



Embrace the Cloud, Increase your AEC Business

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Cloud technology is everywhere we turn – but what does it really mean to you? Join Autodesk Technical Specialist Scott D Davis and special guest Autodesk Evangelist Lynn Allen as they clear up any misconceptions you might have about the Cloud and how the latest A360 Cloud offerings are certain to improve your design experience. The Cloud opens the door to everything from real-time collaboration and reality capture to endless design iterations, energy analysis and speedy renderings – you just need to walk through that door! Join us for this eye-opening session and experience the possibilities.

Learning Objectives

At the end of this class, you will be able to:

- Understand Autodesk's Cloud Strategy
- Comprehend how Autodesk's Cloud Strategy will help your business
- Recognize Autodesk Cloud applications that will impact your business.
- Identify the three advantages of Cloud technology as it relates to design

About the Speakers

Scott D. Davis is a Senior AEC Technical Specialist with Autodesk, Inc., and specializes in Architecture, Construction and building information modeling (BIM). Since joining Autodesk in March 2007, he has been active in promoting BIM around the country at events including the AIA Convention and Green Build International Conference and Expo. He has taught classes on BIM, Autodesk Revit, Autodesk Navisworks, Autodesk BIM 360 Field and BIM 360 Glue, and Autodesk ReCap at Autodesk University, AUGI CAD Camps, the Revit Technology Conference and BIM Conferences throughout North America. He was the founder of the Revit Users Group Inland Empire in southern California. Scott is also knowledgeable in sustainability practices, and is a skilled user of Autodesk Green Building Studio, Project Vasari, Autodesk FormIt, and Autodesk InRoads 360. Scott holds a Bachelors in Architecture degree from California Polytechnic University in Pomona, CA. This is Scott's 13th Autodesk University. @scottdavis

Lynn Allen is an Autodesk, Inc., technical evangelist who speaks to more than 30,000 users worldwide each year. For the past 22 years she has written the "Circles and Lines" column for Cadalyst magazine, and she is the voice behind the popular Cadalyst videos, Tips and Tricks with Lynn Allen. Lynn started using Autodesk software over 25 years ago, and she taught at the corporate and collegiate level for 13 years before joining Autodesk. A sought-after public speaker with a unique comedic style, Lynn is always one of the highest-rated speakers and hosts at Autodesk University. The author of 3 AutoCAD books, her latest is entitled AutoCAD Professional Tips and Techniques. @Lynn_Allen

Autodesk's Cloud Strategy (and what it means for your Business)

(The following was taken from "Autodesk Cloud eBook v13" that can be downloaded in its entirety from: http://download.autodesk.com/us/cloud/autodesk_cloud_ebook_v13.pdf)

We have awesome technology, but has anything really changed?

When we think about the workplace of 30 years ago, it's a marvel how far we've come. Getting work done was slow, manual, and restricted. Workers used typewriters instead of computers, drew by hand at drafting desks, dialed calls on analog phones, and stored thick paper files in space-consuming file drawers.

We've come a long way since then — but though our tools changed dramatically, many of our workplaces still depend on processes and technology that are holding us back.

We're still mired in:

- Restricted communication and data-sharing between software applications and computer systems that don't talk to each other
- The inability to collaborate across physical boundaries — despite business becoming more global and teams increasingly working remotely
- The inefficient, inconvenient, and costly ways we've had to store and share our files and intellectual property

A brighter future for business

Business is changing rapidly. Technology innovations are happening so fast the way we work is transforming before our eyes. Geographic barriers have fallen, opening doors to small businesses like never before. As we face the next generation of business, our technology should enable us to adapt and embrace this change — rather than holding us back.

It's not a dream, it's here

Cloud computing is ready for your business today — and the promise of business technology as a way to improve your productivity, agility, and efficiency has finally arrived. In this ebook, we'll explore exactly what the cloud is and some of the major reasons you should consider the cloud for the future of your company.

Imagine technology that lets you:

- Do your best work, freed from your desk and desktop
- Complete tasks that normally devour your computer's storage and time — from rendering to design analysis — faster
- Get the latest upgrades and updates automatically, with no work on your part

- Securely save and back up your files automatically — and never lose changes again if your PC crashes
- Instantly get more storage space when you need it, scaled to the projects you're working on (never run out of disk space again!)
- Access design or data files instantly, even when standing on a job site or factory floor, with mobile devices
- Look at your work with clients at the same time, whether you're meeting in person or on the other side of the globe

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It's easy to get lost in the hype when it comes to the cloud. Even the naysayers who initially dismissed cloud computing as a passing trend are embracing it. Gartner predicts the global cloud services market will grow to \$148 billion in 2014. This rapid growth presents opportunities and challenges to the way you do business. Knowing what cloud computing is — and isn't — is the first step toward making the most of the cloud.

Everything's coming up cloud

Technology companies are stampeding to rebrand their software and services in the cloud. Suddenly, it seems that everybody has a "cloud product." It's easy to become overwhelmed and confused, and to end up adopting a software product that isn't really a cloud solution.

Why does getting the "real cloud" matter to you?

True cloud products provide benefits to your business that far outweigh the restrictive capabilities of traditional software. When companies label their solutions as "cloud solutions," but the technology still restricts you from transforming the way you work, you aren't reaching the true potential of the cloud for your business.

The cloud IS:

Flexible

You're not tethered to your current computing resources, IT provider or equipment. Use applications across all your existing devices for greater mobility.

Affordable

Your cloud vendor uses its own infrastructure to serve many customers. You spend your time and money designing — not running systems.

Scalable

You can rapidly scale up and scale down on the space and computing power you use at any time.

Secure

Your cloud vendor invests heavily in layers of security that keep your data as, if not more, secure than if you were hosting it at your own data center.

The cloud ISN'T:

Restricted

You're required to be on your PC, in a particular IT environment or on a certain vendor's server.

Expensive

Your ROI is lower because you're paying for expensive hardware and storage costs. You may incur higher costs and more risk in stability and accessibility.

Limited

The provider makes you sign a contract locking you in to a certain infrastructure or software licenses.

Vulnerable

Things are getting safer, and will only continue to do so. Studies show breaches are more common for locally hosted information than for cloud providers.

Real results from moving to the cloud

Anytime, anywhere access

Your people are most effective when they can be out in the field, working directly with clients and overseeing work. With the cloud, they can be in the office, at home, in the car, or on a remote jobsite — anywhere in the world — and get the information they need to do their jobs. Get them out from behind their desks and to the places where they can be most effective.

Improved collaboration

The more you involve clients, communicate with partners and team members, and share and gather input on ideas, the more effective your project will be in the end. The cloud lets this collaboration happen seamlessly, with fewer missteps and inefficiencies, less time-consuming travel or expensive overnight deliveries of files, and less wasted time and cost.

Secure, centralized storage

No more expensive networking or restrictive firewalls that require VPN and restrict mobile access. While the IT world has come to rely on these workarounds to keep networks safe and restrict user access to private information, with the cloud it's no longer necessary. You can allow

users anywhere to access centralized information via the Internet, managing permissions by groups or users while ensuring that data stays secure and protected from intruders. Reputable cloud vendors invest heavily in layers of security that keep your data just as, if not more, secure than if you were hosting it at your own data center.

Increased productivity and efficiency

Being able to deliver results faster, more cost-effectively, and with more quality can give your business a competitive edge and make it more nimble. The cloud provides greater efficiency, which can trim time from a project's schedule and overall cost significantly. Enhanced efficiency and fewer operational issues allow staff to spend time on other more useful activities that offer a greater value to your business and clients. If you believe that your people are your company's biggest asset, then you can make better use of your people's time within the cloud.

"With the cloud, we can get people out of the trailers and into the field – because that's where the money is made."

Scott Zimmerman - Manager of Enterprise Systems, Bechtel

Infinite computing power

Your world is always changing, and the cloud allows you to stay nimble and meet your immediate business needs without investing heavily in infrastructure. Scale up or scale down with the cloud, and get virtually infinite computing power when you need it — so you can support your big projects and ramp down when you're between projects.

The cloudier side of the cloud

Of course, as with any massive change, the movement to cloud technology has raised concerns among companies used to more traditional ways of doing business. In particular, concerns center on:

- **Security:** companies may have difficulty rethinking their IT policies to shift toward storing data off-site, or may be troubled about "losing control" of their data. Cloud Security is top of mind for many companies, and the collaborative efforts of different companies concerns continue to improve security in the cloud. Think of the evolution cloud computing has seen already, such as the number of people that have now easily adopted doing their daily banking and shopping online without a second thought. Things are getting safer, and will only continue to do so. Cloud security continues to mature and evolve, and Autodesk is committed to protecting our customers' designs and ideas.
- **Integration and implementation:** companies need to consider how to integrate the cloud with legacy equipment and applications, and how to redesign their processes and retrain their people to work in the cloud. Moving to the cloud needs to be part of a "journey" — it may not happen overnight for some companies.
- **Cost:** while the cloud promises to reduce costs while delivering efficiency and productivity gains, the cost of cloud services itself at first may not be cheaper than

homegrown solutions and currently installed technology. However companies must look hard at the long-term ROI of cloud services compared to the capital investments they are making in IT and resources. Design projects of all types will become more complex, and in order to accommodate them, the technology must be scalable and adaptable – cloud based.

The benefits of the cloud will far outweigh the concerns — and as business leaders grow more comfortable with this new model of doing business, our industries will develop new best practices to solidify the security, convenience, and cost-effectiveness of cloud technology.

At Autodesk, we're committed to helping businesses embrace this revolutionary new technology model.

Don't reinvent the wheel— roll with it

Moving to the cloud doesn't require you to change the way you work. Instead, it lets you improve on the processes you already have in place. The best thing about the cloud is that it complements the way you work today, supporting your goal of being innovative while allowing you to stay flexible in your business.

The cloud gives you choice

- Work where, when, and how you want
- Use the tools you need exactly when you need them
- Collaborate across geographies, organizations, and teams in ways you haven't been able to do before
- Allocate your resources more intelligently

Now's the time to take to the cloud

The cloud really broke through in 2012, when companies like Amazon.com, Dropbox, and Google became dominant in cloud services for businesses. The growth of the cloud in recent years suggests its influence will only grow stronger in the years ahead:

- 70% of businesses are either using or investigating cloud computing solutions, says AMD
- 66% of mid-size companies were planning to or had already deployed cloud-based tech, according to IBM
- 48% of U.S. government agencies moved at least one workflow to the cloud following a new federal requirement that agencies adopt a cloud-first policy
- 80% of new software is available in the cloud, according to Ernst & Young

Work the way you play

It's likely much of your personal life is already in the cloud. You instantly access information and entertainment whenever you want it. You sync your music collection between devices without

plugging things in; you snap pictures of your kids and pets and instantly share them on social networks right from your phone; you download and watch the latest episode of your favorite TV show as soon as it's available online. That's all thanks to the cloud.

This is the way we play today. And now, it's the way we can work.

The impact of the cloud on our businesses

Yet the work we do takes more time and resources and is far more complicated than downloading a pop song or a picture. So what can the cloud truly do for our business? Here are some of the possibilities:

- Collaboration: easily create product designs and collaborate with others in the cloud by sharing files and inviting others to participate in design work
- Mobility: get anywhere, anytime access from virtually any mobile device or browser
- Infinite computing power: perform a variety of computer memory-intensive tasks — rendering, simulations, energy analysis, or structural analysis
- Affordable: reduce time and project cost without tying up the desktop

Autodesk in the cloud

Autodesk isn't new to the cloud — our Buzzsaw software-as-a-service product has been at work for more than a decade. Autodesk has a history of embracing innovation, and we're driving this forward with our move into the cloud.

Autodesk 360 brings the promise of the cloud to Autodesk customers, allowing professionals to work smarter, use resources more efficiently, and become more competitive in their businesses. This integrated cloud solution provides you with a powerful, secure set of tools that can dramatically improve the way you design, visualize, simulate, and share your work, on-demand.

Autodesk 360 features:

- Anytime, anywhere access, including on mobile devices
- Virtually infinite computing power that allows you to extend workflow beyond the desktop; access and store data; and view/edit files without the need for specialized software or hardware
- Improved collaboration: access and share your designs with clients and partners, even if they don't have Autodesk software
- Real modeling in the cloud: form, function, performance, fabrication, and process
- End-to-end experience, going beyond design and data models to encompass the entire lifecycle of a product or project.

Autodesk 360 AEC Applications

A360 Team

<http://www.autodesk.com/products/a360/overview>

Organize teams and projects. View, search, and collaborate using desktop, web, and mobile devices.

A360 project collaboration software helps design, engineering, and project teams work together efficiently on a centralized platform. View, search, and share data, and use cloud collaboration tools to keep everyone informed and involved. Access project information using desktop, web, and mobile devices.

Features include:

Centralized workspace

Use your A360 hub to work in the cloud. Connect and organize your team and project information across all your devices—desktop, web, and mobile. View, search, and work on models from any web browser.

2D and 3D model viewer

View, search, edit, and share nearly any type of 2D and 3D model, right from your browser—no download or plug-in required. Upload massive data sets and pan, zoom, and explode models to isolate components and details in high resolution. You can also view and edit files such as documents, presentations, and spreadsheets.

Deep file search

Search, filter, and find project information across complex assemblies, design models, data archives, and project activity feeds. With deep file search you can locate even the smallest component deep within a model, and find specific data such as dimensions and SKU numbers.

Collaboration tools

Team members can easily upload files and documents to share with other members. Everyone can provide feedback on shared data sets, documents, and projects.

Extensive file support

A360 supports more than 100 file formats, including 65 design file formats from Autodesk and other software developers, plus file types such as documents, presentations, and spreadsheets.

Cloud storage

Online data storage and tools help you improve file management processes. Upload large files of any type nearly anytime and anywhere. Use permissions to fully control where project data resides and who can access it.

A360 mobile app

Take advantage of all the functionality of A360 from the convenience of your mobile device. The mobile app also supports both online and offline workflows, so you can always stay up to date.

AutoCAD 360

<http://www.autodesk.com/products/autocad-360/overview>

View, edit, and share AutoCAD files using your smartphone or tablet.

View, create, edit, and share CAD drawings nearly anytime, anywhere with the free* AutoCAD® 360 web and mobile app. More than just a CAD viewer, AutoCAD 360 (formerly AutoCAD WS) uses DWG™ technology to enable you to redline drawings on-site, document as-builts, and share files.

Features Include:

Easy-to-use interface NEW

Experience a more intuitive interface, simplified toolbars, and in-app hints (iOS only).

Real-time cloud collaboration

Use integrated sharing tools to work with other AutoCAD 360 users, in multiple locations, in real time.

Portable app for site and field visits

View, redline, and add notes and photos to your drawings—from almost anywhere—using simple tools in the AutoCAD 360 app for smartphone and tablet.

Easy access to drawings

There's no need to print and carry drawings, or wonder which ones were marked up correctly—simply access them from AutoCAD 360 in the cloud.

DWG file compatibility

Thanks to the DWG file format, the drawings you create and edit in AutoCAD 360 can be viewed and edited in AutoCAD software for 2D and 3D CAD and AutoCAD LT 2D CAD software, as well.

No software to install or maintain

AutoCAD 360 couldn't be easier to use—all you need is your secure AutoCAD 360 username and password to access drawings from almost any device.

Get more features through a Pro plan

AutoCAD 360 Pro and Pro Plus expand AutoCAD 360 with more tools, extra storage capacity, and support for larger file sizes—all for a low monthly fee.

Use with all AutoCAD products and suites

When you can't access your AutoCAD or AutoCAD LT software in the office or the field, you can still access your drawings through AutoCAD 360.

Buzzsaw

<http://www.autodesk.com/products/buzzsaw/overview>

Manage documents, models, and data in the cloud.

Document and data management software as a service.

Buzzsaw® is data management software as a service (SaaS) that helps enable Building Information Modeling (BIM) workflows. It includes tools for documentation, modeling, and data management, and it is integrated with the Autodesk portfolio of design and data management solutions. Access Buzzsaw securely from your desktop, the web, or your mobile device.

Features Include:

Centralize models for Navisworks products

More easily centralize multidisciplinary models for importing into Navisworks software products.

Exchange models across companies

More securely exchange information for distributed teams across stakeholders, companies, and geographies.

Design review and markup

Easily view and mark up drawings, maps, and models. Help streamline the review and editing process.

Design application integration

Buzzsaw integrates with many design team workflows. Save design models and files directly from certain Autodesk design applications.

Notifications and alerts

Whenever you upload a drawing or make changes, notify project team members so everyone has access to the latest information.

Multi-language support

Buzzsaw is available in 8 languages: English, Simplified Chinese, French, German, Italian, Japanese, Korean, and Spanish.

Access from your browser

View and exchange project documents, designs, and models with Buzzsaw software as a service—for easier web-based project management.

Explore Building Information Models online

View Revit and Navisworks software models and navigate through multiple 2D and 3D views.

Go mobile

Buzzsaw has mobile apps for Apple iPhone, Apple iPad, and Android devices. View Revit and Navisworks models, 2D and 3D DWF files using apps.

Connect to the enterprise

Extend Vault software to the cloud with the Vault project sync feature.

Buzzsaw sync

Automatically synchronize from the desktop to Buzzsaw without interrupting the workflow. Use permissions to sync, share, and access information.

Centralized project information

Get centralized management for a single source of truth. Use Buzzsaw project management software for project-centric AEC organizations and teams.

User administration and security

Use site- and project-level user and group capabilities along with 8 permission levels to better control access to project information.

Activity log and audit trail

Gain greater visibility into the activities that occur on your Buzzsaw site. Know who accessed, edited, uploaded, and downloaded any document and when.

Version control

Preserve a record of all document versions. Track and manage multiple versions, add comments, and send notifications when you create one.

Layer and xref management

See a more complete picture. When you upload a DWG™ file to Buzzsaw, the file is automatically scanned.

File locking

Keep documents more secure and minimize mistakes. Control access to documents and enable only one person to edit a document at any given time.

Advanced search

Use full-content search to find information quickly.

SaaS delivery

Buzzsaw is a more secure, on-demand software-as-a-service solution with no hidden costs. Avoid the need to maintain costly and complex IT infrastructure.

BUZZSAW PROFESSIONAL

Buzzsaw Professional provides advanced capabilities for owners and architecture, engineering, and construction (AEC) service providers.

Reporting

Gain greater visibility and track status across a single project or your entire project portfolio.

Dashboards

Access crucial project information more quickly with Buzzsaw project management software. Summarize action items across all projects.

Construction forms

Track standard construction forms, such as RFIs, ASIs, submittals, daily reports, transmittals, and bulletins.

Document register

Manage and track drawing and document information, versions, and transmittals.

Bid manager

Create and track invitations to bid and responses based on vendor/subcontractor criteria.

ReCap 360

<http://www.autodesk.com/products/recap/overview>

Share and take real-world measurements from laser scans, and create professional-grade 3D point clouds and mesh from high-resolution photos.

Capture and integrate reality data directly into your design process with ReCap™ reality capture software and services. ReCap works with Autodesk design and creation suites, so you can start your design with accurate 3D data and full photo-quality context rather than a blank screen.

Features include:

Target-based accuracy reports

You can now create accuracy reports based on targets such as checkerboards or spheres. ReCap Pro software automatically locates the center point of these targets. Targets can also be used to refine registrations in low-feature environments, such as outdoors.

Hardware-independent 3D laser scanning

ReCap Pro software supports text-based formats, as well as formats from all major 3D laser scanner manufacturers.

Photorealistic data visualization

ReCap Pro software supports massive data sets with photorealistic visual fidelity. This enables you to view full 3D or panoramic scans through the software's powerful visualization engine.

Point cloud editing and cleaning

Use simple editing and selection tools and regioning features to clean and organize point cloud data.

Laser scan data alignment

Reduce data processing time by aligning laser scans to create a single model of as-built conditions or an existing environment.

Survey point addition to point clouds

Add survey points to point clouds to improve accuracy in a quality assessment, or to map points to a known grid in existing conditions.

Detailed 3D design in context

Use ReCap Pro software in building workflows with AutoCAD software. Create detailed 3D design in context of as-built conditions or an existing environment.

More precise building renovation

Use point cloud data of scanned as-built conditions in Revit software for faster, more accurate 3D renovation design in building workflows.

Construction verification

Compare as-built scan data from ReCap Pro software to design data in Navisworks software to verify construction in building workflows.

Existing factory layout

Use ReCap Pro software in Factory Design Suite to visualize point cloud data of as-built or as-is conditions of a facility in a factory workflow.

Equipment removal or installation

Use point cloud data from ReCap Pro in Inventor and Navisworks software for clash detection when removing or installing equipment in existing facilities.

Road visualization and design

Use ReCap Pro-generated point clouds with mobile scanning data in AutoCAD Civil 3D software to visualize and design roads in infrastructure workflows.

Bridge visualization and verification

Display and compare a bridge's actual construction with its design by using point cloud data from ReCap Pro software in infrastructure workflows with InfraWorks software.

BIM 360 Field

<http://www.autodesk.com/products/bim-360-field/overview>

Manage, collaborate, and report in the field with a mobile app.

BIM 360™ Field is field management software for 2D and 3D environments that combines mobile technologies at the construction site with cloud-based collaboration and reporting. BIM 360 Field puts critical information into the hands of those in the field, helping to improve quality, safety, and commissioning for construction and capital projects of all types.

BIM 360™ Field construction field management software combines mobile technologies for on-site use with cloud-based collaboration and reporting. With BIM 360 Field, construction professionals no longer have to carry pads of paper and tubes of drawings on the job site. Instead, they can take advantage of new ways to manage field processes, such as quality, safety, and commissioning checklists; distribution of plans and drawings; and mobile 2D and BIM construction document access. No matter what type of construction or capital project you're managing, BIM 360 Field helps you save time and reduce costs.

Features Include:

Improve quality & reduce rework

Implement an enterprise-wide program with BIM 360 Field.

- Gather quality assurance/quality control information from projects to help proactively identify trends and minimize contractor risk.
- Drive programs to improve construction quality and reduce expensive rework.
- Create and automatically distribute work-to-complete lists for trades and other parties.
- Create and manage issues and checklists on an iPad in the field.
- See the current status of project issues.
- Compile quality, safety, or commissioning checklist results for specific trades, areas of work, and/or time periods.

Promote safety

Streamline job site inspections and help reduce injuries and safety risk by providing more consistent, accurate, and auditable procedures. Field inspectors, safety directors, and executives can proactively manage and educate their teams about job site safety.

- Preconfigured checklists help make inspections faster, and more consistent and thorough.
- Documentation is current and accessible on iPads and other devices.
- Custom reports support transparency of overall project safety. Use your company's data to drive education and job site procedures.
- Implementing a safety management process may help lower company and project insurance premiums.

Improve commissioning & handover process

More effectively streamline the commissioning process by collecting equipment and component detail in the field on your iPad.

- Dynamic reporting shows the statuses of systems and equipment, enabling commissioning agents and other responsible parties to better manage projects.
- Compile quality, safety, or commissioning checklist results for specific trades, areas of work, and/or time periods.
- Enable the startup and testing of key systems and equipment, documented in digital form for owner handover.
- Use commissioning information and linked documents from BIM 360 Field as the deliverable for handover and facility operations.

Manage field workflow

BIM 360 Field provides a platform for all field and management users.

- Save time by reducing trips back to the job trailer to get correct or updated information.
- Access the latest field data—virtually wherever and whenever it's needed—whether you're online or offline.
- Share document changes with field and office professionals.
- Schedule work for team members to complete by specific dates and times.
- Store and distribute drawings, plans, images, reference materials, specifications, and company policies.

Enhance workflows with BIM

Integration with BIM 360 Glue takes full advantage of project models in quality, safety, and commissioning workflows.

- Integrate with Navisworks project review software to provide BIM object data in the field.

- Use an iPad app to proactively manage issues and punchlists in the field.

Manage field performance

BIM 360 Field provides a web-based reporting platform for all your field management activities. Turn field data into powerful information to help you manage quality and safety, and to minimize contractor risk within your projects and company.

- Reduce safety and quality risks by accessing operations information across projects in real time.
- Extended project team collaboration with project progress reports.
- Drive programs to improve construction quality and reduce expensive rework.
- Create and automatically distribute work-to-complete lists for trades and other parties.
- Compile quality, safety, or commissioning checklist results for specific trades, areas of work, and/or time periods.

BIM 360 Glue

<http://www.autodesk.com/products/bim-360-glue/overview>

A cloud-based service for BIM management and collaboration. Connect your entire project team and streamline Building Information Management (BIM) project workflows.

BIM 360™ Glue® is a cloud-based BIM management and collaboration product that connects your entire project team and streamlines BIM project workflows from pre-construction through construction execution. With virtually anywhere, anytime access to the most recent project models and data throughout the project lifecycle, BIM 360 Glue helps you review projects and resolve coordination issues faster, while advancing the construction layout process.

BIM 360™ Glue® is a cloud-based BIM coordination service that provides virtually anytime, anywhere access to connected project information. Use BIM 360 Glue for construction visualization to help you perform multidisciplinary collaboration and coordination review cycles faster, while making construction layout tasks more efficient.

The evolution of construction layout

Make construction layout tasks more efficient with the Layout feature and the BIM 360 Layout iPad app.

- Connect the BIM 360™ Layout iPad app with a total station to easily locate and verify point locations on the job site.

- Provide field layout personnel with the most up-to-date coordinated model to conduct layout activities.
- Eliminate the manual process of prepping and transferring point coordinate details to field data controllers for layout.
- Easily communicate and share issues collected in the field directly in the coordinated model for action by the VDC team in the back office.
- Analyze layout productivity data to determine best practices for future planning and execution.

Cloud-connected office-to-field workflows

- Upload models with layout points created in Point Layout directly from AutoCAD, Revit, and Navisworks into BIM 360 Glue, and sync with the BIM 360 Layout iPad app.
- View and share point sets with project members in the BIM 360 Glue web interface or the BIM 360 Layout iPad app.

Immersive, model-based interface and navigation

- Real-time model navigation for conducting layout, QA/QC, and as-built on the job site.
- Control the total station remotely using guide and point-turn functionality.
- The BIM 360 Layout iPad app provides step-by-step instructions using known point and re-section workflows for total station setup.
- 2D viewing options and navigation use intuitive, gesture-based pan and zoom controls.

Connected BIM for the entire team

Provide all project stakeholders with one-click access to BIM.

- Easy access to coordinated single source of truth for BIM data.
- Provide secure access—virtually anytime, anywhere—to the most current project data.
- Support more effective team communication with notifications and activity tracking.

One-click access to BIM

- Collaborate across distributed teams.
- Improve decision-making with nearly anytime, anywhere access.
- Access precise model views and shared markups directly from notifications.

Project review tools for collaboration

- Review and annotate project models and send notifications to the team.
- Respond to markups received from BIM 360 Glue project members.
- Measure between model objects with intuitive point-to-point tools, object snapping, and automatically calculate XYZ differences and the shortest distance between objects.

Transforming BIM coordination

Empower your team with real-time, continuous BIM coordination.

- Help make BIM accessible to everyone on the project team and streamline project review workflows.
- Create confidence in planning results by using powerful clash detection tools that take advantage of Navisworks software for construction project management.
- Make better decisions earlier by more effectively communicating in the context of the coordinated project model.

Cloud-based multidisciplinary BIM coordination

- Empower your team to identify and resolve conflicts more effectively, before and during construction.
- Work with up-to-date project models and data.
- Send notifications and collaborate with the team.

Collaborative project reviews

- Review complex multidisciplinary project models from virtually anywhere.
- Streamline project review workflows.
- Annotate project models and send notifications to the team.

Mobile access & review

Anytime, anywhere access to BIM projects and data.

- Easy, secure, authenticated access to up-to-date, multidisciplinary BIM 360 Glue projects.
- Intuitively explore multidisciplinary BIM projects in the field, online or offline.
- Navigate through saved views, measure distances, and access intelligent object properties.

Immersive mobile experience

- Navigate using intuitive gesture-based pan, zoom, and orbit.
- Walk through the model with gravity-assisted navigation optimized for BIM.
- Select, hide, and reveal individual discipline models and objects.

Verify measurements in the field

- Measure between model objects with intuitive point-to-point tools and object snapping.
- Automatically calculate XYZ differences and the shortest distance between objects.

Navisworks integration

Cloud-connected workflows for BIM coordination, collaboration, and analysis.

- Use BIM 360 Glue for model management and team collaboration, and Navisworks for advanced analysis.
- Directly load coordinated BIM 360 Glue models into Navisworks for 4D animated timelines, model-based quantification, and other advanced analysis.
- Publish coordinated models from Navisworks Manage to BIM 360 Glue to provide one-click-to-BIM access for the entire team.

Design tool integration

Supports more than 50 file formats and round-trip BIM workflows in key Autodesk design tools.

- In-product, round-trip support for coordination and clash resolution in Revit, AutoCAD, and AutoCAD Civil 3D software.
- Help simplify multidisciplinary BIM coordination workflows by minimizing file format complexity and compatibility issues.

Integrate with business processes

Connect BIM and critical business workflows with bidirectional integrations.

- Integrate BIM 360 Glue with certain Autodesk design tools, third-party project management, and ERP solutions.
- Extend access to BIM across the internal team by embedding live models in systems such as Microsoft SharePoint.
- Link live models with project management workflow systems.
- Provide an open platform to custom implementations to fit almost any customer's existing workflows.

Energy Analysis for Revit

<http://www.autodesk.com/products/energy-analysis-revit/overview>

Quickly determine energy consumption and lifecycle costs of building designs.

Compare estimated energy and lifecycle costs. Energy Analysis for Revit® software is a cloud-based energy simulation service powered by Green Building Studio that supports sustainable design. This service is available with the purchase of a perpetual license with Maintenance Subscription or a Desktop Subscription for select products.

Features Include:

Energy analytical model creation

The energy analytical model feature in Revit building design software provides tools for fast, flexible creation of models for energy simulation.

Whole building energy analysis results

Get whole building energy analysis results within Revit, powered by Green Building Studio cloud-based energy analysis service.

Easy-to-use analysis settings

Energy Analysis for Revit uses simple, logical analysis settings that scale with learning and design information.

Collaboration through the cloud

Configure, store, and review energy simulation settings and results in the cloud, or export to industry-standard file formats.

Green Building Studio

<http://www.autodesk.com/products/green-building-studio/overview>

Perform whole building energy analysis to design toward carbon neutrality.

Green Building Studio® energy-analysis software enables architects and designers to perform whole-building analysis, optimize energy consumption, and work toward carbon-neutral building designs earlier in the process. Cloud-based energy-efficiency software helps teams achieve sustainable building designs faster and more accurately with powerful energy- and carbon-analysis tools.

Whole-building energy analysis

Account for all of the energy-using systems in a building to understand energy cost projections that inform design decisions and financial analyses.

Green Building Studio energy analysis software adds defaults and assumptions based on your building type and location to complete the energy analytical model. This helps you perform a valid and useful analysis for decision making.

Detailed weather data

Green Building Studio gives you access to over a million virtual weather stations that are compiled from a variety of trusted sources.

For existing building projects, you can upload building utility history. Green Building Studio automatically collects historical weather data from that same period of time so you can create a calibrated energy model.

Energy Star and LEED support

Understand how the energy efficiency of your project compares to similar designs, and get LEED point estimates directly from Green Building Studio.

For every project located in the United States, Green Building Studio provides an ENERGYSTAR score to compare the energy efficiency of your design to similar energy-efficient buildings, including a LEED point estimate for glazing factor and water credits.

Carbon emissions reporting

Green Building Studio energy analysis software provides carbon emissions reporting for nearly all aspects of a building.

Daylighting

Receive qualification for LEED daylighting credit.

Water usage and costs

Gain an understanding of the estimated water use in and outside your sustainable building design.

Natural ventilation potential

Estimate the mechanical cooling requirements versus the hours of outdoor air required to ventilate a building naturally.

Structural Analysis for Revit

<http://www.autodesk.com/products/structural-analysis-revit/overview>

Design and analyze structural models as part of the BIM process.

Structural Analysis for Revit® provides cloud-based building structural analysis for engineers and designers as a part of the Building Information Modeling (BIM) process. This service is available with the purchase of a perpetual license with Maintenance Subscription or a Desktop Subscription for select products.

Features Include:

Static analysis

Run static analysis of structural designs in the cloud directly from Revit building design software.

Parallel analysis and design

Designers and engineers can conduct simultaneous analysis while they work in Revit or run parallel analysis of their structural design concepts.

Web dashboard

Submit and manage projects, models, or analyses and view result reports directly from the cloud-based service.

Calculation note

Explore structural analysis results with a calculation note that offers quick insight into conclusions. View and save notes in HTML or PDF.

Presentation-ready results

Download structural analysis results from the cloud. Present results on elements of the model and in maps, diagrams, and deformations.

Rendering in A360

<http://www.autodesk.com/products/rendering/overview>

Produce photorealistic images and panoramas.

Cloud rendering in A360 takes advantage of virtually infinite computing power to create photorealistic and high-resolution images in less time. This service is available with the purchase of a perpetual license with Maintenance Subscription or a Desktop Subscription for select products.

Features Include:

Photorealistic rendering

Produce stunning, high-quality renderings from designs and models with cloud rendering in A360.

Batch rendering management

Cloud rendering in A360 manages large batches of rendering jobs in a fraction of the time required on your desktop.

Panoramas, solar studies, and illuminance

Perform solar study renderings and navigate through interactive panoramas. Create illuminance simulations. Apply environments to rendered scenes.

Collaboration for Revit

<http://www.autodesk.com/products/collaboration-for-revit/overview>

Connect teams with building collaboration cloud service

Autodesk® A360 Collaboration for Revit® connects project teams with centralized access to BIM project data in the cloud. Stay connected in real time using the Communicator chat tool within models. With Revit software and Autodesk A360 integration, Collaboration for Revit enables the entire project team to work on shared building information models.

Features include:

Centralized access to project data in the cloud

Enable project team members in all disciplines, from multiple firms, or sites to concurrently author a model using the BIM process.

As a cloud service, Collaboration for Revit does not require complex and costly IT setup, installation, and maintenance. Overcome the barriers of corporate firewalls and physical location. Replace costly and inefficient work-arounds for sharing models such as use of FTP sites, sharing software or email with attached PDFs.

In-context communication

Connect team members with direct, real-time chat within project models to free teams from traditional, limited tools, such email and phone.

With a contextual awareness of who's working on which models at any given time, Communicator makes a conversation with another team member just a click away.

Communicator provides an integrated activity feed that allows the project team to understand model changes from other team members, making it easier for team members to locate collaborators and communicate directly.

Communicator provides notifications of new chat messages, connection requests, and sync status for shared models.

Extended team integration

Access Autodesk A360 to provide Revit design and engineering teams with a centralized cloud-based workspace, and improve efficiency on projects.

Make more effective decisions and deliver superior results. Data from projects hosted in Collaboration for Revit surfaces in A360, making models easily viewable and searchable with no exports, translations, or uploads required. This experience only requires a web browser, iOS, or Android mobile device; connecting the whole team anytime, anywhere, on nearly any device.

External team members and project contributors who do not use or have access to Revit software can share, access, and search design data, discuss challenges and successes, and stay current with project activities. Since A360 works with nearly all project data formats, collaboration can be centralized in one platform.

Secure

Work on building collaboration projects with full confidence in data security.

Collaboration for Revit stores all project and design data in A360. A360 is part of Autodesk's secure cloud environment. Visit the Autodesk Trust Center for more information about cloud security at Autodesk.