Revit® Architecture 2009
AutoCAD® Revit® Architecture Suite 2009

Questions and Answers

Purpose-built for building information modeling (BIM), Revit® Architecture software works the way architects and designers think, so you create naturally, design freely, and deliver efficiently.

Revit® Architecture mirrors the real world of buildings, and helps you accurately capture your early design concepts and maintain your vision through design, documentation, and construction. Support sustainable design and perform energy analysis through easy exchange with partner applications. Parametric change technology ensures every change you make is automatically coordinated everywhere in your project, including model views, drawing sheets, schedules, sections, and plans. Design and documentation stay coordinated, consistent, and complete.

1. General Product Information

1.1 What is Revit Architecture?
Revit is Autodesk's platform for building information modeling (BIM). Built on the Revit® platform, Revit Architecture software is a complete, discipline-specific building design and documentation system supporting all phases of design, construction documentation, and even fabrication. From capturing conceptual studies through the development of the most detailed construction drawings and schedules, Revit-based applications help provide immediate competitive advantage, deliver better coordination and quality across project phases and disciplines, and can contribute to higher profitability for architects, designers and the rest of the building team.

At the heart of the Revit platform is the Revit parametric change engine, which automatically coordinates changes across the project—in model views or drawing sheets, schedules, sections, plans, and more.

1.2 What is building information modeling?
Building information modeling (BIM) is the creation and use of coordinated, internally consistent, computable information about a building project in design and construction. The ability to keep this information up-to-date and accessible in an integrated digital environment gives architects, designers, engineers, builders, and owners a clear overall vision of their projects and contributes to the ability to make better decisions faster, helping increase project quality and profitability.

Autodesk®

For more information about building information modeling and Autodesk's strategy for the application of information technology to the building industry, see the white papers and other information at *www.autodesk.com/powerofbim*.

1.3 In addition to Revit Architecture, are there other industry-specific applications built on the Revit platform?
Revit® Structure software is a fully integrated modeling, design, and documentation system for structural engineers and drafters that takes full advantage of the Revit platform's change management technology Revit® MEP is the BIM solution for mechanical, electrical, and plumbing (MEP) engineering design and documentation.

1.4 What is AutoCAD Revit Architecture Suite software?
AutoCAD® Revit® Architecture Suite bundles Revit Architecture and AutoCAD® software together, with a single serial number and authorization code. This combination enables you to maintain your investment in technology and training, while offering the BIM competitive advantage and the flexibility to move to a new technology platform when you're ready. For more information about AutoCAD Revit Architecture Suite, visit *www.autodesk.com/autocadrevitarchitecturesuite* .

2. Technology

2.1 What are the important new features in Revit Architecture 2009?
Revit Architecture 2009 continues to deliver superior design information to support better design decision-making by introducing new design and visualization features, adding more control and flexibility to existing features, and better leveraging performance and integration. Here are a few of the key features in Revit Architecture 2009:

Design Visualization: Better experience your architectural projects, even before they are built, with Revit Architecture 2009. A proven, powerful tool with roots in the entertainment world, the mental ray® rendering engine is now available for your architectural projects. The advanced capabilities of mental ray in Revit Architecture 2009 enable accurate visualizations through the Autodesk® FBX® file format and easy interoperability with Autodesk® 3ds Max® 2009 design software.

Swept Blend: Extending the range of what is achievable during conceptual design and family creation, swept blend functionality offers more opportunity to express complex forms.

Autodesk 3D UI: The Autodesk 3D UI includes ViewCube™ and SteeringWheels™ technology, two intuitive, interactive scene navigation tools that offer a familiar experience across multiple Autodesk 3D design products. The 3D UI enables you to navigate 3D scenes easily and effectively, regardless of your level of experience. Your extended team can apply the same software skills across different products and disciplines.

Dimension Improvements: Dimension improvements offer new flexible options for expressing dimension text by conveying more than just length values in the dimension string. New dimension text enables you to add a variety of supplemental text to a dimension string without damaging the integrity of the building information model by overriding dimension values.

Revision Schedules: Enhancements give added flexibility and control to the display of revision schedules. New attributes enable you to reverse the direction of schedules and to control whether they build dynamically or remain a fixed size. In addition, a new Issued By property has been added and schedules can be rotated on title blocks to achieve the various needs of individual firms.

Advanced Rendering with 3ds Max 2009: Autodesk 3ds Max 2009 design software introduces new lighting simulation and analysis technology, advanced rendering capabilities, and workflows that integrate with popular Autodesk® products such as Revit Architecture 2009. Through Autodesk FBX, an open-standard, platform-independent 3D file format, Autodesk 3ds Max significantly enhances interoperability with Revit® 2009–based products through the accurate import of lights, materials, and cameras.

These and other features take advantage of the continuous and immediate availability of high-quality, reliable, and coordinated information—efficiencies that users have come to expect from purpose-built software for BIM.

2.2 How does Revit Architecture 2009 help with Sustainable Design?

Revit Architecture 2009 offers a rich set of capabilities that support better sustainable design decision making. For example:

- Calculating material quantities to support cost estimating and study design analysis against LEED criteria is greatly simplified through the use of the material takeoff feature.
- Revit Architecture 2009 sun studies enable designers to quickly analyze sun positions and solar effects while informing the design process.
- Designers can export building information, including materials and room volumes, to gbXML (green building extensible markup language) to perform energy analysis and study building performance.

Using design options easily develop and evaluate multiple sustainable design alternatives. Visualize, quantify, and present any combination of schemes to inform the decision making process.

2.3 Revit Architecture 2009 handles modeling well, but what about conventional drafting and detailing? Do I still need AutoCAD for that?

Designers can work entirely in Revit Architecture 2009 to generate construction documentation. AutoCAD® software is not required.

For more information about producing construction documents in Revit Architecture or interoperability with AutoCAD software and other CAD systems, see the Autodesk white paper on the subject at *www.autodesk.com/revitarchitecturesuite.*

3. Installation, Configuration, and Licensing

3.1 What are *families* in Revit Architecture, and how many are there in the library?
All elements in Revit Architecture are based on families. The term *family* describes a powerful concept that helps users manage data and make changes easily. It refers to an element's ability to have multiple types defined within it, each of a different size and shape. Even though the types can look completely different, they are all still related and come from a single source, hence the term *family*. Changes to a family or type definition ripple through the project and are automatically reflected in every instance of that family or type in the project. This capability keeps everything coordinated and saves users the time and effort of manually tracking down components to update.

The Revit Architecture library contains thousands of families and includes components in both imperial and metric units. Revit Architecture family files are also available from the Revit Architecture web library (accessible from within the product) and from other publicly accessible websites. Each family file can produce many components. Because each file typically includes several sizes or types, the number of parts available is in the tens of thousands.

3.2 Do I have to regenerate sections and schedules manually? What if I want to work in the section?
No, in Revit Architecture 2009 a section view is "live" and presents itself instantly when the user creates it. The section view will automatically update if the defining section line is moved. Designers can work (add or edit components) in the section view without restrictions.

Schedules are created using the same principle. They are simply another type of view. So they are also "live" and they update as the designer changes the model. In fact, designers can change things in the schedule and Revit Architecture 2009 updates the model and drawings.

4. Compatibility and Interoperability

4.1 What standards and file formats does Revit Architecture 2009 support?
Revit Architecture 2009 supports a wide range of industry standards and file formats, including

- CAD formats: DGN, DWF™, DWG™, DXF™, IFC, SAT, and SKP
- Image formats: BMP, PNG, JPG, AVI, PAN, IVR, TGA, and TIF
- Other formats: ODBC, HTML, TXT, MDB, XLS, FBX, and gbXML

4.2 What if clients or consultants insist on DWG deliverables?
Revit Architecture 2009 can produce DWG deliverables just as AutoCAD can. Revit Architecture 2009 provides industry-leading DWG compatibility using the RealDWG™ toolkit. And because these DWG deliverables were created in a modeler, they are well structured and easy to change.

Revit Architecture 2009 supports the process most architectural firms use with their consultants by producing well-organized and layered DWG files using any layering

standard. Revit Architecture 2009 helps to ensure that nothing in an exported DWG file ends up on the wrong layer, easing consultant interactions and accelerating the design and construction process.

Revit Architecture 2009 provides features that help integrate your work with that of consultants. Import or link DWG files directly into Revit Architecture 2009 to use as reference geometry or as the starting point for a new design, such as a site plan. CAD systems that support the DWG, DGN, or DXF file formats can work effectively with Revit Architecture 2009.

4.3 What about data compatibility between Autodesk AutoCAD or Bentley MicroStation software products and Revit Architecture 2009?

Revit Architecture 2009 provides several important interoperability capabilities for AutoCAD® and Bentley® MicroStation® users. First, Revit Architecture 2009 can import, export, and link any version of DWG and DGN (V7) format files. Users can draw on imported files to create Revit Architecture 2009 parametric model geometry. Revit Architecture 2009 can manage imported or linked files so that detail libraries in either DWG or DGN file format can be placed on sheets and all callouts are automatically managed. Further, Revit Architecture 2009 can map a specific DWG layer on import to a specific DGN level number on output or vice versa in any combination.

4.4 Revit Architecture 2009 now uses mental ray as a rendering solution. Can I use Revit Architecture 2009 with Autodesk 3ds Max?

Users can transfer geometry from a Revit Architecture 2009 model into the Autodesk 3ds Max 2009 design application through DWG or the new FBX file export.

4.5 Is there an application programming interface (API) or other third-party development tools for Revit Architecture 2009?

Yes. Revit Architecture 2009 ships with a general API, in addition to the previously existing ODBC (Open DataBase Connectivity) export functionality. A number of partners develop applications for Revit Architecture.