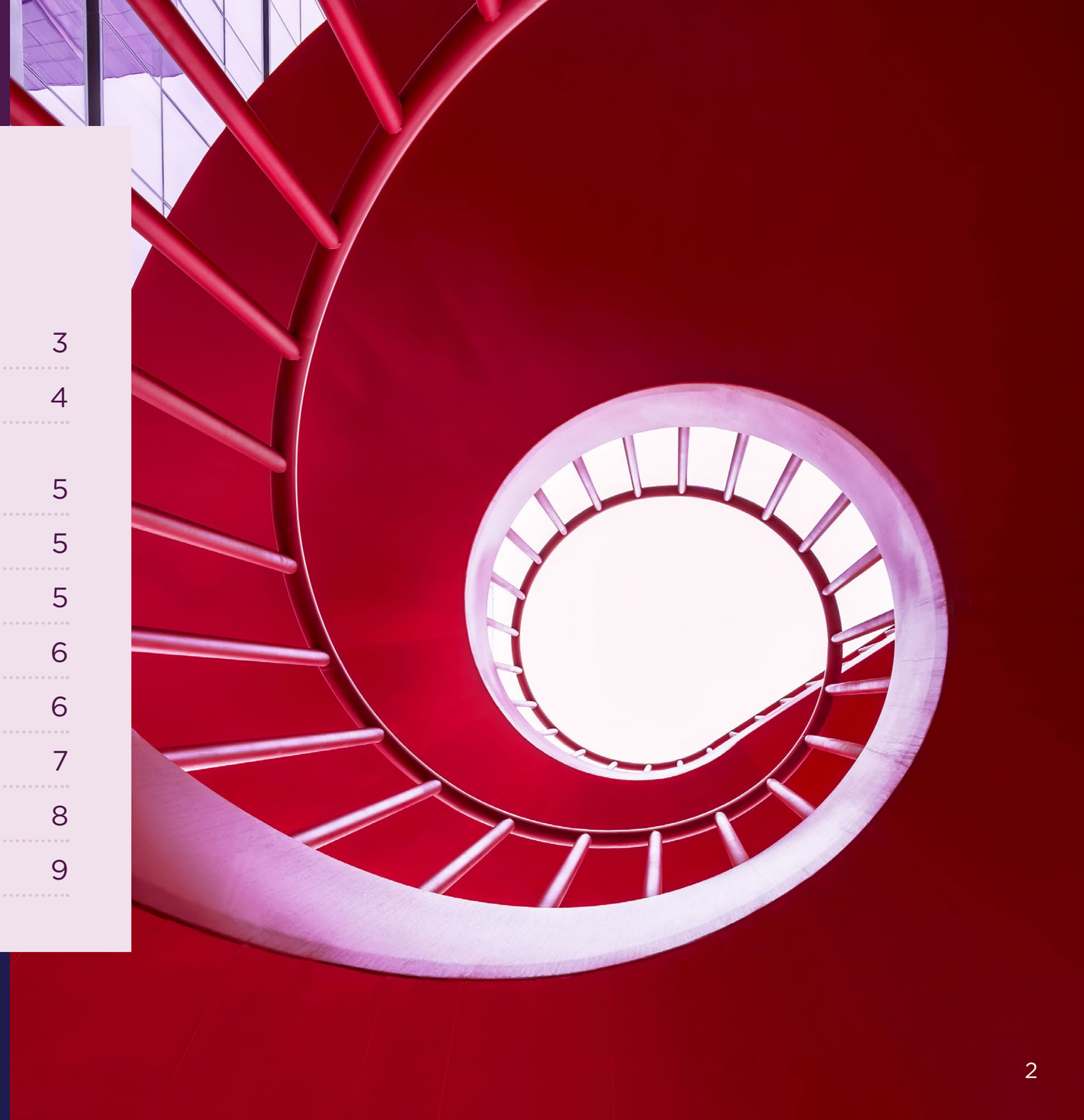
AEC Hardware Guide: Part 1

Step into super with right-sized performance.

How growing AEC firms can step up their hardware strategy for outsized impact.

AMD RYZEN PRO 9000 Series

Contents



For small and growing AEC firms, the path to growth is far from straightforward.

On one side there are cost pressures and ongoing talent shortages and on the other, volatile global events and economic uncertainty that show no signs of abating. At the same time, there's the continual effort to adopt new practices and technologies and find new skills in order to get ahead.

The opportunities are there for those who are ready to grasp them, in everything from sustainability to emerging technologies and AI. However, before they can make the most of these opportunities, small AEC firms need the right technology.

The technology tight rope.

When your budget is limited but your ambitions aren't, making the right hardware choices for your firm is a delicate balancing act.

Underperforming hardware holds back growth.

If your firm's feeling the squeeze, you might be tempted to hold off refreshing hardware as long as possible. But there are hidden costs to underperforming hardware, and they spread right across your business.

- **Productivity slows down when machines can't keep up.**
- **Employees' experience and expertise is eroded.**
- **Bottlenecks develop, discouraging experimentation.**
- **Wasted time eats into profit margins.**

Hardware performance that doesn't match your needs creates unnecessary cost and complexity.

The most powerful machine you can get your hands on isn't necessarily the right answer for firms like yours. Beyond the higher price tag, there are other ways overpowered hardware can cost you.

- **You're overpaying for performance you don't need.**
- **It puts more demands on IT.**
- **The higher upfront cost is a business risk.**
- **Configuration gets complex.**

Right-sized performance gives you the edge.

In this guide, we'll explore how right-sized hardware performance can create outsized impact for your firm in four areas:

1. BIM AND COORDINATION
2. REAL-TIME VISUALIZATION
3. SIMULATION AND ANALYSIS
4. AI-ASSISTED DESIGN

Four areas where right-sized performance has an outsized impact.

1 BIM and co-ordination.

Navigation stays smooth, even in large, federated models.

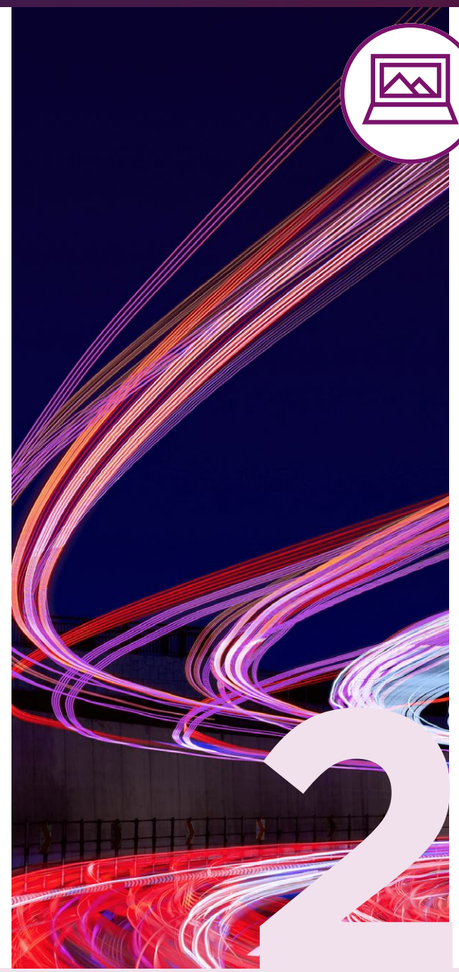
As projects scale, larger and more complex BIM models can test the limits of your hardware. On a more basic PC, you might experience slow orbiting, lag or crashes when switching views. With right-sized compute and GPU performance you get the power you need to keep navigation smooth, avoid slowdowns and keep collaboration moving.

Clash detection speeds up.

When you're working with the right level of CPU, GPU and memory, clash detection becomes faster and more reliable, even on complex models. So you can be swifter and even more rigorous when it comes to catching and avoiding costly rework further down the line.

Multitasking in the documentation phase gets easier.

As datasets expand and the number of linked files and models mounts up, your ability to multitask during the documentation phase has a massive impact on your productivity. Equipped with a workstation that gives you balanced performance, you'll be able to work across multiple applications with ease, switch between tasks without skipping a beat, export documents more quickly and have the CPU bandwidth to automate parts of the process.



2 Real-time visualization.

Stable software performance.

Say goodbye to lag, stuttering and overheating when visualizing complex scenes in real time. Right-sized performance means programs run smoothly so your team can design with confidence.

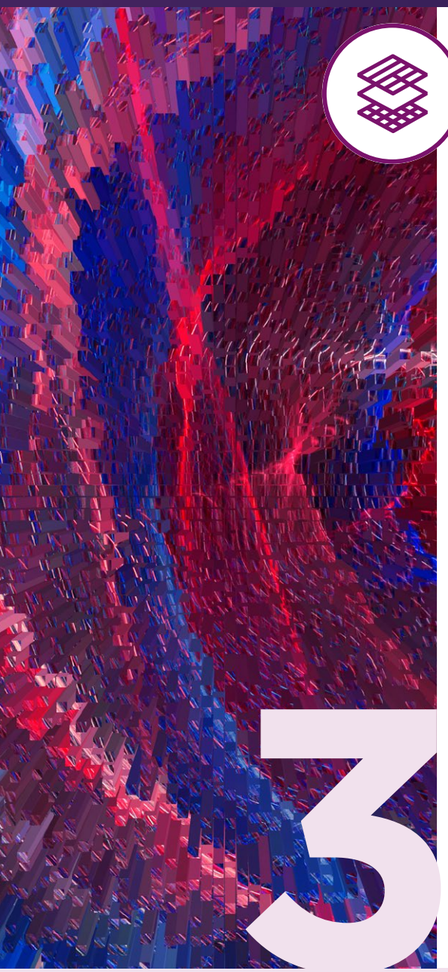
Pitch-perfect presentations.

Get your graphics performance right and you'll enhance your ability to impress clients with more detailed models and realistic renders that help get buy in and make design conversations more productive.

Leave lag behind.

Constant stuttering and laggy software is not only frustrating for your team, it's also a sure fire way to discourage design exploration and innovation. By right sizing your hardware performance, you'll reduce lag and allow designers to experiment freely and iterate quickly.

Four areas where right-sized performance has an outsized impact.



3

BIM simulation tools.

Performance you can count on.

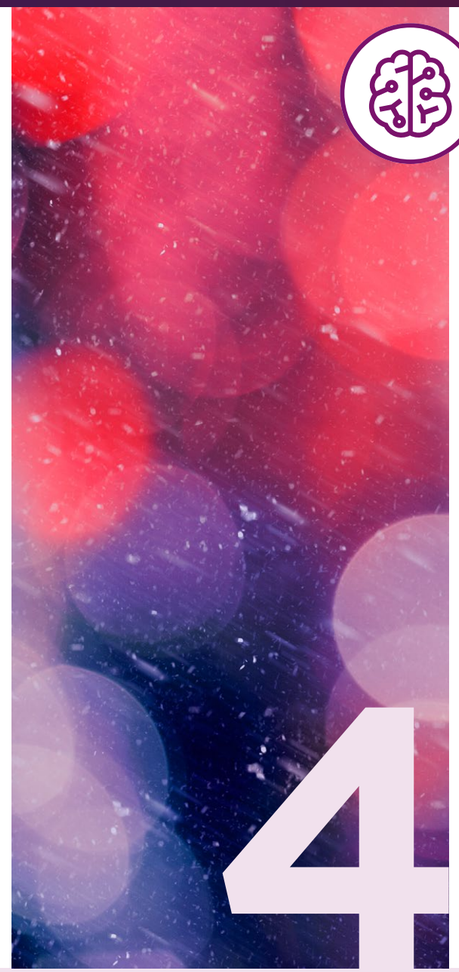
Carrying out performance analysis, carbon and energy analysis, structural validation and construction planning in your BIM environment, you need dependable compute power. With right-sized performance, your team can avoid long processing times that disrupt workflows.

Uninterrupted workflows.

Run intensive simulations and analyses on an underpowered PC and you'll encounter slowdowns and stalling. But with the right levels of compute performance and memory, tools run smoothly and workflows keep flowing.

Speedier iteration, better solutions.

When they've got enough compute power, your engineers can iterate faster, explore more options and come up with optimal solutions—all without delaying project progress.



4

AI-assisted design.

Embrace GPU accelerated tools.

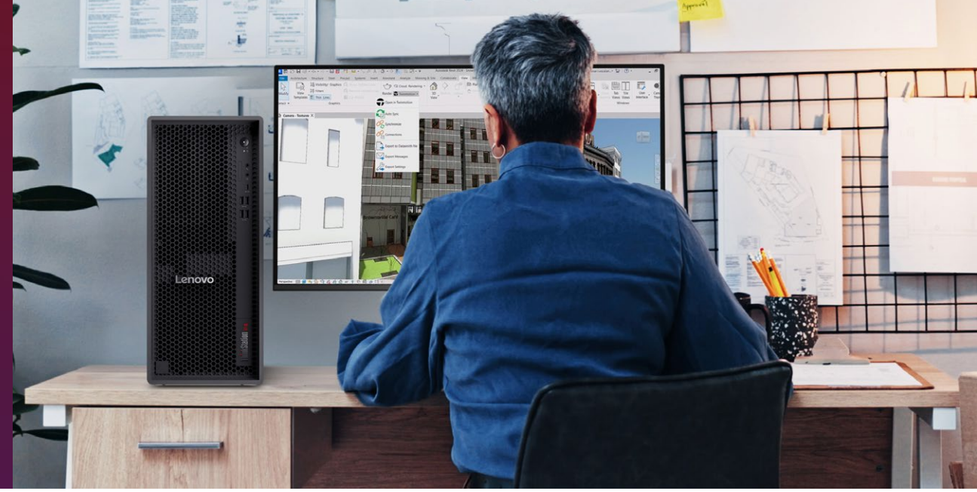
AI-assisted design and image generation tools depend on GPU acceleration. And, with right-sized hardware, your firm will be ready to take advantage of the productivity and innovation gains AI offers—now and in the future.

Design stays responsive.

To generate and evaluate multiple options with the help of AI, designers need the right levels of compute and graphics performance to keep the design environment responsive, workflows fluid and iteration cycles fast. In short, right-sized hardware gives them the power to evolve their workflows and incorporate AI tools without slowing down.

How right-sized performance puts you ahead.

Get your hardware performance right, and you'll feel the benefits right across your business.



Faster iteration leads to better design outcomes.

When your workstation can keep pace with you, iteration speeds up. Faster model updates, smoother visualization and quicker analyses make testing alternatives, refining ideas and revising models much quicker. Suddenly, your firm can explore more options, make more informed decisions and, ultimately, stronger designs and builds.

Better collaboration as teams and projects grow.

Take on rising project complexity with improved collaboration. Faster file transfers, smoother navigation in large, federated BIM models, better clash detection, and more effective real-time reviews all help teams work better together even as models and project scope expand.

Attract and retain talent in a tough market.

Equip your team with the right amount of CPU and GPU performance and memory, and you'll instantly upgrade their experience of work, as well as their productivity with workflows that are faster, more fluid, and less frustrating.

Protect margins and increase capacity.

Paying for more performance than you need eats into already tight margins. But get the right balance between price and performance and you can increase capacity and protect profit at the same time.

Less need for costly hardware refreshes.

Choose workstations designed to be easily upgraded and expanded as your needs change, and you'll extend the life of your machines and go longer between hardware refreshes.

Create space to innovate.

With the right level of workstation performance your team are ready to adopt new tools and technologies as they emerge, so your firm can reap the rewards. And when hardware is no longer a bottleneck, you open the way to more exploration and novel solutions.

Find the perfect price to performance ratio.

In the Lenovo ThinkStation P4, advanced by AMD.

Now you've got a clearer understanding of the workstation performance your firm needs, you'll need hardware that balances price and performance, to give you the edge you need. The ThinkStation P4 is a perfect example.

Power that evolves, performance that scales.

Raise the bar for performance and protect your profit margins with the ThinkStation P4, advanced by AMD Ryzen™ PRO processors. It offers right-sized power, scalability, and exceptional price-to-performance for AEC professionals bringing complex designs, models and infrastructure projects to life.

Enjoy right-sized performance.

Level up performance with speed and scalability that's equal to the real demands of modern, multi-app AEC workflows. With the ThinkStation P4 there's no need to risk overspending on high end configurations to get the performance your team actually needs.

Keep projects moving.

Responsive, reliable performance for BIM, CAD, and visualization, advanced by AMD Ryzen™ PRO processors in a machine purpose-built and ISV-certified for AEC applications. Handle large files locally with up to 256GB of DDR5 memory and 45TB of storage and keep work flowing during demanding workloads with tiered thermal architecture and liquid cooling options.

Engineered to evolve.

The ThinkStation P4's enhanced PCIe slot design and storage options make upgrades and maintenance fast and simple so your team can evolve their set-up as project needs shift. And, as datasets and models expand, expandable memory and storage means your workstation's capacity can grow too. You can expect a longer workstation lifespan and longer refresh cycles too.

Protected by design.

The ThinkStation P4's enterprise-grade components and advanced thermal engineering deliver dependable performance under sustained AEC workloads. Work with confidence while built-in hardware and firmware protections, supply chain security and AMD Ryzen™ PRO silicon-level defenses keep your data and IP safe.

Step up your hardware strategy.

See why the P4 gives you the performance you need to support growth. Discover the P4 and speak to your Lenovo rep today.

Learn more

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