

A Revolution in Real-time Project Team Collaboration

ArchiCAD 13 introduces the **industry-first real-time BIM Server** for on-demand access rights management and project access for teams of any size, both within the office and anywhere in the world through the Internet. This new technology reduces network traffic to a minimum for instant and reliable data-exchange.

The essence of this technology is the active server component that provides simultaneous access to the BIM model (as opposed to previous “file” based solutions where the access to the central BIM model was necessarily sequential hence imposing queuing at synchronization).

This innovation in BIM Server technology, the GRAPHISOFT BIM Server™ **with Delta Server Technology™** brings several benefits to the process of collaborating as a team, regardless of company size or profile:

- **Speed** – Real-time Collaboration
- **Data Safety** – Robust System Architecture
- **Workflow** – Dynamic Teams / Central Control
- **Competitive Advantage** – No one else has this technology

Speed – Users will experience dramatically decreased network traffic by using the Delta Server™ technology. Sending and receiving only the modifications (deltas) of the project speeds up the workflow to a level where synchronization with the server takes only seconds instead of minutes.

- This forms the basis for automatic real-time reservation status updates and eliminates queuing for send & receive completely.
- Such speed is inevitable to allow teams to work from separate remote locations to work on the same project as if they were located in the same office.
- Single users benefit from the ability to access a project from home, allow direct collaboration with consulting engineers, or to work in virtual teams on competitions or larger projects even through and average Internet connection.

Data Safety – As a result of the robust system architecture based on a safe central project database, data losses on workstations due to network failures or hardware problems cannot compromise the integrity of the project.

- Server side mechanisms protect from data corruption by a faulty network.
- Powerful backup and archiving functions usually only available on mainframe servers ensure a safe environment to work in even for the sole practitioner.

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Workflow – Different size firms require different workflow support: small and medium firms require flexibility to support their dynamically changing project teams while large firms primarily require control over what each member of their team is allowed to access and modify.

- Any number of roles can be defined, each with their own unique “permissions” or access rights to aspects of the project.
- A team member joining the project does not have to pre-reserve a “workspace.” Designers can simply join the project and begin working.
- Team members can manage access rights to elements on demand and can share modifications instantly with the team. Right-click on an element to request the “owner” of the element to release the reservation. A message is sent automatically to the owner of the element for release to the team member making the request.
- A built-in instant message system (IM) allows all project team members to message each other about any aspect of the project.
- BIM Manager software allows CAD managers and project architects to have an unprecedented level of control over their projects, from any computer, anywhere in the world. Multiple projects can be managed simultaneously.
- The BIM Server can be any computer on the Internet with a static IP address. No specialized server software is needed.

Competitive Advantage – No other software vendor currently has this technology, offering you collaborative capabilities that give you a competitive edge over your competition.

- Team members in a remote office can work as if they were in the next cubicle.
- It is easy and natural to collaborate with consultants, since everyone works IN the same model contributing their discipline’s building system into the model in parallel.
- The need for backgrounds and worries about whether you have the latest file versions disappear.
- FTP sites acting as ‘file depositories’ can be reduced or eliminated; any computer on the internet can now be a BIM server.
- On design/build projects or Integrated Project Delivery (IPD), contractors can participate early on constructability issues.
- Estimating can happen on the fly by using the latest version of the shared model. MEP and Structural Coordination will happen in real-time, starting during late schematic design. The need to do costly MEP Coordination during pre-construction by the contractor will no longer be necessary.
- Owners can participate by watching the project evolve virtually in real time via the 3D viewing capabilities built into the software.
- It will be easier to provide an accurate as-built BIM model during construction to hand over to the owner for operation and facilities management, since the contractor has been participating from the beginning.
- You can expand your services without acquiring more office space or overhead through hiring qualified ArchiCAD experts that could be located anywhere in the world.
BIM just got social!

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New Productivity Improvements

Across the Board Speed Enhancements –

Support for 64-bit on the Windows platform will improve BIM performance by exceeding the 4GB of RAM memory that the program could previously use. It will no longer be necessary to use slow hard drive virtual memory when 4GB of RAM is exceeded on larger, polygon-intensive projects. It is a high priority for Graphisoft to complete a 64-bit version for the Mac. No release date has been announced. Stay tuned.

Ruler Display –

As in other popular drawing programs, ArchiCAD 13 now allows you to toggle on handy rulers via a button in the “Info Box” that appear at the top and left of your screen to get an over-all sense of the size of your project as well as location of your cursor in space. Drag out guidelines from the rulers to assist in aligning objects. The Ruler provides great productivity improvement in arranging drawings on layout sheets. Right-click on a ruler and you can toggle on “Cursor projection” which allows your ruler to project “cross hairs” across the entire window.

New Arrow Tool Selection Method –

When using the new Arrow Tool's “Direction Dependent” method, when you swipe from left to right, you select anything touched with a selection marquee; if you swipe from right to left, you get only what's fully enclosed in the marquee area.

Oriented View –

The workflow on extensive floor plans and sites that may be a combination of several large projects with different angle coordinate systems will be handled without having to rotate the original project. Now you can edit diagonal wings comfortably, while your annotations adjust automatically to the final layout orientation. This will enable users to work on each part comfortably in their own coordinate system. This feature is an enhanced version of the “UCS” function of competitive software. At the bottom of each window is a ‘Rotate Orientation’ button.

Easier Interactive Schedules –

Plan and/or elevation views of doors and windows within a schedule allow automatic associative dimensions. You will also be able to annotate or draw in these schedule views as well.

Enhanced Door and Window Automatic Dimensioning –

New options enable you to automatically dimension the wall hole, the reveal, the window/door unit, and/or the door's egress or leaf size.

Direct Editing of Slab/Roof Edges –

Use the Pet Palette by clicking on a Slab or Roof edge to directly access a Custom Edge Settings dialog

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box. One can now set independently custom slab and roof edge angles or materials, giving you complete freedom to match joining elements.

Improved Curtain Wall Editing –

The system geometry of curtain walls now can be directly edited in any view of ArchiCAD 13. Curtain Wall reference lines can now be modified on the floor plan with standard pet-palette operations. Heights, angles, etc. can be directly edited in the 3D window, similar to wall editing.

Intelligent Soft (batt) Insulation Fill Pattern –

ArchiCAD 13's symbolic bat insulation is not just the 100% solution for 2D but it is available in 3D Documents/details as well.

Model View Options for Key Library Parts –

Global Model View Options for doors, windows, casework, etc. help control the display and handling of library objects at a project level; set these options using the "Options for GDL Objects" panel from the Model View Options dialog box.

Embedded Library Parts –

Project specific library parts (stairs, trusses, custom parts, etc.) can now be saved into the standard ArchiCAD project PLN to minimize the "missing library parts" phenomenon that occurred whenever library parts were not loaded with the project. Project-specific GDL objects (such as StairMaker stairs, TrusMaker trusses, and Patch objects) can be automatically saved as part of the project file. Such "embedded" objects will behave the same way as regular library parts, but it will be impossible to lose them. Thus, all linked libraries can be uniform for every project.

- All newly created objects are stored in the Embedded Library by default, and can be organized into folders. There is no longer a need for a Custom Library folder.
- Project-specific libraries from earlier ArchiCAD versions will be transformed into Embedded Libraries in ArchiCAD 13.

Dynamic "Fit in Window" –

A new zooming option called "Fit in Window" in View Settings (while in the View Map) ensures that this view will always dynamically display the entire drawing contents on screen as it grows larger or shrinks, subject to Layer status. This option is a great usability feature for editing, and for creating an automatically adjusted zoom for placed drawings.

Load-Bearing/Non-Load-Bearing Structures Defined –

ArchiCAD 13 supports the classification of architectural BIM elements as load bearing vs. non-load bearing structures for a better export to the structural engineer. The Tool Settings dialog box of the Wall, Column, Beam, Roof and Slab can be customized to include a panel called Structural Property.

Note: By default, the Work Environment does not include the Structural Property panel in Tool Settings dialog box. To make this panel visible, you must customize your Tool Settings dialog boxes to include them.

New Steel Beams and Column Sections –

The new “Import Standard Steel Profile” command from the Options Menu allows thousands of standard steel products available within ArchiCAD 13, based on AISC (American Institute of Steel Construction) standards, along with other world-wide standards.

New Library Objects –

Trapezoidal bathtub, furniture layouts, Olympic-sized swimming pools, bowling alley, steel stair, Pivot door, sliding folding Multi-panel door, CW Door 2 “Asymmetric” object (double Curtain Wall door with asymmetric leaf width option). Wheelchair man: define and check minimal space for disabled access; display disabled person symbol on plans, elevations and sections.

More Powerful Find and Select –

More sophisticated Find & Select interface, enables more refined searches.

- Add multiple search values to a single criterion;
- If you will need to select the same set of elements repeatedly, you can now save and store these criteria sets for later use, share them in Teamwork, or use the stored search criteria in other projects.

Image Fill as Cover Fill –

To display surfaces more attractively in 2D views, you can now apply an image fill to any Roof, Slab or Mesh with a Cover Fill. Previously you had to lay an image Fill Pattern using the Fill Tool over a region defined by a Roof, Slab, or Mesh.

Boundary Contour Options for Sections, Elevations, and Interior Elevations –

Display of element contour lines at the edge where they are cut or limited by the Section’s boundary can now be delineated automatically. Define the contour’s visibility, pen colors and line types from Section or Elevation Settings.

DWG Enhancements –

ArchiCAD 13 makes significant progress in the development of the DWG import and export.

- New option enables you to merge the entire Publisher Set contents into a single DWG file.
- Enable Partial Open: This function allows you to filter out the layers which you do not wish to include in

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the converted ArchiCAD file. You therefore can restrict the DWG conversion to just those elements that you really need, thereby increasing conversion speed and reducing the size of the resulting ArchiCAD project.

- New Custom Layers now available in DXF-DWG Translator Setup dialog box providing greater control over which elements and sub-elements should be assigned to their own layers:
 - Zone Background (any visible zone cover fills)
 - Zone Outline
 - Zone Stamp (geometry of zone stamp)
 - Zone Texts (textual content of zone stamp)
- Keep Exploded DWG Drawings on Single Layer helps you avoid creating large numbers of unneeded layers in ArchiCAD.

Improved 3D Window Display with OpenGL–

The 3D window images now look better. Sharp contour lines and improved shading colors in 3D views using OpenGL will enhance the quality of every 3D drawing, reducing the necessity to fine tune the images in 3rd party rendering applications.

License Borrowing –

With the all-new optional WIBU CodeMeter key, the License Borrowing feature allows individual users to check out or “borrow” a license key temporarily if they will be working offsite – at home, on a business trip, or in a client’s office. This feature enables the use of ArchiCAD even without being connected to the network. Note: there is an additional cost associated with this capability.

- A System Administrator determines the number of borrowable licenses and the borrowing period.
- Special software monitors who has borrowed the licenses and when they will expire
- Expired licenses stop functioning and are returned to the Server, even if the user is not connected to the server
- “Loan” a license of ArchiCAD to a consultant or engineer to collaborate on a project in real time.

Teaming-up with Tekla –

On September 9, 2009, GRAPHISOFT and Tekla Structures announce a global partnership to offer a best-in-class software solution for architecture and structural engineering practices. Workflow-level integration of ArchiCAD and Tekla Structures – unique in the AEC market - enables true collaboration among the disciplines. “The real issue with integration is not file compatibility but workflow compatibility,” says **Viktor Várkonyi**, Chief Executive Officer at GRAPHISOFT. “Opening each other’s files is not nearly enough; handling each other’s model in an intelligent way is what makes a BIM collaboration workflow truly productive.”

Migration Guides –

Included in the documentation are migration guides to version 13 that assist you in converting projects all the way back from version 8.1.