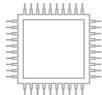# The power to grow.

PRECISION 7820 TOWER

Powerful performance

Power through complex, demanding applications with a new generation of single or dual-socket performance with the Intel® Xeon® processor Scalable family featuring up to 28 cores per processor. Accelerate workflows with faster expandable memory up to 384GB 2666MHz. 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.

Latest technology

Ready for complex projects, including virtual reality workflows, with the next generation AMD Radeon Pro™ and highest performing NVIDIA Quadro® professional graphics with support for up to 500W of graphics power. Front access FlexBays provide outstanding storage expandability up to 24TB with SATA, SAS and PCIe M.2/U.2 NVMe solid state drives featuring hot swap access, so you never have to stop creating.

Innovative design

FlexBay design supports a range of modules from scalable storage to audio options, you can build the workstation designed for your creative expertise. Secure your data with the optional Smart Card (CAC/PIV) reader 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.

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 (Independent Software Vendor certified) to ensure the high-performance applications you rely on every day run smoothly.

Features & Technical Specifications

Feature	Precision 7820 Tower Technical Specifications
Processor Options	One or two Intel® Xeon® processor Scalable family CPUs with up to 28 cores per processor and Intel Advanced Vector Extensions, Intel Trusted Execution Technology, Intel AES New instructions, Optimized Intel Turbo Boost and optional Intel vPro™ technology
Operating System Options	Windows 10 Pro for Workstations (up to 4 Cores) Windows 10 Pro for Workstations (4 Cores Plus) Windows 10 Pro for Workstations Downgrade to Windows 7 (up to 4 Cores) Windows 10 Pro for Workstations Downgrade to Windows 7 (4 Cores Plus) Red Hat® Enterprise Linux® 7.3 Ubuntu Linux 16.04 Suse Linux (SLES 12 SP2) supported NeoKylin 6.0 SP3 (China only)
Chipset	Intel® C621 (Lewisburg)
Memory Options[1]	Six channel memory up to 384GB 2666MHz DDR4 ECC memory with dual CPUs, 12 DIMM Slots (6 DIMMs per CPU). Note: Memory speed is dependent on specific Intel Xeon Processor Scalable Family processor installed.
Graphics Options	Support for 2 PCI Express® x16 Gen 3 graphics cards - up to 500W with maximum of 2 x 250W double width graphics cards on single CPU configurations. Up to 2 x 150W single width graphics cards on dual CPU configurations. **High end 3D cards:** Radeon™ Pro WX 9100 Radeon™ Pro SSG (future) NVIDIA Quadro GP100 NVIDIA Quadro P6000 NVIDIA Quadro P5000 **Mid-range 3D cards:** Radeon™ Pro WX 7100 Radeon™ Pro WX 5100 Radeon™ Pro WX 4100 NVIDIA Quadro P4000 NVIDIA Quadro P2000 **Entry 3D cards:** Radeon™ Pro WX 3100 Radeon™ Pro WX 2100 NVIDIA Quadro P1000 NVIDIA Quadro P600 NVIDIA Quadro P400 **Professional 2D cards:** NVIDIA NVS 310 NVIDIA NVS 315
Storage Options **(Check regional availability)**	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 NVMe PCIe SSDs are supported in FlexBays on enabled PCIe chassis with integrated Intel controller. NVMe RAID 0,1 option (Intel RSTe vROC). Dell M.2 carrier with PCIe SSD for PCIe FlexBay available as customer kit. 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) **M.2 NVMe PCIe SSDs** Up to 4 x 1TB drives on 1 Dell Precision Ultra-Speed Drive Quad x16 cards. **Front FlexBay M.2 NVMe PCIe SSDs** Up to 2 x 1TB drives **2.5" SATA SSD** Up to 6 x 1TB 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 6x 900GB (future)
2.5" Self Encrypting Drives
512GB 2.5" SED (OPAL/ FIPS (140-2) HDD
M.2 PCIe SED SSD
512GB and 1TB Intel®

Storage Controller

Integrated: 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 1st Dell Ultra-Speed Drive Quad x16
or Duo x8 card (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.
Optional: 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.
Optional Intel SW (vROC) based RAID 0,1,10 support on Dell Ultra-Speed Drive Quad and Duo (RAID 0,1) cards with NVMe PCIe SSDs.

Communications

Integrated: Intel® i219 Gigabit Ethernet controllers with Intel Remote Wake UP, PXE and Jumbo frames support
Optional: 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,
Aquantia AQN-108 2.5Gbit/5Gbe single port PCIe (Gen3 x4) network card

Audio Controller

Integrated Realtek ALC3234 High Definition Audio Codec (2 Channel)
Optional Dell Digital Audio Interface (2Ch, 120dB S/N ratio – 5.25" FlexBay option (USB interface) (future)

Speakers

Internal Speaker; Optional Dell 2.0 stereo speaker systems available and Dell sound bar for select flat-panel displays

Add-in cards

Optional: Dell Precision Ultra-Speed Drive Duo (HH/HL,x8) & Ultra-Speed drive Quad (FH/FL,x16) with active cooling. Support for up to 2 and 4 M.2 PCIe NVMe SSDs respectively.
Optional USB 3.1 (Gen 2) 10Gb/s Type C card (2 ports) 1 DP pass-through port
Optional dual & quad display Teradici PCoIP remote workstation host PCIe cards
Optional Thunderbolt 3 PCIe Card (2 ports) 1 DP pass-through port
Optional Serial Port PCIe Card

I/O Ports

Front
2 – USB 3.1 Gen 1 Type A
2 – USB 3.1 Type C
1 – Universal Audio Jack
Up to 2 (future 4) x4 PCIe slots in PCIe enabled chassis for M.2 and U.2 (future) PCIe SSDs
Internal
1 – USB 2.0
1 - 2 x 5 USB 2.0 header. (requires 3rd party splitter cable to support 2 x USB 2.0 Type A ports)
8 – SATA @6Gb/s
Rear
6 – USB 3.1 Gen 1 Type A
1 – Serial
1 – RJ45 Network
2 – PS2
1 –Audio Line out
1– Audio Line in/Microphone

Chassis

HxWxD: 417.9mm x 176.5mm x 518.3mm. Optional 19" rackmount rail kit
Bays: (2) FlexBays and (1) 5.25" FlexBay (can support 1 x 3.5" or 2 x 2.5" HDD/SSD drives as factory option or customer kit)
(1) Slimline optical bay; (1) SD slot UHS ll Class 3 with read only support (SW enabled)
Available PCIe chassis with PCIe FlexBays supporting M.2 NVMe PCIe SSDs and future U.2 NVMe PCIe SSDs. PCIe FlexBay customer kit available.
Slots: 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
Power Supply: 950W (input voltage 100VAC - 240VAC) –90% efficient (80PLUS Gold Certified)
Externally accessible/removable/lockable

Storage devices	**Slimline Bay Options:** DVD-ROM; DVD+/-RW 5.25" Bay Options: BD, DVD+/-RW; **Standard:** SD slot UHS ll Class 3 with read only support
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
Manageability[4]	AMT or vPro with DASH support Dell vPro Enhancements (Grasslake) SNMT/CIM vis OMCI Dell Command Suite
Regulatory and Environmental	Energy Star® configurations available including 80 PLUS® registered Gold power supplies; EPEAT® registered (see epeat.net 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 dell.com/regulatory_compliance
Warranty & Support Services[5]	3-Year Limited Hardware Warranty and 3-year NBD On-Site Service after Remote Diagnosis Optional: 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
TAA	YES (check regional availability)

ISV certification applies to select configurations:

[1] GB means 1 billion bytes and TB equals 1 trillion bytes; actual capacity varies with preloaded material and operating environment and will be less.

[2] GB means 1 billion bytes and TB equals 1 trillion bytes; significant system memory may be used to support graphics, depending on system memory size and other factors.

[3] Computrace is not a Dell offer. Certain conditions apply. For full details, see terms and conditions at www.absolute.com/en/about/legal/agreements.

[4] 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.

[5] Availability and terms of Dell Services vary by region. For more information, visit 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; 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) 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.

Essential Accessories

Dell Canvas

Dell Wireless Premium
Keyboard & Mouse
Combo | KM717

Dell UltraSharp Ultra HD
4K Monitor with
PremierColor | UP3216Q

The power to grow.