

# Nasuni for Autodesk Revit



## The challenge: Increasing the performance of multi-site building information modeling workflows

With Autodesk Revit, today's building professionals are collaborating better and reducing building errors. Revit brings architectural, structural, MEP, and construction files together in a single platform, enabling architects and engineers to model changes across disciplines in 3D and shorten design cycles.

However, today's Architecture, Engineering, and Construction (AEC) projects require specialized expertise distributed across many locations, creating serious Revit collaboration challenges. Syncing with and reloading files from the central Revit model dramatically slow down as more locations are added. Model open times increase for remote users. Lastly, models with many linked files become slow to open and update.

The result? BIM managers and IT professionals embark on costly storage, remote access, and network acceleration workarounds. Many times, flying workers to remote offices to update models locally or shipping hard drives containing Revit models to different offices is still required.

### Highlights

**Enable high performance Revit model collaboration** across many sites

**Accelerate Revit operations including** sync with central, model open, local copy, and reload latest

**Ensure project and business continuity** with access to Revit models even if entire offices go offline

**Leverage cloud scalability and economics with support** for all major private and public cloud storage platforms

**Deploy a cloud-first architecture** without being tied to one vendor's application-specific cloud

**Ensure security in transit and at rest** with all data encrypted using customer-controlled keys

**Archive design and as-built files at low-cost** but have them quickly accessible if needed

## The solution: Nasuni for high performance Revit and BIM collaboration across multiple sites

The Nasuni global file system combined with private or public cloud storage is the new standard for storing and synchronizing Revit models across multiple locations. Three of the five largest firms in Architectural Record's 2017 Top 300 Architecture Firms ranking use Nasuni for high performance, highly scalable Revit and BIM collaboration.

### How Nasuni accelerates Revit multi-site workflows

Revit was originally designed to share a central model across a LAN in one location. Nasuni enterprise file services extends Revit across many locations to meet the multi-site collaboration requirements of modern AEC companies.

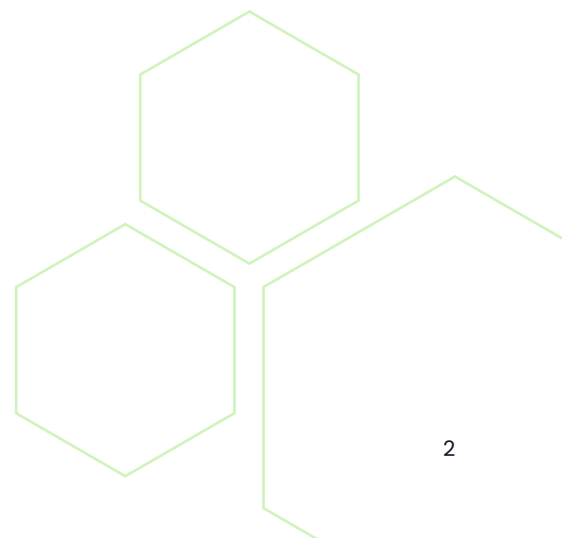
Powered by the Nasuni UniFS® global file system, Nasuni stores Revit models and other unstructured file data in object storage on-premises (private cloud) or in the public cloud. The small subset of file data that is actively used is cached on Nasuni Edge Appliances wherever it is needed for high performance access. Nasuni uses affordable, high-speed Internet bandwidth to keep active files synchronized in all locations.

This flexible, transformational approach combines the limitless capacity of object storage and the security and performance of local file servers to scale the sharing of Revit models – and common Revit operations – across many sites.



We created Revit so architects and other construction professionals could collaborate on building design using parametric 3D modeling. From the beginning, the size of Revit files and the need to synchronize changes to Revit models from multiple locations strained traditional file storage. Nasuni's global file system combined with cloud storage finally nails both challenges. It is a highly scalable solution in terms of capacity, performance, and number of locations. I am pleased that Revit can be used with a reliable infrastructure that unlocks its full value as a BIM collaboration platform.

**Dave Lemont**, Revit CEO,  
1999 through 2002 acquisition by Autodesk





We have eight offices using Revit to deliver a wide range of Architectural, Mechanical, Electrical, Civil, Environmental, Structural and Water resources services. Nasuni is how we share our Revit models across all locations and protect our data. Using Nasuni for the last three years has really had a positive overall impact on Revit performance and efficiency.

**Brent Morris**

IT Manager, Widseth Smith Nolting

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## Open model

With traditional file storage solutions, the central Revit model is typically stored on a file server or NAS device in one location. Users in that location may enjoy fast open times, but users in other locations will often wait 7-10 minutes while the model is replicated to their site or they try to remotely access the model.

With Nasuni, the gold copy of the central Revit model is stored by Nasuni UniFS in object storage, then cached locally on Nasuni Edge Appliances in all locations, giving every user the same fast, secure access. Model open times in all sites typically average less than 1 minute.

Like full-sized file servers or NAS devices, Nasuni Edge Appliances provide access to the Revit model using existing authentication procedures (e.g. LDAP, Active Directory) and standard file sharing protocols (e.g. NFS, CIFS). The big difference, whether the appliances are physical models from Nasuni or virtual appliances using existing infrastructure, is they only require a fraction of the storage capacity of a full-sized file server or NAS device, since they are only caching active files. The resulting 80% reduction in hardware resources and costs enables edge appliances to be deployed in every location that needs to open the Revit model.

## Local copy

With traditional file storage solutions, working on a local copy of a Revit model can result in version conflicts, data loss, and lost productivity. Nasuni offers two capabilities that enable local copies to be worked on in multiple locations without this happening.

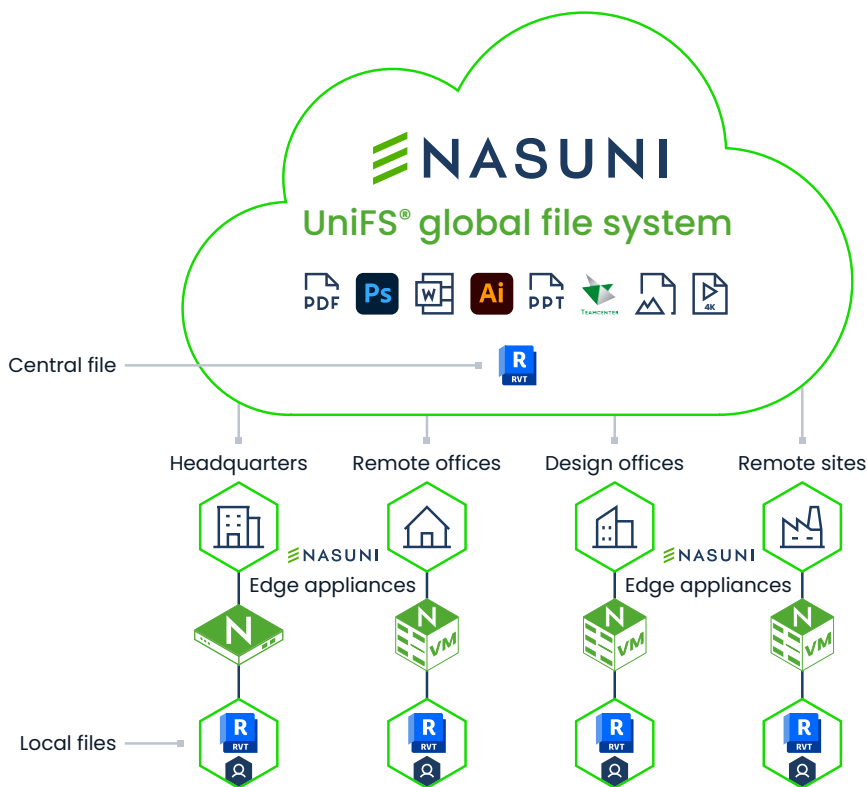
Nasuni Global File Locking™ prevents more than one person across all locations from simultaneously working on the same Revit element or work set. Yet, other users can access and edit other elements of the model.

Nasuni Global Volume Manager™ aligns local changes to the elements and work sets from multiple locations in object storage, creating an immutable version history of every Revit model change.

## Sync with central

Revit's Synchronize with Central feature may be adequate for collaborating on the same Revit model in a single site. But cross-site Sync with Central introduces significant overhead and version conflicts that can result in lost or slow work.

With Nasuni, globally distributed teams can collaborate on Revit files like they are in the same office. Any changes made to a cached model in any location are de-duplicated, compressed, and encrypted on the local edge appliance. The snapshots are then propagated using high-speed Internet bandwidth to object storage, where they are stored as read-only versions and synchronized with the gold copy of the Revit model.



*Nasuni naturally synchronizes changes made to the cached copies of Revit models in multiple locations with the central Revit model in private or public cloud object storage, keeping an immutable version history of all changes.*

## Reload latest

Reload Latest is another Revit operation that can result in costly delays as users attempt to update their local copies with the latest changes from the central model.

Nasuni automatically propagates any change made to the central Revit model in object storage to all edge appliances using high-speed Internet bandwidth. By automatically keeping all cached Revit models on local edge appliances up to date, Nasuni ensures building professionals worldwide always have high performance access to the most recent version.

## Scalable file storage and synchronization for all types of files

Nasuni enterprise file services delivers the same scalable storage, synchronization, access, data protection, and centralized management capabilities for all files used by Architecture, Engineering, and Construction companies, not just Revit models.

Virtually any type of unstructured data – Lidar files, drone videos, aerial site photos, GIS data, application-generated data sets, standard office documents, and more – can be stored and synchronized across all locations with Nasuni's global file system.

Nasuni Edge Appliances, whether physical or virtual, can be easily configured to support the active file workloads of every site.

### **Benefit summary: BIM managers, architects and engineers**

**Collaborate on Revit models** across an unlimited number of offices

**Accelerate Revit operations including** Open Model, Sync with Central, Local Copy, and Reload Latest

**Eliminate project data sprawl** with a single global file system that supports all types of AEC project files

**Recover lost, deleted, or archived Revit work sets or elements** in minutes, not days or weeks

**Move Revit models to expertise**, not the other way around

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### **Benefit summary: IT**

**Reduce CapEx and OpEx** up to 70%

**Reduce file storage resources** in each office up to 80%

**Reduce reliance** on MPLS and remote access tools

**Eliminate backup, DR, and archive** software maintenance, hardware, and media costs

**Provision more capacity in minutes** simply by expanding object storage and Nasuni subscription



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Nasuni is a scalable data platform for modern enterprises in an AI world.

The Nasuni File Data Platform delivers effortless scale in hybrid cloud environments, enables control at the network edge, and meets today's expectations for highly protected and insight-ready data.