

Tower Workstations Compared

	Lenovo ThinkStation P620 workstation <small>(one 2.7GHz AMD Ryzen Threadripper Pro 3995WX 64-core CPU, NVIDIA Quadro RTX6000, 32GB RAM, 512GB SSD)</small>	Velocity Micro ProMagix HD60 <small>HD60 ATX AMD workstation (one 3.5GHz AMD Ryzen 9 3950X 16-core CPU, NVIDIA Quadro RTX 4000, 32GB RAM, 1TB SSD, 2TB SAT)</small>	Velocity Micro ProMagix HD60 <small>one 3.6GHz Intel Core i9-9900K 8-core CPU over-clocked to 5.1GHz, NVIDIA Quadro RTX6000, 32GB RAM, 512GB SSD, 2TB SATA HD</small>	@Xi MTower PCIe <small>one 3.5GHz Intel Core i9-9920X 12-core CPU over-clocked to 4.3GHz, NVIDIA Quadro RTX5000, 32GB RAM, 512GB SSD</small>	Lenovo ThinkStation P520 <small>one 4.0GHz Intel Xeon W-2125 quad-core CPU, NVIDIA Quadro P4000, 16GB RAM, 512GB SSD</small>	Dell Precision 7820 <small>two 3.0GHz Intel Xeon Gold 6148 20-core CPU, NVIDIA Quadro P4000, 96GB RAM, 500GB SSD, 2TB SATA HD</small>
Price as tested	\$12,878	\$4,733.00	\$6,328	\$6,400	\$2,825	\$12,582
Date tested	12/18/20	12/11/19	4/21/19	2/28/19	7/18/18	7/15/18
Operating System			Windows 10 Home	Windows 10 Home	Windows 10 Home	Windows 10 Home
SPECviewperf 13 (higher is better)						
3dsmax-05	277.80	189.84	290.23	229.42	132.29	130.53
catia-04	375.67	264.39	394.33	325.82	244.08	193.52
creo-01	385.90	246.92	388.38	311.19	201.97	125.77
energy-01	78.48	37.38	76.95	53.76	12.50	12.88
maya-04	387.76	264.91	440.31	347.30	223.91	193.32
medical-01	160.60	81.12	123.16	104.42	45.69	31.97
showcase-01	190.35	114.26	192.20	150.04	74.51	74.98
snx-02	985.51	316.07	497.17	574.11	470.02	227.67
sw-03	195.02	154.34	220.40	179.19	164.24	123.04
SPECapc SOLIDWORKS 2015 (higher is better)						
Graphics Composite	4.63	4.27	6.26	5.09	4.55	4.38
Shaded Graphics Sub-Composite	2.83	2.55	4.09	3.40	3.07	2.90
Shaded w/Edges Graphics Sub-Composite	3.47	3.37	5.03	4.26	3.79	3.73
Shaded using RealView Sub-Composite	3.34	3.08	4.64	3.83	3.43	3.27
Shaded w/Edges using RealView Sub-Composite	4.03	3.83	5.24	4.25	3.83	3.85
Shaded using RealView and Shadows Sub-Composite	3.84	3.42	5.33	4.36	3.95	3.71
Shaded with Edges using RealView and Shadows Graphics Sub-Composite	4.27	3.92	5.56	4.47	4.05	4.02
Shaded using RealView and Shadows and Ambient Occlusion Graphics Sub-Composite	12.86	11.30	17.29	13.58	11.50	10.57
Shaded with Edges using RealView and Shadows and Ambient Occlusion Graphics Sub-Composite	12.60	11.13	15.95	12.57	10.93	10.56
Wireframe Graphics Sub-Composite	3.60	3.91	4.61	3.66	3.45	3.25
CPU Composite	5.46	3.76	4.44	4.50	2.95	3.75
SPECwpc v3.0 (higher is better)						
Media and Entertainment	5.92	3.89	3.55	3.69	n/a	n/a
Product Development	4.78	3.50	3.24	3.37	n/a	n/a
Life Sciences	4.21	3.70	2.92	3.09	n/a	n/a
Financial Services	9.43	5.84	3.12	3.23	n/a	n/a
Energy	5.15	2.72	1.96	2.38	n/a	n/a
General Operations	2.14	2.45	2.51	2.36	n/a	n/a
Time						
Autodesk Render Test (in seconds, lower is better)	25.00	23.9	24.10	23.80	61.60	28.30

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