

## exp Centralizes, Consolidates Global CAD Data with Panzura Cloud Storage Controllers and EMC Atmos

Centralizing data, improving performance and enabling seamless access to CAD projects, across nationally dispersed sites, can create substantial infrastructure and management complexity. Alternatively, trying to manage and protect multiple, disjointed islands of storage across sites can be a significant drain on both IT personnel and budgets. While consolidation of storage sounds great in theory, implementing it without degrading the user experience has been especially difficult. In addition, merger and acquisition activity is very heavy in the architecture, engineering, and construction (AEC) space, creating an even greater need for data management and security while, at the same time, addressing issues of latency and file access.

### Customer Challenge

exp is one of North America's fastest growing engineering consulting firms, providing professional, technical, and strategic services to the world's built and natural environments in six key areas: Buildings; Earth & Environment; Energy; Industrial; Infrastructure; and Sustainability. With more than 3500 employees distributed across 109 sites from Alaska to Florida, the company has offices that range in size from two employees to more than 100. Storage usage extends from a couple of TBs to more than 20TB at some locations.

#### CAD "File Open" Problem\*: End-User Productivity vs. IT Efficiency

In the world of AEC, the remote CAD file open problem, due to excessive latency, is considered a major hindrance to productivity. exp applications that were affected included Revit for 3D modeling and design; ArcGIS for mapping / special analysis; and AutoCAD and Bentley CAD software. To address this problem, exp relied on

#### With Panzura, exp saw immediate results:

- Eliminated Storage Silos and Local Management
- Centralized to Private Cloud Storage
- Preserved Local End-User Performance
- Enhanced Global User Performance
- Improved All Applications – AutoCAD, Revit, Bentley

local SAN, file servers, and tape to store, serve, and protect its data. This was not an optimal solution as it helped with latency only for that specific office. When data moved between sites, major latency issues again cropped up. In addition, siloed storage at each office required separate local provisioning and maintenance. This set up favored some user productivity but not IT efficiency, thus creating massive synchronization, provisioning, access, and cost headaches.

#### De-centralized Storage Complexity

With acquisitions being a strategic element of growth, exp needed a solution that could smooth the transition for new personnel (and IT systems), dispersed across the country, and assist in the adoption of enterprise-class data processes, such as archiving, disaster recovery, high availability, and SLA metrics. Adding to this concern was the fact that many of the company's 70 remote offices had limited IT personnel (if any, at all) to handle basic data matters like backup. Not all exp offices were on the same page as backup solutions, for example, varied from office to office. A few offices used tape (cumbersome and slow), while others had virtual tape libraries or were using USB drives. Data backup methods included Microsoft distributed file system (DFS), Microsoft data protection manager (DPM), or Symantec Backup Exec. Cross-the-board consistency did not exist and that was creating an IT problem concerning data management.



## Out of Control Data Growth

The company was experiencing exponential data accumulation with increased file sizes, resulting in continuous storage shortages at multiple locations. exp now has more than 50,000 closed, inactive projects but the company needs to keep the data retrievable. This data resides on primary local storage indefinitely. In fact, upwards of 80% of the company's files are not accessed, but are backed up regularly. Data files, which include CAD images, can be quite large, as in the 50-90GB/file range. And with no consistent methodology for tiering data to an archive, the problem just keeps growing.

The company needed to standardize its data protection capabilities, eliminating its tape and virtual libraries in favor of a private cloud for backup and recovery. exp desperately needed enterprise-class data services, with consolidation, archiving, access, security, and a highly improved global user experience. The solution had to fit today's needs while being scalable for tomorrow's growth. Centralized storage was needed in order to reduce local provisioning and management. And the solution had to be financially viable.

## Benefits Gained from a Distributed Cloud File System with Cloud Storage

After evaluating a variety of solutions, exp selected Panzura Freedom Collaboration, plus EMC Atmos cloud storage, thereby eliminating local SAN, file servers, and tape backups, tape infrastructure, and associated backup software. Key to the solution was Panzura's Distributed Cloud File System and its innovative caching technology that provided fast, local access to all project data, preserving the local user experience. Another major concern for exp was that it did not want its proprietary data on someone else's site, and the Panzura solution addressed this by having all data reside behind the company's firewall. Assisting in the final decision was the fact that the other evaluated companies did not have a predictable cost model.

## Making it Work

With headquarters in Brampton, Ontario, and a satellite office in Chicago serving as the disaster recovery site, connected by a 100Mb link., exp deployed an active-active Atmos cloud storage system across these locations. This allowed EMC to not only replicate data at each site, but also enabled an object-based cloud storage architecture, with the ability to store, archive, and access unstructured content at scale at each site.

Panzura's globally distributed and synchronized file system integrated seamlessly with the existing in-house infrastructure and provided cross-site integration via the cloud, thereby addressing CAD access and performance issues. This solution provided a greater level of scale, efficiency, and automation to exp, enabling global data consolidation, reduced storage overhead, and easing access to data anytime, anywhere. Full local NAS file services, along with military-grade encryption and FIPS 140-2 validation, provided unmatched IT control and security to the cloud-integrated, global storage platform.

In evaluating the Panzura/Atmos solution, exp looked at a five-year horizon for cost savings. Capital acquisition plus maintenance helped exp make the business case. Cost of disk, backup software, and backup tapes on the old system ran about \$2600 / year / TB. Now, with Panzura, exp expects to save about \$100K/year over traditional storage. And these numbers do not even include improved productivity or the reduction in IT headcount resulting from far fewer sites and data silos to manage.

*"Sharing across offices was problematic with local filers, and tape for backup has a litany of challenges. But replacing this storage and tape involved a number of moving parts: Central storage, local filers, local backup, and workflow sharing. We evaluated a variety of alternatives but were most impressed by all the benefits of cloud storage. The Panzura Freedom products and EMC Atmos cloud storage together provide a seamless, drop-in solution to cover all the moving parts of workflow sharing and tape backup, support our suite of applications, and provided unlimited capacity. We are actively exploring other ways to use this combined solution."*

**Doug Caldwell, CIO, exp**

\* For more information, please read the Panzura White Paper: CAD Theory of Operation and Best Practices



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