

Tower Workstations Compared

HP Z2 Tower G8 workstation
(one 3.5GHz Intel Core i9-11900K 8-core CPU, NVIDIA RTX A4000, 32GB RAM, 1TB SSD)

Lenovo ThinkStation P620 workstation
(one 2.7GHz AMD Ryzen Threadripper Pro 3995WX 64-core CPU, NVIDIA Quadro RTX6000, 32GB RAM, 512GB SSD)

Velocity Micro ProMagix HD60 ATX AMD workstation
(one 3.5GHz AMD Ryzen 9 3950X 16-core CPU, NVIDIA Quadro RTX 4000, 32GB RAM, 1TB SSD, 2TB SAT)

Velocity Micro ProMagix HD60
(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)

@Xi MTower PCIe
(one 3.5GHz Intel Core i9-9920X 12-core CPU over-clocked to 4.3GHz, NVIDIA Quadro RTX5000, 32GB RAM, 512GB SSD)

Lenovo ThinkStation P520
(one 4.0GHz Intel Xeon W-2125 quad-core CPU, NVIDIA Quadro P4000, 16GB RAM, 512GB SSD)

Price as tested	\$2,875.00	\$12,878	\$4,733.00	\$6,328	\$6,400	\$2,825
Date tested	9/24/21	12/18/20	12/11/19	4/21/19	2/28/19	7/18/18
Operating System				Windows 10 Home	Windows 10 Home	Windows 10 Home
SPECviewperf 13 (higher is better)						
3dsmax-05	233.93	277.80	189.84	290.23	229.42	132.29
catia-04	374.74	375.67	264.39	394.33	325.82	244.08
creo-01	343.23	385.90	246.92	388.38	311.19	201.97
energy-01	66.20	78.48	37.38	76.95	53.76	12.50
maya-04	392.19	387.76	264.91	440.31	347.30	223.91
medical-01	140.78	160.60	81.12	123.16	104.42	45.69
showcase-01	141.19	190.35	114.26	192.20	150.04	74.51
snx-03	454.01	985.51	316.07	497.17	574.11	470.02
sw-04	232.46	195.02	154.34	220.40	179.19	164.24
SPECapc SOLIDWORKS 2015 (higher is better)						
Graphics Composite	n/a	4.63	4.82	6.26	5.09	4.55
Shaded Graphics Sub-Composite	n/a	2.83	2.95	4.09	3.40	3.07
Shaded w/Edges Graphics Sub-Composite	n/a	3.47	3.66	5.03	4.26	3.79
Shaded w/ RealView Graphics Sub-Composite	n/a	3.34	3.48	4.64	3.83	3.43
Shaded w/Edges using RealView Sub-Composite	n/a	4.03	4.23	5.24	4.25	3.83
Shaded using RealView and Shadows Sub-Composite	n/a	3.84	4.01	5.33	4.36	3.95
Shaded with Edges using RealView and Shadows Graphics Sub-Composite	n/a	4.27	4.48	5.56	4.47	4.05
Shaded using RealView and Shadows and Ambient Occlusion Graphics Sub-Composite	n/a	12.86	12.82	17.29	13.58	11.50
Shaded with Edges using RealView and Shadows and Ambient Occlusion Graphics Sub-Composite	n/a	12.60	12.80	15.95	12.57	10.93
Wireframe Graphics Sub-Composite	n/a	3.60	3.85	4.61	3.66	3.45
CPU Composite	n/a	5.46	4.05	4.44	4.50	2.95
SPECwpc v3.0 (higher is better)						
Media and Entertainment	3.18	5.92	3.89	3.55	3.69	n/a
Product Development	3.24	4.78	3.50	3.24	3.37	n/a
Life Sciences	3.05	4.21	3.70	2.92	3.09	n/a
Financial Services	2.59	9.43	5.84	3.12	3.23	n/a
Energy	1.85	5.15	2.72	1.96	2.38	n/a
General Operations	2.31	2.14	2.45	2.51	2.36	n/a
Time						
Autodesk Render Test (in seconds, lower is better)	18.9	25.00	23.9	24.10	23.80	61.60

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