When Stability Matters
When you choose an OEM XL product, you get the stability, visibility and longevity you need from the #1 Worldwide OEM provider. You can focus your time more on innovation for competitive differentiation and less on hardware development churn. Leverage our highly controlled parallel supply chain to help ensure stability. Plan and allocate your budget more effectively with long-term visibility to product roadmaps and in advance notification of hardware changes. And take that additional time you require to validate and certify your solution with an 18-month transition period after the launch of the next generation products. The Dell EMC OEM products were designed 100% with OEMs in mind.

**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 2667MHz. 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 FlexBay design provides maximum 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. An optional CPU liquid cooling solution (single CPU system) provides enhanced cooling that’s quieter under sustained and peak workloads. Precision Workstations are tested (Independent Software Vendor certified) to ensure the high-performance applications you rely on every day run smoothly.
# Precision 7820 XL Tower Technical Specifications

## Feature

### 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 Professional (64 bit)
- Windows® 10 Professional (64 bit) w/downgrade to Windows® 7 Professional while available
- Red Hat® Enterprise Linux® 7.3
- Ubuntu Linux 16.04
- NeoKylin 6.0 SP3 (China only)

### OEM XL specific OS option

Windows 10 IoT Enterprise 2016 LTSB (64-bit)

### Chipset

- Intel® C621 (Lewisburg)
- Intel® Xeon® Platinum 8180
- Intel® Xeon® Platinum 8168
- Intel® Xeon® Gold 6148
- Intel® Xeon® Gold 6138
- Intel® Xeon® Gold 6136
- Intel® Xeon® Gold 6140
- Intel® Xeon® Gold 6134
- Intel® Xeon® Gold 6128
- Intel® Xeon® Gold 5118
- Intel® Xeon® Gold 5122
- Intel® Xeon® Silver 4116
- Intel® Xeon® Silver 4114
- Intel® Xeon® Silver 4112
- Intel® Xeon® Silver 4110
- Intel® Xeon® Bronze 3106

### Memory Options

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.

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.

### Graphics Options

- **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

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 6 x 900GB

2.5” Self Encrypting Drives

512GB 2.5” SED (OPAL/ FIPS (140-2) HDD

M.2 PCIe SED SSD

512GB and 1TB Intel®

Integrated: Intel® chipset SATA controller (6Gb/s) with 8 SATA ports, plus 1 dedicated port 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)

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.

Integrated: Intel® i219 Gigabit Ethernet controllers with Intel Remote Wake UP, PXE and Jumbo frames support

Communications

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/5Gb single port PCIe (Gen3 x4) network card

Audio Controller

Integrated Realtek ALC3234 High Definition Audio Codec (2 Channel)

Optional Pro Audio Interface (2Ch, 120dB S/N ratio – 5.25” FlexBay option (USB interface)

Speakers

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

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

Add-in cards
Front
2 – USB 3.1 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 plus 1 SATA for optical

Rear
6 – USB 3.1 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 II 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 181VAC-240AC) –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 II Class 3 with read only support

Security Options
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
AMT or vPro with DASH support
Dell vPro Enhancements (Grasslake)
SNMT/CIM vis OMCI
Dell Command Suite

Manageability
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

Regulatory and Environmental
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.

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Essential Accessories

PRECISION 7820 XL TOWER

Dell Canvas

Dell Wireless Premium Keyboard & Mouse Combo | KM717

Dell UltraSharp Ultra HD 4K Monitor with PremierColor | UP3216Q

The power to grow.

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