



Founded over 50 years ago, KEO is an international professional consulting services firm ranked 44th largest in global architecture. KEO has contributed to many of the world's most ambitious projects, iconic places, remarkable experiences, and prosperous communities. A Top 225 International Design Firm

and Top 20 PM/CM firm, KEO offers a full suite of services including master planning, architecture, landscape, interiors, engineering, program and project management, construction management & supervision, infrastructure, highways and bridge design, water/waste water, power, and solid waste. KEO has offices spread across Kuwait, United Arab Emirates, Saudi Arabia, Oman, Bahrain, and Qatar.

KEO profile

Architecture Engineering Construction firm
7 offices and multiple site offices
More than 200 TB of managed data

Each KEO project has 10 to 15 architects using architecture and engineering software such as Revit and AutoCAD. Project files are shared within an office and are also shared across KEO locations. Project data is either live in production or completed and destined for an archive, with 70% of all data backed up daily.

This data represents years of architectural and engineering effort and legal and regulatory compliance, and KEO must protect these invaluable assets and ensure their availability. Project archives must be preserved for up to 15 years following delivery, an important cost and operations factor to consider.

As part of a continuous optimization philosophy at KEO, Thomas George, Technical Director, and Arun Mohandas,

Senior System Administrator, were eyeing a digital transformation that would optimize their operations. They identified benefits from using cloud storage for project workflows and backup/archive of project data. At the time of the deployment, Microsoft suggested a proprietary cloud gateway that could transfer on-premises data to and from Microsoft Azure. 110 TB of project files were read by the gateway, encrypted, and transferred to Azure Cool tier, as the gateway product could not initially access Azure Archive tier.

The gateway encrypts data to a proprietary format as it is written, and any backups that need to be restored must then be decrypted by the gateway, locking the data to that vendor. This creates an undesirable failure point, dependency, and adds recurring costs. Transfer times from on-premises to Azure Cool tier through this gateway were long and restores could not be completed on time. The proprietary gateway negatively impacted productivity and usability, and a new approach had to be found. "Proprietary data encryption increases TCO and doesn't work for KEO – we need our data to be easily accessible," says Thomas George.



"Proprietary data encryption increases TCO and doesn't work for KEO – we need our data to be easily accessible."

-Thomas George, Technical Director

The KEO team identified multiple goals for the next phase of their cloud deployment: 1) unlock the data encrypted in the proprietary format to increase flexibility and reduce costs 2) create a system that would immediately archive 40 TB of project data to Microsoft Azure 3) secure new data with daily backups of live projects, and 4) further reduce long-term costs by moving archives from the Azure Cool tier to the most economical Azure Archive tier. This move to cloud storage included decommissioning the proprietary gateway, replacing old on-premises storage controllers with Azure VMs, moving to Autodesk BIM 360 for project collaboration, and continuously archiving completed projects. "We had 3 different offices all suffering from slow transfers from our on-premises storage to Azure Cool tier, and it was important for us to open up our data and make it easily accessible when we restore it. The extended retention times mean that we have to use the most cost-effective storage for long-term archives, but they must remain easily accessible, resilient, and secure, and Azure Archive meets these needs," states Thomas George.



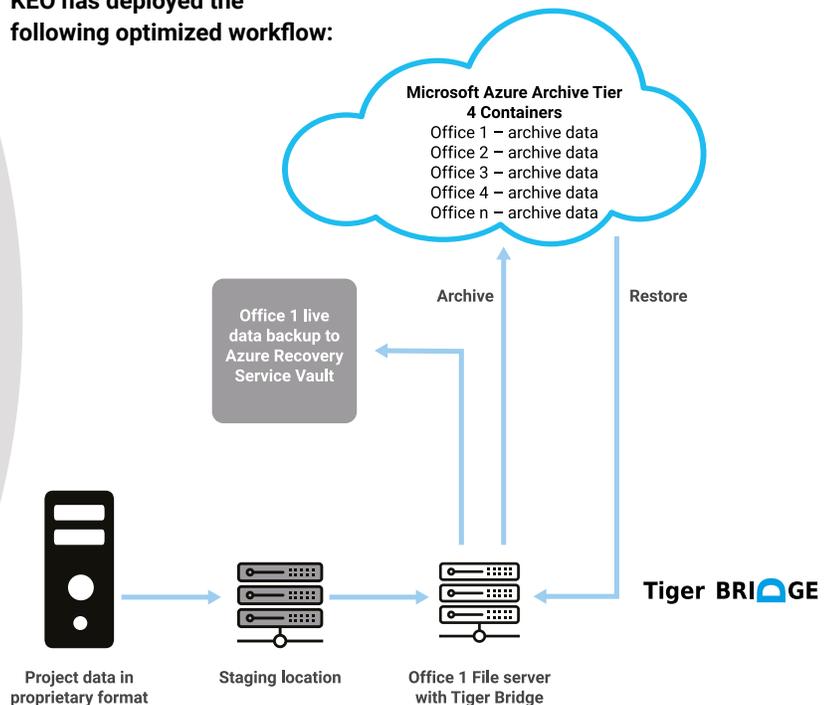
In consultation with Microsoft, KEO selected Tiger Bridge for its cloud workflows. A software-only cloud connector, Tiger Bridge securely and transparently transfers data to any Azure tier including Archive. Data in transit is encrypted and files are stored in their native formats so they are always legible. Azure storage provides the resiliency and data security required for storing KEO's critical data without 3rd party encryption and its associated cost.

All KEO offices run Tiger Bridge instances that transfer data to Azure storage accounts including Azure Archive tier. Files are easily shared across office locations which increases KEO agility and flexibility to assign projects to available capacity.

"Tiger Bridge is perfect for KEO. Our data management is optimized and our costs are reduced."

*-Arun Mohandas,
KEO International Consultants*

KEO has deployed the following optimized workflow:



The setup is replicated in each of the main four KEO offices.

Windows File server + Tiger Bridge

- Production storage with daily backups to Azure Recovery Vault
- Archive storage with continuous backups to Azure Archive

Arun Mohandas states, "Tiger Bridge is perfect for KEO. Restoring files is easy, and we can bring back only the data we need. Tiger also provides excellent technical support – we have had immediate response and resolution of any operating points." Thomas George adds, "We chose Tiger Bridge on Microsoft's recommendation and it's a wonderful product, we find it excellent. It is very easy to manage, and its cost is very attractive. Our data management is optimized and our costs reduced."