

| Tower Workstations Compared | Lenovo ThinkStation P5 workstation <small>(one 2.5GHz Intel Xeon w7-2495X 24-core CPU, NVIDIA RTX A4500, 32GB RAM, 512GB SSD)</small> | Lenovo ThinkStation PX workstation <small>(one 2.0GHz Intel Xeon Gold 5416S 16-core CPU, NVIDIA RTX A6000, 128GB RAM, 1TB SSD)</small> | HP Z4 Rack G5 workstation <small>(one 3.1GHz Intel Xeon w5-2465X 16-core CPU, NVIDIA RTX A6000, 128GB RAM, 2x 1TB SSD)</small> | Velocity Micro ProMagix HD60 2023 workstation <small>(one 5.8GHz Intel Core i9-13900K 24-core CPU, NVIDIA RTX A4500, 64GB RAM, 1TB SSD)</small> | HP Z4 G5 workstation <small>(one 4.8GHz Intel Xeon w7-2495X 24-core CPU, NVIDIA RTX A4000, 64GB RAM, 2TB SSD, 1TB SSD)*</small> | Lenovo P630 Ultra workstation <small>(one 2.4GHz Intel Core i9-12900 16-core CPU, NVIDIA RTX A2000, 32GB RAM, 1TB SSD)</small> |
|--|--|---|---|--|--|---|
| Price as tested | \$5,617 | \$9,274 | \$15,288 | \$4,438 | \$6,994 | \$2,432 |
| Date tested | 9/14/2023 | 9/13/2023 | 9/12/23 | 7/28/23 | 7/20/23 | 4/10/23 |
| Operating System | Windows 11 Pro | Windows 11 Pro | Windows 11 Pro | Windows 11 Pro | Windows 11 Pro | Windows 11 Pro |
| CPU | Intel Xeon w7-2495X | Intel Xeon Gold 5416S | Intel Xeon w7-2465X | Intel Core i9-13900K | Intel Xeon w7 | Intel Core i9 |
| CPU clock speed | 2.5 GHz | 2.0 GHz | 3.1 GHz | 5.8 GHz | 4.8 GHz | 2.4 GHz |
| CPU cores | 24 | 16 | 16 | 24 | 24 | 16 |
| System memory (RAM) | 32GB | 128GB | 128GB | 64GB | 64GB | 32GB |
| GPU | NVIDIA RTX A4500 | NVIDIA RTX A6000 | NVIDIA RTX A6000 | NVIDIA RTX A4500 | RTX A4000 | RTX A2000 |
| GPU discrete memory (RAM) | 48GB | 48GB | 48GB | 20GB | 16GB | 12GB |
| Graphics driver version | 526.67 (7/12/23) | 526.67 (7/12/23) | 535.98 (5/24/23) | 536.25 (6/10/23) | 527.48 | 528.49 (2/2/23) |
| Primary drive size and type | 512GB PCIe DDS | 1TB PCIe SSD | 1TB PCIe SSD | 1TB PCIe SSD | 2TB PCIe SSD | 1TB PCIe SSD |
| Secondary drive size and type | none | none | 1TB PCIe SSD | none | 1TB PCIe SSD | none |
| Total drive storage | 512GB | 1TB | 2TB | 1TB | 3TB | 1TB |
| System weight (pounds) | 32.00 | 60.50 | 27.25 | 28.00 | 27.00 | 8.99 |
| Power supply wattage | | | 1,350 | 850 | 1,125 | 300 |
| SPECviewperf 2020 V3.1 (higher is better) | | | | | | |
| 3dsmax-07 | 161.52 | 205.89 | 207.83 | 165.27 | 147.46 | 80.49 |
| catia-06 | 118.10 | 129.80 | 138.81 | 133.22 | 104.51 | 63.08 |
| creo-03 | 143.63 | 127.06 | 139.69 | 192.56 | 135.28 | 119.12 |
| energy-03 | 87.09 | 127.74 | 130.74 | 87.83 | 68.60 | 33.83 |
| maya-06 | 443.04 | 468.59 | 506.22 | 508.86 | 407.39 | 269.74 |
| medical-03 | 74.79 | 92.34 | 94.29 | 74.78 | 69.58 | 40.86 |
| snx-04 | 785.77 | 916.61 | 651.50 | 448.21 | 479.49 | 382.26 |
| solidworkws-05 | 356.99 | 406.15 | 400.45 | 314.03 | 278.60 | 162.17 |
| SPEC workstation v3.1 (higher is better) | | | | | | |
| Media and Entertainment | 5.50 | 4.29 | 5.09 | 6.58 | 4.83 | 3.56 |
| Product Development | 5.80 | 5.00 | 5.72 | 5.66 | 5.40 | 3.82 |
| Life Sciences | 5.56 | 4.98 | 5.54 | 7.07 | 5.68 | 3.35 |
| Financial Services | 7.48 | 4.37 | 5.71 | 8.37 | 6.34 | 3.45 |
| Energy | 6.67 | 5.44 | 5.97 | 7.27 | 6.12 | 3.78 |
| General Operations | 2.98 | 2.46 | 2.85 | 4.32 | 2.56 | 3.16 |
| GPU Compute | 6.27 | 7.30 | 7.55 | 6.41 | 5.16 | 3.62 |
| Time AutoCAD Render Test (in seconds, lower is better) | | | | | | |
| | 15.2 | 19.6 | 16.8 | 10.30 | 15.0 | 22.1 |

Numbers in blue indicate best recorded results. Numbers in red indicate worst recorded results.