Precision 7960 Rack

- **Precision 7960 Rack** ⇒ Processor Options: The 7960 typically supports the latest Intel Xeon Scalable processors or high-end Intel Core processors, allowing configurations with multiple cores and threads, ideal for parallel processing tasks.
- **Memory (RAM):** It can support large amounts of RAM, often in the range of hundreds of gigabytes, with ECC (Error Correcting Code) memory available for improved data integrity in mission-critical tasks.
- **Graphics and GPU:** This model supports professional-grade NVIDIA or AMD GPUs, including options for the latest NVIDIA RTX or Quadro cards, depending on your need for high-end graphics or GPU-accelerated computations.
- **Storage**: It typically comes with enterprise-class storage options, including SSDs for faster data access and larger HDDs for bulk storage, often with RAID configurations for redundancy and performance optimization.
- **Expansion**: The Dell Precision 7960 Rack offers various expansion slots for additional GPUs, network cards, or other peripherals to meet specific workload requirements.
- **Remote Management**: Being part of Dell's enterprise solutions, the Precision 7960 Rack likely includes advanced remote management tools, such as Dell i D RAC (Integrated Dell Remote Access Controller), which allows IT administrators to monitor and manage the system remotely.
- **Cooling and Power:** Designed to operate in a rack environment, it includes high-efficiency cooling solutions and power supplies, ensuring reliable performance under load.
- **Form Factor:** As a rack-mounted system, it is designed for 1U or 2U rack space (depending on the configuration), making it ideal for environments with space constraints.

Processor Options

- The Precision 7960 Rack supports **Intel Xeon Scalable processors (including the latest generations),** providing up to **28 cores per processor with multi-threading capabilities** for unparalleled parallel computing performance.
- Some configurations may include **Intel Core i9** processors, which deliver high clock speeds for single-threaded applications.
- These processors are ideal for computationally intense tasks like **3D modeling, video editing, AI/ML processing, and financial modeling.**

2. Graphics & GPUs

- The workstation can be configured with **NVIDIA RTX (such as the A5000 or A6000) and AMD Radeon Pro graphics cards.**
- These GPUs are built for professional graphics workloads like **GPU rendering, CAD, and VR applications**.
- GPU support includes **NVIDIA CUDA cores,** Tensor cores, and RT cores for **deep learning, ray tracing, and AI inference.**
- Multiple GPUs can be installed for **GPU-accelerated workflows**.

3. Memory & Storage

Memory: The system supports up to **1TB of DDR4 ECC RAM (Error Correcting Code)**, ensuring data integrity, especially for mission-critical tasks where accuracy is essential.

- Multiple DIMM slots are available for high capacity, and the memory can be configured in **dual-channel or quad-channel** mode to maximize throughput.
- **Storage**: The Precision 7960 Rack provides options for both NV Me SSDs and SATA SSDs for high-performance storage.
- The system supports **RAID configurations (RAID 0, 1, 5, 10, etc.)** for enhanced performance, fault tolerance, and data redundancy.
- Typically, the system can support multiple **M.2 NV Me drives,** allowing for high-speed storage and quick data access.
- For large datasets, a combination of **HDDs and SSDs** can be used, providing the speed of SSDs with the capacity of **HDDs**.

4. I/O and Expansion

- The Precision 7960 Rack comes with **plenty of PCI e slots** for additional expansion. Depending on the configuration, it may support up to four **PCI e Gen 4 slots.**
- These slots allow you to install additional **GPUs**, storage controllers, or specialized cards for networking, video capture, or machine learning.
- Networking: Includes **10GbE, 25GbE, or 40GbE** network cards, ensuring fast data transfer rates for heavy network traffic or distributed computing tasks.
- **USB Ports: Multiple USB 3.2** ports for connectivity to peripherals like external drives, printers, and input devices.

5. Remote Management

- **The Dell Precision 7960** Rack is integrated with Dell i D RAC (Integrated Dell Remote Access Controller), enabling remote system management.
- **With iDRAC9 Enterprise**, you get capabilities such as remote power cycling, diagnostics, hardware monitoring, and remote console access. This is crucial for IT teams managing multiple systems in data centers or remote locations.
- **Dell's Open Manage Enterprise** software can be used to monitor and manage the system at a larger scale in enterprise environments, making it easier to deploy and maintain systems across multiple locations.

6. Cooling and Reliability

- **The system features intelligent cooling solution**s, designed to optimize airflow and ensure that the components remain at ideal temperatures even under heavy loads.
- **This is critical for maintaining performance** and extending the lifespan of hardware, especially when the system is running demanding applications continuously.
- **The Precision 7960** Rack also comes with hot-swappable redundant power supplies, ensuring that if one PSU fails, the other can take over without impacting performance.

7. Form Factor & Design

- **As a rack-mounted workstatio**n, the Precision 7960 fits into standard 1U or 2U rack spaces, making it ideal for use in data centers, server rooms, or environments where space optimization is crucial.
- The compact form factor ensures that businesses can consolidate computing resources in a smaller footprint **without sacrificing performance.**
- **Front and rear I/O options allow for easy access to ports**, and some models come with a front hot-swap drive bay to increase flexibility for adding or removing storage drives without shutting down the system.

8. Security Features

- **The Precision 7960 Rack** offers several enterprise-grade security features, including TPM (Trusted Platform Module) for hardware-based security.

- **Dell Data Security features** such as encryption, secure boot, and advanced authentication mechanisms are included to protect sensitive data and prevent unauthorized access.

9. Industry Applications

- **The Precision 7960 Rack** is perfect for industries like:
- **Engineering & CAD**: Used for 3D rendering, simulations, and design workflows.
- **Media & Entertainment:** For high-resolution video editing, 3D animation, and visual effects.
- **Machine Learning & AI:** Supports GPU-accelerated AI model training and large data set analysis.
- **Finance & Analytics**: For real-time data processing and complex financial modeling.
- **Healthcare**: For medical imaging, diagnostics, and research simulations.

10. Operating System & Software Support

- **The Precision 7960 Rack** can run a variety of professional-grade operating systems such as Windows 11 Pro for Workstations, Windows Server, and Linux distributions (Red Hat, Ubuntu, CentOS, etc.).
- It supports a wide range of professional applications including Autodesk AutoCAD, Dassault systems **SOLIDWORKS**, Adobe Creative Cloud, and MATLAB.