



Egnyte for Architecture, Engineering, and Construction

Keeping Projects on Time and Within Budget





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Today, the Architecture, Engineering, and Construction (AEC) industry is faced with the challenge of falling margins forcing companies to find ways to improve productivity and reduce cost and risk. Add in the complexity of remote work and companies need to rethink every aspect of their operations to ensure they stay productive and profitable.

Currently, there are inefficiencies at every level of the AEC business, from productivity at the job site, to operations execution including HR, Legal, and Marketing, to system administration and system management. And while there has been modest improvement over the years there is still a great opportunity to streamline every phase of a project. Like most things, it all revolves around data...the ability to better manage the content flow across teams and projects.

The explosion in the amount of data has become a double-edged sword; with it firms have ability to gain greater insight and drive faster actions than ever before, but only if they can parse through it to get the right data to the right people when and where they need it.

AEC companies are seeking out solutions to help increase execution speed, improve connectivity at remote locations, ensure mobile access, and protect critical information. All of which directly contribute to keeping projects on time and within budget.

This white paper highlights common use cases and looks at the benefits associated with employing a unified content platform built to specifically handle the demanding needs of a highly collaborative yet distributed workforce leveraging numerous systems.

Common Use Cases in Architecture, Engineering and Construction

AEC companies face a myriad of operational challenges daily, all of which have a direct impact on productivity and profitability. Most of these challenges hinge on everyone knowing that they have access to the right information at the right time.

Securely share and sync critical project files to jobsites and remote teams

Working on jobsites does not always lend itself to connected technologies. In remote locations, connectivity is often compromised and the inability to collaborate can lead to conflicting changes and the risk of building using outdated information which leads to rework, lost productivity, and delays. It's essential to keep real-time collaboration alive, especially in fast-paced projects with tight deadlines.

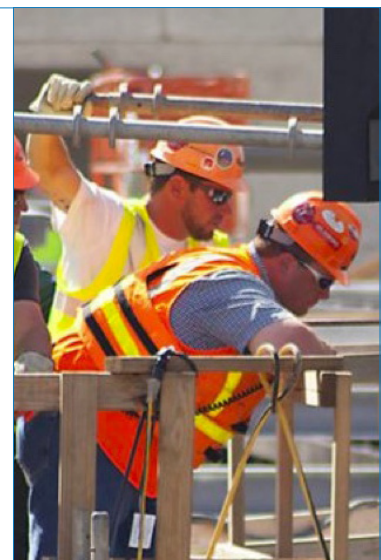
In a work from anywhere world, no matter where the individual or team is located, they need the ability to access, edit, and share data with all stakeholders. This means the ability to connect to the head office as easily as the trailer, the ability to maintain version control even when off-line, and

the ability to quickly disseminate changes to all relevant parties.

A cloud-based content governance platform maintains all of a company's critical content in a central location accessible from anywhere. This provides remote teams the same level of access as they would have in an office. To handle off-line access, files (such as RFI's, Submittals and Change Orders) can be synced to individual devices and accessed even without connectivity. Versions are maintained by locking files while in use ensuring that write-over does not occur. In this way everyone has access to the latest versions regardless of location.



Alberici is one of the U.S.' top construction companies, headquartered in St. Louis, MO. With, on average, 100 construction projects operating at any given time, content sprawl and version control became a significant challenge not only for themselves but for their partners as well. They needed a way to effortlessly sync data to regional offices and project teams in the field with the goal of having one centralized copy of the data. After implementing a content governance platform they were able to centralize critical project data on the cloud providing for a single source of truth. Using a hybrid approach which maintains a version of files on local devices, they ensured quick access to content even in remote locations.



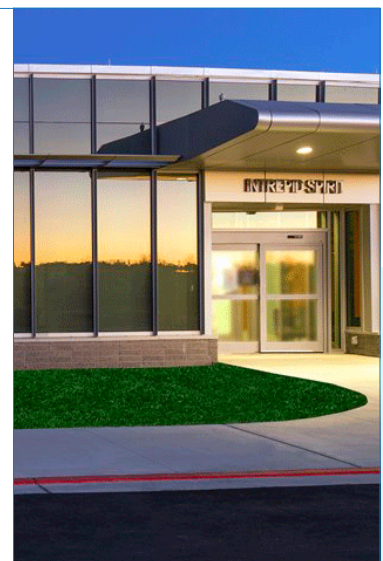
Control & integrate your project content from Design to Closeout through a unified platform

One of the largest drivers of rework and errors comes from individuals either not being able to share or access the right information or multiple versions of information being scattered throughout the organization (and beyond). Add in the large number of AEC specific applications (2,400 and counting) and (in some cases lack of) integration and sharing of content can become extremely difficult. When you look at how data must flow across each phase of the project, starting with design, all the way through to closeout, there can be 10 to 15 different applications involved such as Procore, Bluebeam, and Pype, each with a different version of data. The more complex a project, the more applications involved, and the more chance there is content can be lost, corrupted, duplicated, and disjointed.

A single unified platform is needed to act as the backbone between all these applications. Acting as the content repository where all data lives and flows between the applications the platform serves as the single source of truth and helps keep everyone in sync. It also makes it easier to find and share information as in many cases not everyone has access to all of the different applications, whether due to cost, location or computer hardware, but they will have access to the content platform giving them the ability to get the data they need. In this way the data can be moved through the different construction phases without the need to constantly bounce it between systems, significantly reducing the risk of information being lost or corrupted.

ROBINS & MORTON

Robins & Morton, a privately-held construction firm out of Birmingham, AL, was looking to reduce inefficiencies for the architects, sub-contractors, and client representatives working on projects. They needed to ensure both Procore and Egnyte were always aligned and updated so project teams could easily find files on the Procore Project page, eliminating the need for users to navigate two systems or juggle multiple permissions. By using Egnyte's native platform integration with Procore, project teams have a single source of truth to access, share and collaborate on key documents. The results, Robins & Morton have streamlined how it provides all stakeholders access to documentation for the duration of a project, driving significant productivity gains.



Identifying, managing, and retaining critical content to support end of project compliance

The closeout process, an afterthought that is often not woven into the workflow, can be a long, arduous process that can leave money on the table. When collecting the documents that demonstrate completion, missing data can and does stop the final payment for work performed, usually the retainage amount agreed upon at the outset of the contract.

Even after closeout, in order to stay in compliance with contract warranties, many firms are required

to maintain documentation for years. But the answer can't be to just keep everything as that becomes unwieldy, expensive, and opens the company up to additional litigation. Instead, AEC firms need to utilize a document lifecycle management approach to ensure retention, archival and deletion of the right documents. In this way they ensure they retain the proper documentation and store it in an organized fashion that is easy to find and retrieve to demonstrate compliance.



PCL's data has doubled in the last two years. With EgnYTE, we've been able to eliminate the labor required in provisioning new storage while reducing our capital spend in this area, saving PCL time and money.

— Chris Palmer
Advanced Technology Services Manager



Protecting against, and mitigating, the impact of Ransomware

With the occurrence of ransomware attacks in AEC on the rise, firms need to take a proactive stance in preventing successful breaches. Looking to exploit weakened entry points, hackers are looking to play the long game, moving horizontally and up to administrator privileges in order to disrupt the entire network and inflict the most possible damage. Whether through phishing, rogue apps, unprotected data transfers, or a malicious download, there are significant opportunities for bad actors to take advantage of AEC firms.

The impact of ransomware is not just in paying the ransom, it is business issue. By locking project files the ransomware attack can bring operations to a standstill. That not only hurts the bottom line but it can seriously jeopardize the success of the project and quite possibly tarnish the firm's reputation for future work. This is NOT an IT problem...rather this is a business problem that can strike instantly without warning.

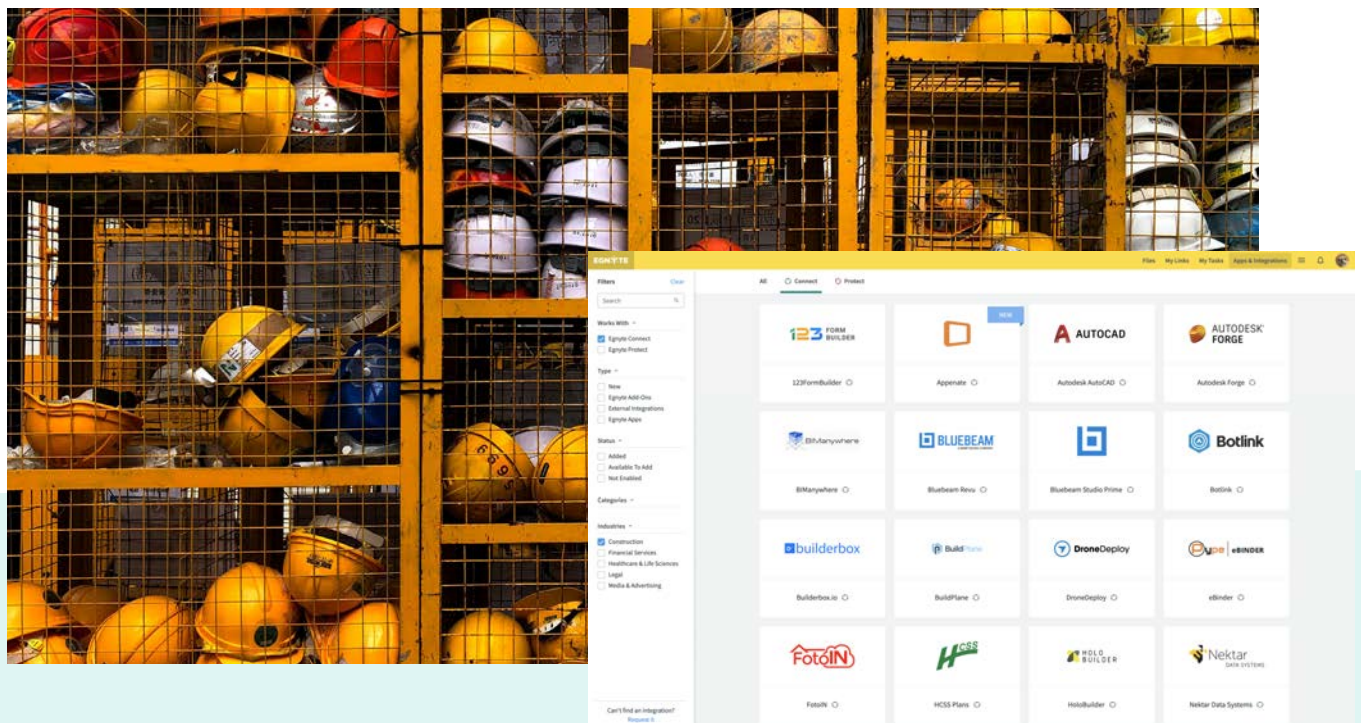
Therefore, it is critical that firms protect, restrict access to, and quickly remediate any breach. This means implementing procedures like multifactor authentication, unusual behavior detection, zero-day monitoring, and work to minimize data exposure. Only a proactive and continuous approach to ransomware can significantly reduce the risk of a data breach.

A Unified Cloud Content Governance Solution

In order to overcome these challenges many AEC companies rely on a VPN but those can be slow to access, especially with large drawings or image-intensive files, and fail to address collaboration and mobility requirements where subcontractors are concerned. Others use a legacy, rogue or non-vetted sharing solution, disparate or personal cloud storage, and traditional collaboration tools such as SharePoint, which can lead to content sprawl, duplication, and lost data.

The solution is a unified cloud content platform, a single secure solution to access, control, and gain insight throughout the project lifecycle that spans across cloud office suites, on-premises infrastructure, devices, and apps. It serves as a data backbone, integrating with other existing systems

to make data available across their key internal and external stakeholders. This allows firms, and their distributed teams, to draw from a unified platform from across their organization and manage user access to sensitive content no matter where it resides, improving data protection and reducing the risk of data theft from external and insider threats. And with proactive responses ransomware attacks and data breaches can be quickly identified and remediated. Centralizing project data and files with the ability to properly retain, and archive critical assets helps ensure business continuity. And the single cloud-based storage system removes the need for disconnected file systems reducing costs and freeing up IT and project administration time.



The Egnyte Solution

The Egnyte Platform is the only unified platform designed for the unique and demanding needs of the AEC industry. At its core, it serves as the common content governance solution for all cloud data and the command console for administrators. It delivers the security and administration inherent to on-premises repositories but with the benefits of the cloud. Basically, a cloud solution with the architecture of a file server.



Real-time remote collaboration

AEC firms can access and collaborate on their data from any location with the Egnyte Platform. With a simple and intuitive file structure teams and projects can create their own folders making it extremely easy to store, share, and find the files they need, significantly reducing downtime.

With functionality such as co-editing, which allows teams to work on the same file in real-time, and automatic file locking, which ensures file version control even when someone is off-line, Egnyte is able to maintain version control ensuring everyone is working off a single source of truth. It also allows teams to share files, both internally and externally, securely, while monitoring and controlling future downstream data use or resharing to make sure who accessed the data can be tracked and recorded.



Secure data access on mobile devices

Serving as the single content repository, Egnyte integrates with common AEC applications such as Procore and Bluebeam, making it possible to access low memory versions of files via mobile devices. With a desktop application that provides a local version of files, mobile users have access to their key content no matter where they are, even if they are off-line. And the local versions are automatically synced back to the cloud once a connection is available.

In addition, Egnyte provides granular, person-level folder and file permissions, so there's never a

need to grant excessive trust to groups, devices, IP address or network locations, or over-rely on VPNs, keeping data more secure even when mobile.

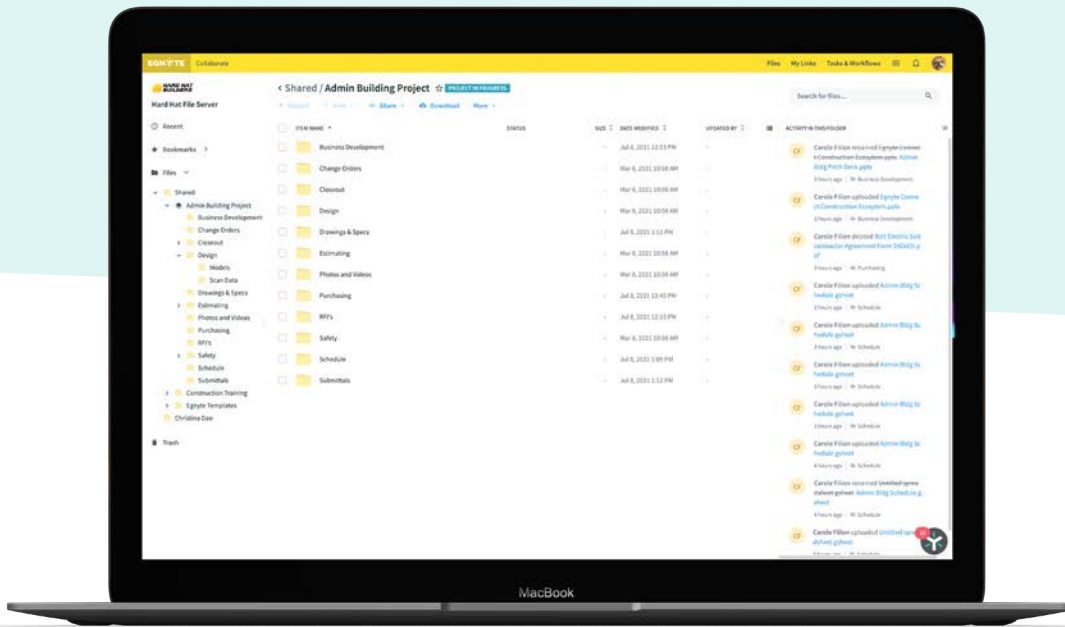
If any devices get lost or stolen, they can be wiped clean of data remotely to ensure the content stays secure and inaccessible to whomever finds (or stole) the device.



Fast and easy access to large files on the jobsite

Built on a hybrid architecture, a local, synchronized copy of the cloud-based data is maintained on-site which provides teams at that location LAN-like access to the files they need. To ensure data integrity Egnyte syncs files behind the scenes at the block level, looking only at the parts of files that are changed. This means using less bandwidth at remote work sites, spending less time waiting for syncing to happen, and getting back to work faster.

In addition, Egnyte allows teams to share links versus attaching files, removing file size limitations, so even large files can be shared safely over email. Upload folders can also be created allowing teams to collect files from external parties without providing them access to the entire platform, maintaining privacy and security. This accomplishes several things; first, it makes the files easier to access and everyone is always working from the most recent version; and second it saves data in data limited mobile plans which reduces a company's overall cost.



Protect against ransomware attacks

With ransomware prevention, detection and mitigation, Egnyte allow companies to protect their sensitive data by managing access permissions, recognizing ransomware early in an attack, and helping to quickly recover from a breach.

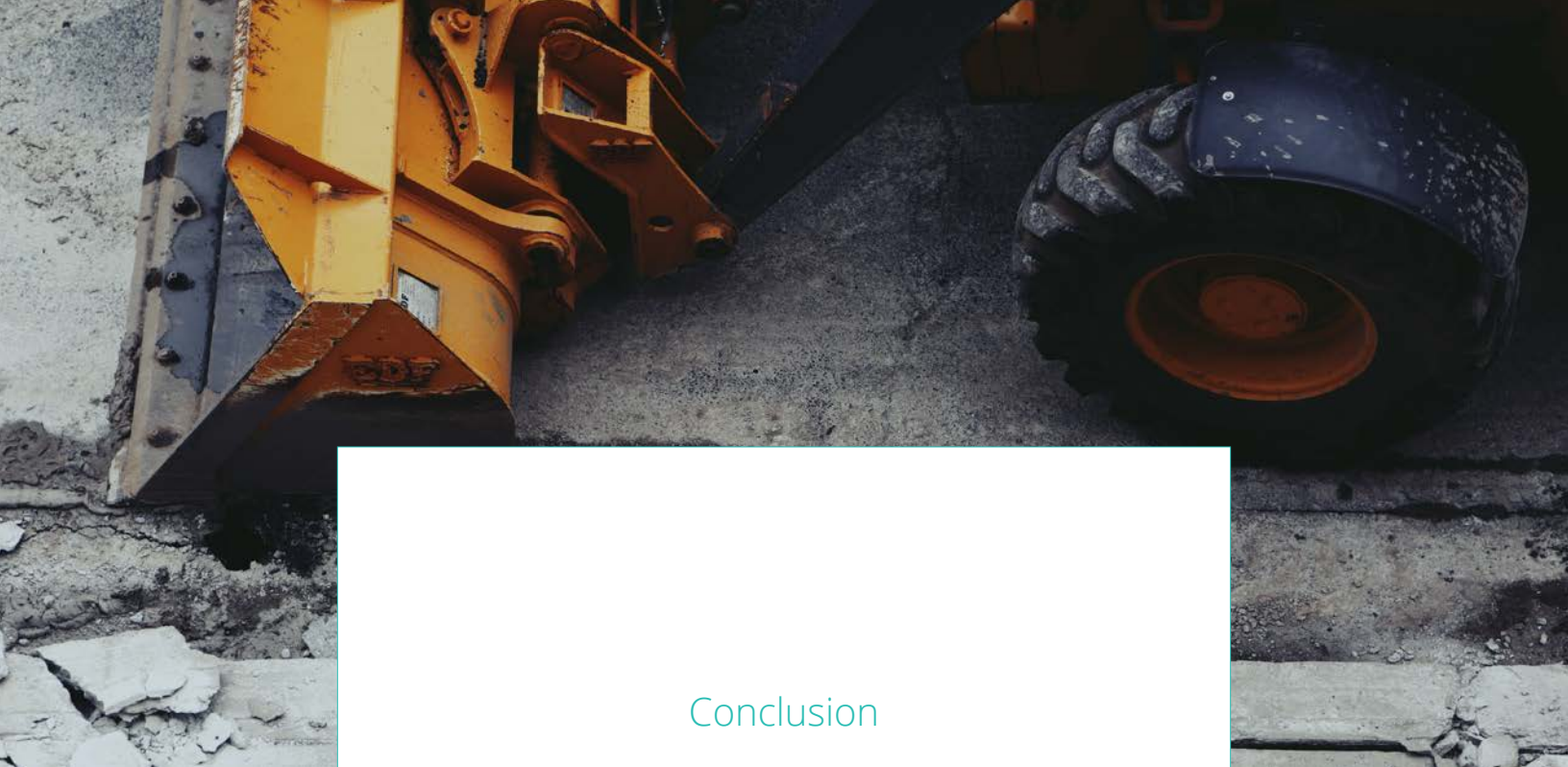
To manage permissions, Egnyte has a least-privilege, granular permissioning model which mean file access can be controlled at the folder level significantly reducing the ability for a malicious program to access the file. In order to recognize ransomware early, the system leverages machine learning based behavioral analytics to detect common indicator abnormalities such as renaming, deletions, and changes in file entropy. And in the event of a breach, where time is critical, the solution provides an audit trail of compromised users, files, and data subjects' sensitive data. And only impacted files are rolled

back to previous versions versus the entire library, significantly reducing the down time.



Retain documents to comply with contract warranties

The proper lifecycle management process is critical to not only maintaining compliance but reducing costs. Egnyte's file structure makes is simple to set up dedicated files by project to maintain the critical documentation. Global retention policies can be established based on company policies and industry or government regulations ensuring files are retained or deleted as needed. In case of an error, files or versions that have been deleted can be easily restored. And when it is time to archive files, they can continue to be managed within the platform reducing the overall cost.



Conclusion

Improving productivity is of utmost importance to all AEC firms today. But the additional challenges of remote work and increased cybersecurity risks threaten the ability of many companies to realize the gains they are looking to achieve. Secure content collaboration and management is a critical aspect of any AEC firm's operation across every phase of the project but can be difficult to achieve without the right solution. Egnyte helps organizations share, collaborate and govern all of their files no matter where they are working, syncing teams and data to reduce rework, eliminate delays, and improve margins.



Egnyte provides the only unified cloud content governance solution for collaboration, data security, compliance, and threat prevention for multicloud businesses. More than 17,000 organizations trust Egnyte to reduce risks and IT complexity, prevent ransomware and IP theft, and boost employee productivity on any app, any cloud, anywhere. Investors include GV (formerly Google Ventures), Kleiner Perkins, Caufield & Byers and Goldman Sachs. For more information, visit www.egnyte.com.

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