH/FL,x16) with active cooling. Support for up to 2 and 4 M.2 PCIe NVMe SSDs respectively.</p> <p>Optional USB 3.1 (Gen 2) 10Gb/s Type C card (2 ports) 1 DP pass-through port</p> <p>Optional dual &amp; quad display Teradici PCoIP remote workstation host PCIe cards</p> <p>Optional Thunderbolt 3 PCIe Card (2 ports) 1 DP pass-through port</p> <p>Optional Serial Port PCIe Card</p>	Warranty & Support Services <sup>4</sup>	3-Year Limited Hardware Warranty and 3-year NBD On-Site Service after Remote Diagnosis <b>Optional:</b> Dell ProSupport is designed to rapidly respond to your business's needs, help protect your investment and sensitive data, and provide enhanced proactive support services to help reduce risk and complexity within your IT environment
I/O Ports	<p><b>Front</b></p> <p>2 – USB 3.1 Gen 1 Type A 2 – USB 3.1 Gen 1 Type C 1 – Universal Headphone Jack</p> <p><b>Internal</b></p> <p>1 – USB 2.0 Type A 1 – 2 x 5 USB 2.0 header. (requires 3rd party splitter cable to support 2 x USB 2.0 Type A ports) 6 – SATA @6Gb/s plus 2 for optical</p> <p><b>Rear</b></p> <p>6 – USB 3.1 Gen 1 Type A (6<sup>th</sup> port supports Power Delivery) 1 – Serial 1 – RJ45 Network 2 – PS2 1 – Audio Line out 1 – Audio Line in/Microphone</p>		
Chassis	<p><b>HxWxD:</b> 16.45" (417.9 mm)   Width: 6.95" (176.5 mm)   Depth: 20.4" (518.2 mm)   Starting at weight 34lb/15.4kg</p> <p><b>Bays:</b> (2) FlexBays can support up to 2x 3.25" or 2.5" drives each and (1) 5.25" HDD/SSD drives as factory option or customer kit. (1) Slimline optical bay; (1) SD slot UHS II Class 3 with read only support (SW enabled) Available PCIe backplane FlexBay chassis supporting 1 - 4 x M.2/U.2 PCIe NVMe SSDs.</p> <p><b>Slots:</b> All slots PCIe Gen 3: (2) PCIe x16, (1) PCIe x16 wired as x8, (1) PCIe x16 wired as x4, (1) PCIe x16 wired as x1, 1 PCI 32/33</p> <p>Power Supply: 425W* or 950W (input voltage 100VAC - 240VAC) –90% efficient (80PLUS Gold Certified) Externally accessible/removable/lockable</p>		
Storage devices	Slimline Bay Options: DVD-ROM; DVD+/-RW, CAC/PIV card reader. 5.25" Bay Options: BD, DVD+/-RW; Standard: SD slot UHS II Class 3 with read only support		



## PRECISION 5820 TOWER

# Create without limits

\* Not available on the 5820 Tower with Core X i9 and i7 CPUs.

ISV certification applies to select configurations:

1 System memory may be used to support graphics, depending on system memory size and other factors.

2 Hard Drive capacity varies with preloaded material and will be less.

3 Systems Management Options: Intel® vPro Technology - Fully vPro-capable at point of purchase; the vPro systems management option requires vPro processors. Includes support for Intel Advanced Management Technology (AMT) 9.x. Intel® Standard Manageability - Fully enabled at point of purchase, the Intel Standard Management option is a subset of the AMT features. ISM is not upgradeable to vPro technology post-purchase. No Out-of-Band Systems Management - This option entirely removes Intel out of band systems (OOB) management features. The system can still support in band management. OOB management support through AMT cannot be upgraded post-purchase.

4 Availability and terms of Dell Services vary by region. For more information, visit [Dell.com/servicecontracts/global](http://Dell.com/servicecontracts/global); Limited Hardware Warranty available by writing Dell USA LP, Attn: Warranties, One Dell Way, Round Rock, TX 78682 or see [www.dell.com/warranty](http://www.dell.com/warranty); Onsite Service after Remote Diagnosis: Remote Diagnosis is determination by online/phone technician of cause of issue; may involve customer access to inside of system and multiple or extended sessions. If issue is covered by Limited Hardware Warranty ([www.dell.com/warranty](http://www.dell.com/warranty)) and not resolved remotely, technician and/or part will be dispatched, usually within 1 business day following completion of Remote Diagnosis. Availability varies. Other conditions apply.

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# NVIDIA RTX A5000

## PERFECTLY BALANCED. BLAZING PERFORMANCE.

### Amplified Performance for Professionals

The NVIDIA RTX™ A5000 delivers the power, performance, capabilities, and reliability professionals need to bring their boldest ideas to life. Built on the NVIDIA Ampere architecture, the RTX A5000 combines 64 second-generation RT Cores, 256 third-generation Tensor Cores, and 8,192 CUDA® cores with 24 GB of graphics memory to supercharge rendering, AI, graphics, and compute tasks. Connect two RTX A5000s with NVIDIA NVLink<sup>1</sup> to scale memory and performance with multi-GPU configurations<sup>2</sup>, allowing professionals to work with memory intensive tasks such as large models, ultra-high resolution rendering, and complex compute workloads. Support for NVIDIA virtual GPU software increases the versatility for enterprise deployments.

NVIDIA RTX professional graphics cards are certified with a broad range of professional applications, tested by leading independent software vendors (ISVs) and workstation manufacturers, and backed by a global team of support specialists. Get the peace of mind needed to focus on what matters with the premier visual computing solution for mission-critical business.

### Features

- > PCI Express Gen 4
- > Four DisplayPort 1.4a connectors
- > AV1 decode support
- > DisplayPort with audio
- > 3D stereo support with stereo connector
- > NVIDIA GPUDirect® for Video support
- > NVIDIA virtual GPU (vGPU) software support
- > NVIDIA Quadro® Sync II<sup>3</sup> compatibility
- > NVIDIA RTX Experience™
- > NVIDIA RTX Desktop Manager software
- > NVIDIA RTX IO support
- > HDCP 2.2 support
- > NVIDIA Mosaic<sup>4</sup> technology

To learn more about the NVIDIA RTX A5000, visit [www.nvidia.com/rtx-a5000/](http://www.nvidia.com/rtx-a5000/)

<sup>1</sup> NVIDIA NVLink sold separately. | <sup>2</sup> Connecting two RTX A5000 cards with NVLink to scale performance and memory capacity to 48GB is only possible if your application supports NVLink technology. Please contact your application provider to confirm their support for NVLink. | <sup>3</sup> Quadro Sync II card sold separately. | <sup>4</sup> Windows 10 and Linux. | <sup>5</sup> Peak rates based on GPU Boost Clock. | <sup>6</sup> Effective teraFLOPS (TFLOPS) using the new sparsity feature. | <sup>7</sup> Display ports are on by default for RTX A5000. Display ports are not active when using vGPU software. | <sup>8</sup> 8 GPU supports DX 12.0 API, hardware feature level 12 + 1. | <sup>9</sup> Product is based on a published Khronos specification and is expected to pass the Khronos conformance testing process when available. Current conformance status can be found at [www.khronos.org/conformance](http://www.khronos.org/conformance)

### SPECIFICATIONS

Part Number	VGNRTXA5000-PB
EAN Code	3536403383817
GPU memory	24 GB GDDR6
Memory interface	384-bit
Memory bandwidth	768 GB/s
Error-correcting code (ECC)	Yes
NVIDIA Ampere architecture-based CUDA Cores	8,192
NVIDIA third-generation Tensor Cores	256
NVIDIA second-generation RT Cores	64
Single-precision performance	27.8 TFLOPS <sup>5</sup>
RT Core performance	54.2 TFLOPS <sup>5</sup>
Tensor performance	222.2 TFLOPS <sup>6</sup>
NVIDIA NVLink	Low profile bridges connect two NVIDIA RTX A5000 GPUs <sup>1</sup>
NVIDIA NVLink bandwidth	112.5 GB/s (bidirectional)
System interface	PCI Express 4.0 x16
Power consumption	Total board power: 230 W
Thermal solution	Active
Form factor	4.4" H x 10.5" L, dual slot, full height
Display connectors	4x DisplayPort 1.4a <sup>7</sup>
Max simultaneous displays	4x 4096 x 2160 @ 120 Hz, 4x 5120 x 2880 @ 60 Hz, 2x 7680 x 4320 @ 60 Hz
Power connector	1x 8-pin PCIe
Encode/decode engines	1x encode, 2x decode (+AV1 decode)
VR ready	Yes
vGPU software support <sup>7</sup>	NVIDIA vPC/vApps, NVIDIA RTX Virtual Workstation, NVIDIA Virtual Compute Server
vGPU profiles supported	See the Virtual GPU Licensing Guide
Graphics APIs	DirectX 12.0 <sup>8</sup> , Shader Model 5.1 <sup>7</sup> , OpenCL 4.6 <sup>9</sup> , Vulkan 1.2 <sup>9</sup>

