

Case study

Robert A.M. Stern Architects

HP Z Workstations deliver benefits of BIM to AEC



Industry

Architecture / Interior Design

Objective

Reliably and productively run the most demanding and powerful software applications serving the Architecture Engineering Construction industry to meet flexibility and deadline needs of clients

Approach

Robert A.M. Stern Architects (RAMSA) has chosen HP Z Workstation technology to run Autodesk® Building Design Suite Ultimate, including Autodesk® Revit®

IT matters

- ISV Certification ensures HP Z Workstations with NVIDIA® graphics are certified to run Autodesk applications

Business matters

- HP Z440 Workstations enable architect and designers to run Autodesk® AutoCAD® and Revit® productively, without delays or hardware challenges
- HP Z620 Workstations with NVIDIA Quadro® graphics card create 3D renderings quickly and reliably
- HP ZBook Mobile Workstations have been tested to provide workstation performance on the road



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– Shaun Frazier, Director of Information Technology, RAMSA

RAMSA
ROBERT A.M. STERN ARCHITECTS

Robert A.M. Stern Architects is a 300-person firm of architects and interior designers founded in 1969. It is widely respected in the AEC industry. The firm is also an industry leader when it comes to applying new technology to solving architectural challenges, and that technology includes HP. Its New York offices are filled with HP Z Workstations to allow flexibility within the firm, and deliver the power of workstation technology wherever its employees may be.

Robert A.M. Stern Architects (RAMSA) is recognized as a leading New York architectural firm with international experience in residential, commercial and institutional work. The firm has projects underway in 23 states as well as in the United Kingdom, France, the Netherlands, Peru, India, Taiwan, Singapore, and China.

RAMSA is widely respected for the work it has produced over a 46-year history. “We do enormous planning projects, entire campuses, entire new towns,” says Alex Lamis, a partner at RAMSA. “We have always strived to be the best, whether it’s the best people, the best projects or the best technology. We are a very high-tech company.”

Today RAMSA is known for producing contemporary designs that overcome highly complex engineering challenges—thanks in part to its commitment to leverage the best in AEC technology.

“At RAMSA, technology is very important because we realize that time is money for our clients and for our staff,” adds Director of Information Technology Shaun Frazier. “That’s why we have chosen HP and Autodesk.”

Leveraging integrated design and BIM

For design, the software of choice is Autodesk® Building Design Suite Ultimate. The suite includes AutoCAD for documentation, Autodesk® 3ds Max® Design to produce highly detailed 3D renderings for design review and client approval, and Autodesk® Revit® for Building Information Modeling (BIM).

Revit gives the firm a database of project design data—a single source of digital information for everyone involved, which can be used for a variety of design and building tasks.

“We’re able to query any aspect of a building design and get concrete information about it,” explains Frazier. “For example, I can query a wall and learn all about the makeup of that wall, its dimensions, its materials and more for reporting or for quantity take-off.”

Revit also enables long distance collaboration. RAMSA tackles highly complex projects on a regular basis. Hundreds of people are involved in the architecture, design and engineering of its buildings, both inside and outside the firm. With such a distributed project team, technology is playing a growing role in communications and project coordination.

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“Everyone in our industry is trying to figure out how to collaborate with other architects and consultants and embrace the basic concept of BIM, which is to have one model and set of data available for sharing in real-time.”

Finally, HP and Autodesk® Building Design Suite facilitate client presentations. “BIM is a great tool for presentations. The more specific we can be, the more we can provide clients with a virtual reality of what they’re going to build, the more we eliminate confusion down the road,” says Lamis.

HP delivers ROI, optimized performance

3D modeling alone is a demanding solution. Managing all the data behind that 3D model, and sharing it to a dispersed team of architects, designers and outside collaborators, is even more so.

How does RAMSA do it? Again, HP technology plays an important role.

“We chose HP because of the strategic relationships it has established with Autodesk and NVIDIA,” Frazier says. “It’s important to know that the Workstations we’re working with are certified and optimized to run the applications we use every day.”



“The return on our investment in HP technology is reliability,” Frazier continues. “In IT, we live or die based on our ability to deliver reliable technology. We have to have dependable performance for our design staff, because interruptions can cripple the whole project team.”

Architects and designers use HP Z440 Workstations, configured with 32 GB of RAM and NVIDIA Quadro® graphics cards. Frazier says the high-end workstation performance is needed to provide real-time response while transitioning from view to view with 3D models, using realistic representations of materials.

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“Before we adopted HP Z Workstations, our designers spent a lot of time staring at their screens waiting for things to happen,” he says. “With HP Z Workstations, we can see a significant improvement in response.”

To produce the 3D renderings for client presentations, the firm has built a render farm utilizing HP Z620 Workstations Windows 7 Professional, each with up to 12 processing cores, 64 GB of RAM, and NVIDIA® Quadro® 6000 graphics cards.

“The render farm is designed specifically to take advantage of the processing speed and the NVIDIA® CUDA® parallel processing architecture,” Frazier explains. It also frees

designers to move on to other tasks while the intensive processing for rendering takes place elsewhere.

Workstation performance anytime, anywhere

RAMSA has additional needs for workstation performance elsewhere for its projects and for those needs, it has tested the HP ZBook Mobile Workstation.

“We could issue the ZBook 17 Workstation when our design staff needs to be mobile and they need a lot of power out on the road,” Frazier explains. The ZBook Mobile Workstations running on Windows 7 Professional are configured with 32 GB of RAM and high powered NVIDIA® Quadro® graphics cards.

“The RAM and processing speed of the ZBook Mobile Workstation are important to running 3D applications like Autodesk® Revit® and 3ds Max® Design,” Frazier continues. “So if our staff is making a client presentation in the field, it offers us the ability to run these very demanding applications without worry or concern.”

When project challenges, RAMSA delivers

When RAMSA recently undertook design of the Museum of the American Revolution in Philadelphia, its HP technology played a key role in the project success. RAMSA delivered a design that satisfied the museum’s president and CEO and its board, and plunged ahead with generating construction documents.

Customer at a glance

Applications

- 3D design/modeling
- Building Information Modeling

Hardware

- HP Z440 Workstations
- HP Z620 Workstations
- HP Z1 Workstations

Software

- Autodesk® Building Design Suite Ultimate
 - Autodesk® AutoCAD®
 - Autodesk® Revit®
 - Autodesk® 3ds Max® Design
- HP Remote Graphics Software

Then came a challenge. The city's Arts Commission weighed in late in the process with feedback on the design. So RAMSA's project team went into overdrive, revising the design and generating numerous new renderings for the Commission's review in time for an upcoming meeting.

"Happily, RAMSA was very nimble in addressing the commission's concerns. It came up with some very creative ideas of how to move forward," reports Michael Quinn, president and CEO of the Museum.

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Adds Lamis, "With HP Z440 and Z620 Workstations, we were able to cycle through new design elements in a short period of time."

The ever-changing promise of technology

RAMSA believes it enjoys an important technology advantage over many of its competitors. But that does not mean it isn't always looking to improve even further.

One sign of that is the HP Z1 Workstation in a RAMSA conference room. Its touchscreen interface opens up the possibility of exploring designs in an entirely new way.

"With virtual reality tools and the best HP Z Workstation technology, we can actually take our clients on a walk through the building that they're going to inhabit."

– Alex Lamis, Partner, RAMSA

On a different tack, Lamis is already looking ahead to leveraging Autodesk® Building Design Suite Ultimate and HP Workstation technology to do immersive, 3D interactive walkthroughs of the firm's building designs.

"With virtual reality tools and the best HP Z Workstation technology, we can actually take our clients on a walk through the building that they're going to inhabit, and get their feedback on a 'tour' before the structure is actually built.

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