

GRAPHISOFT.
ARCHICAD

IS YOUR FIRM POSITIONING
FOR GROWTH AND GREATER
DIFFERENTIATION?



ORDINARY BIM



ArchiCAD

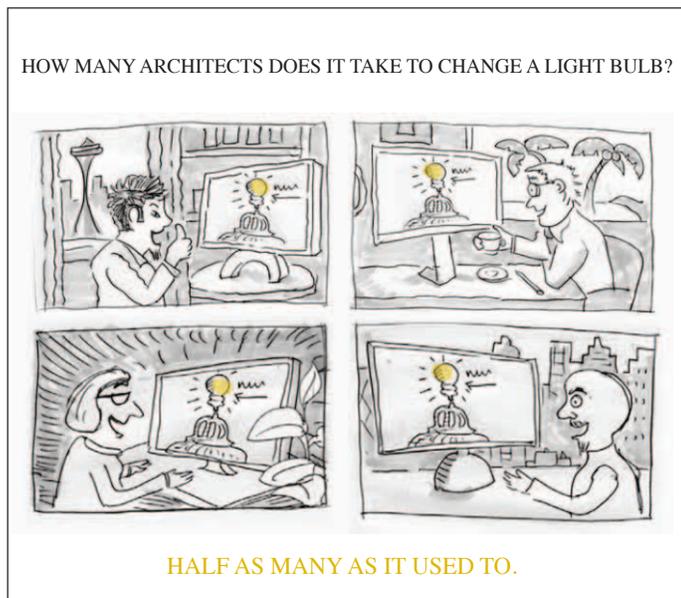
GET THERE FASTER WITH ArchiCAD

Without a doubt, BIM has disrupted the design profession. It challenges firms to adapt to a new landscape where the architect is playing radically different roles in the building process. For firms willing to rethink their business strategy and find new ways to add value, shifting to BIM is a must.

If you are positioning your firm to take a leading role in the design, delivery, and lifecycle management of buildings, consider ArchiCAD for:

- **Greater Agility** – New firms get off the ground, established firms can transition at their own pace, aggressive growth firms can expand and fully transform to BIM, and everyone can work the way they want to.
- **Fully Leveraging Hardware** – Running on the most basic setups to the newest computing technology, ArchiCAD provides fast, efficient processing and sharing of data.
- **Optimizing People** – Unique talents are focused and utilized, small teams produce like big teams, and collaboration happens in real time.
- **Differentiating Your Firm** – Deliver new products and services, customize workflows, capture and leverage unique expertise and institutional knowledge.
- **Less Risk** – ArchiCAD has been doing BIM for 30 years. It's a proven, mature product that scales to growth and changing needs.

Architectural firms can successfully adapt to the evolving world of design and build and create new ways to differentiate and strengthen their value-added offerings. Those are the firms that stand to thrive and lead their profession forward. We offer the following considerations and user comments about how ArchiCAD can enable your firm to gain greater agility, differentiation, and profitability.



GAIN AGILITY

The reasons and desired outcomes driving a firm's move to BIM are as varied as the principals making the decisions. They often include a desire to:

- Improve the efficiency and productivity of fewer staff members,
- Leverage different office and partnering models,
- Deliver better drawings far faster,
- Use better authoring tools,
- Expand abilities to take on more complex projects,
- Respond to the growing number of RFPs/Owner demands for BIM.

“...jump in and get started at any point . . . [It] is very easy to adapt to the way you like to work,”

ArchiCAD is a flexible, scalable, and purpose-built BIM solution that lets a firm transform their business at their own pace:

- **New firms** can get up and running with basic technology assets (laptops, DSL, or wireless network, with just a home office computer).
- **Established firms** can integrate 3D modeling with 2D drafting processes. Or they can completely transform their business to fully optimized 3D workflows and offer new value-added services and products. They can compete for larger projects, against larger firms.

“When we converted from hand-drawing, we found that ArchiCAD provided advantages,” says Sara O’Neil-Manion, one of the principals of O’Neil & Manion Architects P.A., Bethesda, MD. “We’re a small firm with experienced staff. We can compete for larger projects and ArchiCAD has contributed to successful projects.”

Dan Gonzales of DPR Construction, Inc., states that “in this economy, when a lot of real good people have been laid off, which is no reflection on them, the ability for them to team on projects and work from different areas, does make them more agile, especially groups that are not in the same office. It does give them a certain advantage.”

Regardless of where your firm is right now and where you want to take it, ArchiCAD allows you to “jump in and get started at any point. . . [It] is very easy to adapt to the way you like to work,” says Ronald Ngaim, Senior Designer at **CORE architecture | design**, in Washington, D.C. “Changing to a BIM practice with ArchiCAD doesn’t mean that you have to completely rejigger the way you work. It doesn’t force you to change to its workflow – it allows you to enhance and evolve your own workflow, incrementally, and in your own way.”

Ngaim says ArchiCAD allows a firm to “use as much or as little as you want. . . Every investment gives you more return. . . You can get people started on drawings and producing documents, and then adopt a little more BIM practice when you are ready.” He continues, “ArchiCAD makes it really simple to get going. Other tools alter the way you work entirely, but ArchiCAD allows you to change and still work the way you want to work. You can slowly evolve your company, smartly, at your own pace.”

Gonzales has a slightly different view. “If you are going to move [to 3D], you’ve got to move all the way. I think if you go back to 2D you lose the advantages of the coordination that happens. I think if they’re going to go, they need to go completely,” he says.

With ArchiCAD, you have a choice – incremental or all the way. It’s your choice, your pace. Here are a few questions to help you consider what fits your firm best:

- Do you want to offer more value-added services or do you simply want to improve your ability to deliver drawings faster?
- Do you want to integrate 3D modeling capabilities with your existing 2D workflows, or just improve the coordination of your 2D drawings?
- Do you want to transform your practice to object-based modeling and design?
- Do you want keep a small staff but step up to compete for larger, more complex projects?
- Do you want to model with great detail to support fabrication?
- Do you want to provide clients/owners with database files for facility management?

FULLY LEVERAGE YOUR IT

What you have and what you can afford are critical issues to address when moving to BIM. Here too, ArchiCAD offers many advantages to firms on the move forward to BIM:

- A low cost barrier to getting started with BIM. Great speed over standard networks, even DSL and wireless. A home computer or laptop as your BIM server will do.
- Completely utilize today’s newest computing power: optimized for 64-bit, multi-threaded, 8 CORE multiprocessors for high-speed processing of project data.

- Simple to use and easy to maintain. It doesn’t require an IT professional to set up the server or software, or to manage and support it.
- Reliable stability. Accessing and sharing models, regardless of size and complexity, is safe and dependable, within the office or across a network of offices, and over the Internet. No worries about data loss, file corruption, or speed.
- Everyone on the project team can work on the entire model, all at the same time. Regardless of geographic location, everyone can access the entire model 24/7.
- Platform flexibility: PC or Mac, it’s your choice.

Richard Crowe, Principal at GRC Architects, Tallahassee, Fla., notes that while ArchiCAD has been around for a long time, “its software code is actually more modern than other, newer products, which, practically speaking, enables a firm to leverage its investment in newer computers . . . The software takes full advantage of any number of processors for faster processing,” which eliminates lots of down time and increases staff productivity. That, in turn, means projects get delivered faster, which is helpful to the billing cycle of small firms.

“[the] BIM Server allows me to sign in to a project... from anywhere in the world”

Orcutt I Winslow, an architectural and interior design firm headquartered in Phoenix, Ariz., has been using ArchiCAD for 20 years. The firm first began using ArchiCAD when it was running projects from a single office. Now the firm has grown to multiple offices, with ArchiCAD scaling to its demands.

Russ Sanders, Director of Orcutt I Winslow’s Hospitality Studio, cites ArchiCAD’s BIM Server as a truly game-changing technology. “We are increasing our staff and the number of joint projects with teams located in other regions of the US and the world,” he says. “When I travel I don’t carry a server with me, I carry a laptop. ArchiCAD’s BIM Server is incredible in its ability to allow me to sign in to a project from my hotel room anywhere in the world, and be instantly productive on the project. It’s dramatically different from anything you can do with other BIM software.”

In a distributed team environment, the ease and speed of working with the model is also a real advantage, according to Sanders. “We can instantly synchronize the model and data through the BIM Server, instead of copying files back and forth or using some other archaic method of sharing information,” he says.

Gonzales also views the BIM Server as a powerful technology that gives a firm an advantage in speed and ease of use, especially when there are multiple people working on a project at the same time. The BIM Server “efficiently moves only the changed data. This is really important in terms of bandwidth speeds.” Gonzales adds, “And there’s really no maintenance or overhead on the BIM Server. You don’t need an IT department, so your overhead costs are lower, too.”

Here are a few key questions to consider:

- What hardware do you plan to use?
- Will your current IT infrastructure support your change?
- Are you planning to work alone or collaborate with partners?
- If working with partners, are they in your office or in multiple locations?
- Do you have a preference for a PC or Mac environment?
- Do you have mobile devices or are you working from your desktop?
- Who will set up and support your network?

“The BIM Server is flexible to all of our ever-changing workflow needs, and model sharing is so simple,” says Kevin Connolly, President, Connolly Architects, in Milwaukee, Wis. “It costs us literally nothing extra to do. As a small firm, no extra cost is important.”

From a one-person practice to a larger firm with older computers, ArchiCAD offers high-performance, modern technology that scales to changing demands, IT resources, and budgets.

OPTIMIZE PEOPLE

One of the promises of BIM is “to do more with less.” For sure, BIM offers a new way to run your business, collaborate, and deliver projects faster. A fundamental question to ask is, what kind of flexibility do you need for making resourcing decisions? Here are a few others:

- Are you moving to a virtual office model?
- Do you want to maintain a lean staffing model, but work on larger projects?
- Do you want to collaborate with partners outside your region?
- Do you want to team more closely with engineers, MEP contractors, and fabricators?
- Will you add new personnel already familiar with BIM workflows, or train current staff?
- How will you on-board new people to your firm’s unique processes?

ArchiCAD’s BIM Server provides tremendous flexibility for configuring resources for optimal efficiency and cost management. ArchiCAD has allowed Connolly’s firm for the past five years “to stay profitable and competitive, with a smaller staff.”

“Being able to easily collaborate on a project in real time, from multiple locations, can give firms greater agility and advantage,” says Gonzales. “It is particularly important for small architectural and even small construction firms. When you look at the people that they interact with, being able to interact together on a project is really important. The BIM Server is a capability that allows smaller firms to work on larger projects, which is something we are beginning to see happening.”

“Being able to easily collaborate on a project in real time, from multiple locations, can give firms greater agility and advantage.”

ArchiCAD optimizes the entire 3D workflow and enables firms to fully leverage their resources, even if running a hybrid 2D/3D environment:

- Everyone works on the same model; no duplicate files, version control issues, or wasted time working on the wrong version.
- 24/7 access to the model; everyone stays productive from any location.
- No redundant 2D practices or workflows; model in 3D and draw in 2D.
- Connection to other business processes to streamline your back office.
- Fast, stable project environment. Easy to make changes to the model over the network – only the changed elements get moved back and forth from client to server.

“Initially after we converted from hand drafting, to ArchiCAD, we had an improved profitability,” said O’Neil-Manion. “We also found that knowledgeable, experienced people who understand construction contributes to the gain in productivity.”

ArchiCAD’s BIM server and relational database make it possible for firms to keep small-to-large teams nimble and highly productive, and to focus and fully utilize specialized skills and knowledge on specific areas of their business, inside and outside of the BIM workflow.

DIFFERENTIATE YOUR FIRM

ArchiCAD offers a highly flexible BIM environment that enables firms to create and enhance proprietary processes; change how communication is managed inside a project; capture, protect, and leverage institutional knowledge; and provide more valuable and useful data to the owner.

“Today’s world is client service,” says O’Neil-Manion. “Being responsive and presenting with first hand knowledge can be an advantage and differentiator.” ArchiCAD assists in being client responsive.

Customize Your Workflows

The essential question here is, “How do you want to work on projects?” Other key considerations are:

- What type of access and mobility (sharing) do you need?
- Will you be incorporating other data from partners into the model?
- What other software or business process will you want to connect to your new workflow?

No matter how you want to structure your workflows and manage models and data, ArchiCAD gives you plenty of flexibility to accommodate your current processes and cultural norms, as well as innovate in areas you need to in order to adapt to new situations and opportunities.

“ArchiCAD has an advantage... it has the ability to create a database...”

Communicate Instantly

In a BIM workflow, how and when communication happens is critical to the success of the project. ArchiCAD is the only BIM solution that provides instant communication inside the model. For many organizations, this capability has changed the way communication happens between team members, and improved the quality and timeliness of communications with their clients. Some practical considerations include:

- How will you communicate inside the office and between offices?
With partners?
- How will team members communicate throughout the project?
- Do you want instant communications, inside the project?
- Is communicating outside the project, through your email server acceptable?
- How will you communicate and share data with your clients?

How you manage communications can become an important attribute of your firm’s brand, and a key differentiator from the competition.

Capture, Protect, and Share Institutional Knowledge

Specialized expertise, knowledge, proprietary processes, and design practices also distinguish a firm’s brand. It follows that capturing and protecting unique methods, expertise, and custom datasets is a critical consideration when evaluating BIM software. Beyond protecting proprietary methods and data, the ease with which you can share those processes, datasets and institutional knowledge can expedite the on-boarding of new project members (employees or partners), and add momentum to a project.

Fundamental questions to consider are:

- How do you want to capture institutional knowledge and expertise?
- How do you want to develop and protect proprietary data and workflows?
- How do you want to share unique processes and knowledge, and with whom?

ArchiCAD offers a simple object-based modeling approach which allows you to create objects with an infinite number of configurations – for exponentially greater flexibility and power to create unique datasets and design workflows. Object-based modeling in ArchiCAD allows you to capture far more information than other methods. Also, it adds great speed to 3D workflows.

What really makes ArchiCAD different is that it allows you to share only those aspects of the model or object that you want – say the core structural geometry, costs, and manufacturer data – without compromising your proprietary tools, object libraries, and data. ArchiCAD makes it possible for a firm to capture, share, and protect its unique workflows, content, and expertise.

Give Owners Information They Can Use

Information and services that architects traditionally provided have shifted and in many cases become obsolete, at the same time giving rise to new opportunities for the profession. Architects are now fulfilling roles once reserved for construction managers, owner representatives, and real estate experts.¹

Crowe sees this shift and another emerging trend – increasing owner involvement and specification for BIM – as promising for his profession. As he sees it, architects have an opportunity to change the rules of how they manage their business, and provide highly valuable and readily accessible data that are critical to building lifecycle management.

“Owners are now driving decisions. More and more CEOs and firms want to give owners a deliverable that they will accept. That’s occurring in the GSA space, the Coast Guard and other areas,” Crowe says. “ArchiCAD has an advantage here, because it has the ability to create a database through a partner products. ArchiFM. Now, owners basically get CAD files and simply manually enter or create the database that way. The owners need a database that will

set up their asset management data and ArchiCAD with coupled with FM tools ArchiFM will create a single database that will automatically adjust the facilities assets as the building evolves.”

In the broader scheme, what the “total Capital Facility Industry needs at any phase,” according to Connolly, “is accurate, complete, and timely access to information.” Connolly sees opportunity for his firm to position themselves to “facilitate the flow of information, and to make connections between people, process, and information. ArchiCAD is and will continue to be a great connector tool.”

LESS RISK

ArchiCAD is a proven technology, and while people might think BIM is new, “ArchiCAD has been doing BIM for 30 years,” says Gonzales. The software was purpose-built for design-build and 3D, from day one. It provides an elegant, unified 3D environment that is reliable, high-performing, and stable. It offers flexibility to use other applications for fabrication, construction estimating, facilities management, and other BIM software, making it easy to extract and move data back and forth between different applications.

“we can find extremely talented and experienced people around the country who use ArchiCAD”

“It’s a pretty mature technology and it’s resolved a lot of things and solved a lot of things along the way,” Gonzales continues. “There’s less risk because it is a mature product. It does everything that any other product does and has really good solutions to lots of building issues.”

Ngaim agrees, stating that the “simplicity and adaptability of ArchiCAD is just becoming more and more sophisticated over time.”

Other ways ArchiCAD lowers your risk of moving to BIM:

- Adherence to industry standards and protocols
- Scalability
- Security
- Training and community

Adherence To Industry Standards

All BIM software programs are built on proprietary architecture and coding standards, but they aren’t all the same when it comes to how easily they work with other products and data sets, and how tightly they adhere to industry standards. Increasingly, major owners, such

as the U.S. Government, are requiring an open-platform approach and are specifying BIM tools that leverage industry foundation classes (IFCs). These are “open, neutral, and standardized specifications”² for BIM, developed by the non-profit organization, buildingSMART International.

GRAPHISOFT, the developer of ArchiCAD, has played an active role within the International Alliance for Interoperability (IAI) and buildingSMART International since 1996, helping to develop best practices and to enable the use of IFCs. As a result, ArchiCAD communicates with other software, within the context of the building model, allowing coordination of a building project entirely in 3D.

Gonzales believes that ArchiCAD’s long-time support and advancement of industry standards is critical to “being able to move data freely from the model to other applications. Being able to extract the data you need for other critical applications, such as facility management, and bring in other data into your model, helps groups that aren’t working in the same office to reliably exchange data between different applications, such as engineering, MEP, and facility management applications.”

“A model becomes a container through the design and construction process.” Gonzales continues, “As other people add information throughout the process, the information gets richer and richer, and it needs to be accessible. That’s why we need to adhere to standards – they ensure that the data are there and can be pulled out.”

For Connolly, using IFCs has made it possible to successfully team with other contractors. “We have worked with a variety of engineers and MEP contractors, all using other BIM authoring tools. The successful IFC exports and imports have made team collaboration very effective,” he says.

Crowe views IFCs pragmatically. For him, it’s all about profitability. “IFCs are the common language among BIM platforms, data, and information. The faster and easier that it all flows means greater profitability, and that’s the real bottom line of BIM. And I have found GRAPHISOFT to be very committed to the IFC standard and working with other platforms.”

Scalability

ArchiCAD is a flexible BIM product designed to scale to:

- A team of one or a team of many,
- A single office or multiple locations,
- Small projects or large-scale complex buildings, such as hospitals.

The scalability of ArchiCAD is rooted in three core areas: 1) its revolutionary server technology, the BIM Server, 2) its relational database, and 3) its object-based approach to 3D modeling. The real value then, in practical terms, is that the initial investment in ArchiCAD and in developing your 3D/BIM environment is preserved over time – easily leveraged as you expand your team, and easily expanded to enable a growing practice and to manage larger, more complex projects.

Security

Security of your data and project files is paramount, and ArchiCAD provides a superior solution: a true relational database. How does that translate into a data security advantage for your practice? If there is a problem with a file, say something happens to interrupt a send/receive action – ArchiCAD’s BIM server waits to take action until the user instructs it to do so. Nothing happens to the file – all data are preserved. Any data errors from malfunctioning components are blocked, preserving the project’s integrity.

ArchiCAD team members also have a local copy of the database on their computers (or laptops), so even if there is a problem with the server or the network, the team can be running on the project in minutes.

Increased security and peace of mind comes from how ArchiCAD preserves project history – it allows you to set a schedule for automatically time-stamping a project to preserve it at key milestones or intervals. If you ever need to revert to a previous version, you can.

Additionally, if you want to set varying access and security levels to project data, ArchiCAD permits this, too.

A few questions to consider are:

- What backup strategy will you deploy?
- Do you want to preserve project history at key milestones?
- Do you want to control access to sensitive aspects of a project?

Training and Community

ArchiCAD is an elegant, easy-to-use-and-learn BIM product used by thousands of architects for nearly three decades. The elegance of the product belies the sophisticated technology inside. Its simplicity makes it faster and easier for firms to adopt and become productive, without having to invest time consuming, laborious training before they can become proficient.

“Training is big deal for small firms. It can be expensive, so having something that is easy to learn is important,” observes Gonzales.

O’Neil-Manion continues, “It’s a fluid program, which is fairly easy to learn.”

The ArchiCAD user community is deep, very active, global, and available. “There is a very strong user community steeped in 30 years of ArchiCAD and 3D experience,” adds Gonzales. “This is a real asset for a firm new to BIM.”

For his firm, Sanders sees the community as an asset and opportunity for growth and increasing agility, because “we can find extremely talented and experienced people around the country who use ArchiCAD, and have them participate in the model from anywhere, just as if they were sitting in the same office.”

“Having a place where you can go and get support from so many people is really important,” concludes Gonzales. “It’s an amazing community that has been around a long time supporting each other.”

POSITION FOR THE FUTURE, GET THERE FASTER

Moving to BIM is easier, less risky, and ultimately more profitable, with ArchiCAD – the proven BIM software that provides an elegant, highly efficient, and fast 3D workflow environment.

For firms of any size ready to move to BIM, ArchiCAD offers a sophisticated technology that is easy to learn and use, and that will give them strategic agility, new capabilities to compete for and manage projects of any size, and a platform for growth, stability, and greater profitability.

During an ever shifting economic and building and construction landscape, being lean and nimble helps. “We’ve been on ArchiCAD for a while and it has worked for us,” says O’Neil-Manion.

1 Design Intelligence Trends Report, 2011; p. 18

2 buildingSMART International.com: <http://www.buildingsmart.com/>