Dell Precision T1650
Entry-level tower workstation designed for demanding workloads

Dell Precision™ Workstations
Precision is the key element that separates greatness from everything else. Dell Precision is your key tool for editing photos, drawing CAD images, working with web development tools, architectural drawings, or wringing the most from any performance-intensive application. Our revolutionary workstation-class products offer voracious productivity, Independent Software Vendor (ISV) certification\(^1\), superb reliability, and harmonious manageability to maximize your productivity and dependability.

Built to work for you
Whether you’re working with 2D or entry-level 3D designs you want a workstation that enables you to get the job done without breaking the budget. Dell Precision T1650 offers a variety of ISV-certified applications and system configurations, so you can rest easy knowing your professional-grade system can handle your workstation-class applications.

Evolve beyond the desktop
Tackle tough jobs that are beyond the capability of a standard desktop and take on your resource-consuming applications with powerful hardware options including:

- 3rd Generation Intel® Core™ Processors and Intel® Xeon® Processor E3-1200v2 Family with optional Intel vPro™ Technology
- Up to 32GB\(^2\) of dual-channel ECC or 16GB of non-ECC memory\(^4\)
- Intel Turbo Boost Technology\(^5\) offering outstanding performance for complex applications
- Speedy access to your data with integrated SATA 6Gb/s ports and RAID 0/1/5/10 options to facilitate data mirroring and data striping
- Intel Smart Response Technology\(^8\) for low-cost, high-performance storage
- Four USB 3.0 ports, two in front and two in back, for fast data transfer between external devices
- Integrated Intel HD graphics\(^5\), or choose from a broad selection of high-powered AMD FirePro\(^\circ\) or NVIDIA\(^\circ\) Quadro\(^\circ\) professional-grade graphics options.

Reduce environmental impact
T1650 is EPEAT®-registered\(^3\) and offers ENERGY STAR® 5.2 configurations, including 80 PLUS®-registered Gold power supplies. This can help lower your impact on the environment and can also help reduce your operating energy costs.

Designed with growth in mind
A new industrial design and tool-less features enable you to perform service and upgrades with ease. Dell Precision T1650 chassis incorporates an array of features to make it a versatile addition to your infrastructure, offering:

- Tool-less chassis and a straightforward, clutter-free interior providing easy access to components
- Conveniently placed handholds to aid in moves and deployments
- Up to two 3.5” or four 2.5” tool-less hard drives enabling you to process large amounts of data with ease

Maintain security
Help keep your critical data safe with the Dell Precision T1650. Optional Dell Data Protection | Encryption utilizes either hardware-based Full Volume Encryption via a hardware encryption accelerator or software-based data-centric encryption. Alternatively, you can safe house your data with self-encrypting drives.

Beyond-Your-Expectations Service
If your Dell Precision workstation has an issue, rest assured that it is covered by one of our optional service options. Dell can get you up and running quickly and help you stay productive with responsive service and technicians.

- Dell Configuration Services\(^11\) incorporates hardware, images, applications, peripherals and documents with your system as it’s built to help simplify and speed up deployment, while improving consistency and compatibility.
- Our premium support service, Dell ProSupport\(^\circ\), features 24/7 direct telephone access to advanced-level technicians based in your region to end downtime and resolve problems quickly.
- The Dell ProSupport Collaborative Support\(^11\) feature provides assistance even if you have a problem with non-Dell hardware or software. We will leverage our relationships with select third-party vendors and act as your single point of contact to help resolve your issue.

Dell recommends Windows®
## Dell Precision T1650 Workstation Technical Specifications

### Processors
Intel® Xeon® Processor E3-1200v2 Family, 3rd generation Intel® Core™ i7 and i5, 2nd generation Intel Core i3, Turbo Boost Technology 2.0® and Intel Integrated HD Graphics on select processors; optional Intel vPro™ technology

### Operating Systems
- Windows® 8 Pro (64-Bit)
- Genuine Windows® 7 Ultimate 32-Bit; Genuine Windows® 7 Ultimate 64-Bit
- Genuine Windows® 7 Professional 32-Bit; Genuine Windows® 7 Professional 64-Bit
- Red Hat® Enterprise Linux® WS v6.2 EM64T (Also certified to run Red Hat Enterprise Linux Version 5.8 64-Bit)
- Ubuntu 11.10 Linux (China only)

### Chipset
Intel® C216

### Memory
Up to 32GB 1600MHz ECC or 16GB non-ECC DDR3 memory; 4 DIMM slots

### Graphics
Support for one PCI Express® x16 Gen 3 graphic card up to 75W (total for graphics):

<table>
<thead>
<tr>
<th>High End 3D</th>
<th>Mid-range 3D</th>
<th>Entry 3D</th>
<th>Professional 2D</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>Intel® Quadro® 2000</td>
<td>AMD FirePro V4900 NVIDIA Quadro K6000</td>
<td>AMD FirePro 2270 Intel HD Graphics 4000/4000®</td>
</tr>
</tbody>
</table>

### Storage Options
Up to two 3.5" or four 2.5" SATA hard drives. Intel Smart Response Technology (SRT)® supported with select hard drives:

<table>
<thead>
<tr>
<th>Storage Options</th>
<th>Storage Devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>SATA 3.0Gb/s 7200RPM</td>
<td>Up to 20TB</td>
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<tr>
<td>SATA 6.0Gb/s SSD</td>
<td>256GB</td>
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<tr>
<td>Self Encrypting Drive (SED)</td>
<td>320GB</td>
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</tbody>
</table>

### Storage Controller
Integrated: Intel Rapid Storage Controller 11.0 supporting SATA 6Gb/s and host based RAID 0/1/5/10

### Communications
Integrated: Integrated 82579 Gigabit Ethernet controller with Remote Wake UP, PXE and Jumbo frames support
Optional: Broadcom NetXtreme 10/100/1000 Gigabit Ethernet controller (PCI Express card)

### Audio Controller
Integrated Realtek ALC269VB High Definition Audio

### I/O Ports

<table>
<thead>
<tr>
<th>I/O Ports</th>
<th>Front</th>
<th>Internal</th>
<th>Rear</th>
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</thead>
<tbody>
<tr>
<td>2 - USB 2.0</td>
<td>1 - USB 2.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 - USB 3.0</td>
<td>2 - SATA 6.0Gb/s</td>
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<td></td>
</tr>
<tr>
<td>1 - Microphone</td>
<td>2 - SATA 3.0Gb/s</td>
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<td></td>
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<tr>
<td>1 - Headphone</td>
<td></td>
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<tr>
<td>4 - USB 2.0</td>
<td>2 - USB 3.0</td>
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<tr>
<td></td>
<td>2 - PS2</td>
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<tr>
<td></td>
<td>2 - DisplayPort</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>1 - VGA</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>1 - RJ45</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>1 - Serial</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>1 - Audio line-in / microphone</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 - Audio line-out</td>
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### Mid-Tower Chassis
Dimensions: (HxWxD) 14.17" x 6.89" x 17.13"; 360mm x 175mm x 435mm

### Monitor Compatibility
Recommended with high-performance Dell UltraSharp™ widescreen displays from 22" to 30" viewable. Also compatible with Dell Professional and E Series widescreen & standard displays from 17" to 24" viewable; analog flat-panel displays also available

### Keyboard
Dell Entry keyboard; or optional Dell KB522 Wired Business Multimedia Keyboard (good); Dell NY606 SmartCard USB Keyboard (better); Logitech MK710 Wireless Keyboard and Mouse Combo (best)

### Speaker
Dell Optical Mouse or optional Dell WM311 3-Button Wireless Mouse (good); Logitech 910-001105 MX Performance Wireless Mouse (best)

### Security
- Trusted Platform Module 1.2 (TPM 1.2)®: Optional intrusion switch; Setup/BIOS Password; I/O Interface Security; Kensington® lock slot, Padlock ring, lockable power supply; Dell Data Protection | Encryption solution®
- Energy Star® 5.2 configurations available with select hard drives.

### Environmental and Regulatory
Energy Star® 5.2 certified with select hard drives. 180 PLUS® registered Gold power supplies.

### Warranty and Support Services
Limited Hardware Warranty*: Standard 1-year Next Business Day On Site Service after Remote Diagnosis

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1. ISV certification applies to select configurations.
2. A 64-bit operating system is required to support 4GB or more of system memory.
3. See spec sheet for specific registration rating/status by country.
4. 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.
5. Intel® Turbo Boost mode only available on Xeon, Core™ i7 and Core™ i5 processors. Intel Integrated HD graphics only available with select processors.
6. GB means 1 billion bytes and TB equals 1 trillion bytes; actual capacity varies with preloaded material and operating environment and will be less.
7. Available in select regions.
8. Intel Smart Response Technology requires proper storage configuration of one or more hard drives and 32GB SSD. Depending on system configuration, your results may vary.
9. For copy of Ltd Hardware Warranty, write Dell USA LP, Attn: Warranties, One Dell Way, Round Rock, TX 78682 or see dell.com/warranty.
10. 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.
11. Availability and terms of Dell Services vary by region. For more information, visit www.dell.com/servicesdescriptions.

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Learn more at dell.com/precision

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