CAD/CAM Workstations: A Purchase Checklist

Maximize ROI with hardware that aligns your business goals with end-user needs.

CAD/CAM workstations are a big investment for any enterprise. Use this handy checklist to guide your purchase decision, so you can reduce your total cost of ownership while providing your engineering teams with everything they need to do more, faster.

☐ **Operating System**

64-bit Windows® 7 will maximize your memory.

☐ **Exceed the System Requirements**

Buy workstations for maximum productivity, not minimum requirements. Underpowered machines can lower end-user performance, resulting in missed deadlines, costly mistakes, and excessive reliance on IT resources. Lenovo reference architecture papers outline specific configurations for different types of CAD/CAM software, but you can use the chart below to see what configuration components align with specific use cases.

☐ **ISV Certification**

Workstation configurations must be certified for the specific version of the CAD/CAM software you're running.

☐ **Remote Management Tools**

Workstations are starting to incorporate Intel® vPro™ Technology, which enables IT departments to monitor, manage, and even

Use Case	GPU	CPU	RAM
2D design	Integrated Intel® HD P4000	Intel® Xeon® E3-1245 V2	8GB ECC
3D modeling; part and simple assembly design	NVIDIA® Quadro® K2000	Intel Xeon E3-1270 V2	16GB ECC
Intensive modeling; complex design in context and system assembly	NVIDIA Quadro K4000	Intel Xeon E5-1650	32GB ECC
High-end modeling; simultaneous use of multiple applications	NVIDIA Quadro K5000	Intel Xeon E5-2640	64GB ECC
Simulation and rendering; multiple motion simulations in complex assemblies	NVIDIA Quadro 6000	2 × Intel Xeon E5-2640	128GB ECC

troubleshoot systems remotely. This will improve security, increase uptime, and free up IT to focus on more strategic matters.

☐ Energy Efficiency

Look for EPEAT® Gold/Platinum-rated and ENERGY STAR® 5.0-compliant machines to consume up to 50% less energy. If you have several workstations in one room, you'll also save on cooling costs.

☐ Hard Drive

Your hard drive should also scale up depending on the type of use case for each configuration. Start with a 500GB SATA drive for 2D or light 3D use, and go for a 1TB SATA drive for more intense 3D use cases. For users who run simulation tools, I recommend a 450GB SAS drive. It costs more and runs louder, but it can offer twice the reliability of SATA drives.

For optimum performance and reliability, consider solid state drives (SSD). The only disadvantages of solid state drives are price and capacity.

☐ 24- to 30-inch Monitors

Bigger is always better when it comes to monitors, as the larger work area improves speed and accuracy. If at all possible, equip your workstations with dual monitors for even greater performance.

Lenovo ThinkStation® D30

Conclusion

Buying new workstations can be an expensive undertaking, but the capabilities of powerful new machines can help you realize ROI more quickly. If you make smart purchasing decisions, you can minimize your total cost of ownership and satisfy the performance needs of your end users.

For more resources and tools discussing how you can improve your CAD/CAM performance, and the latest updates in design/engineering technology, visit www.lenovo.com/thinkstations.