

## Bolton & Menk

### Bolton & Menk Turns to Panzura for Remote Office Data Collaboration Improvements

Bolton & Menk, Inc., founded in 1949 and ranked in the Top 500 Engineering and Surveying Firms in the United States, and number 234 in the ENR 2013 listings, provides services in the areas of Municipal and Civil Engineering, Water Supply and Wastewater Engineering, Water Resources Engineering, Transportation and Traffic Engineering, Planning, Aviation Services, Landscape Architecture, Land Surveying and GIS Mapping, and Environmental and Cultural Resource Studies.

The company has more than 300 employees, including more than 100 engineers, planners, and licensed surveyors, located in 14 offices in Iowa, Minnesota, and North Dakota. The firm provides a broad range of services to more than 225 communities and agencies in Minnesota and Iowa.

### Challenges of File Sharing and the Need for File Locking Mechanisms

Project files are sized up to 50 MB. Moving files back and forth between engineering groups created consistency issues with multiple copies at different remote sites. Trying to maintain version control was nearly impossible.

With offices spread out over several states, Bolton & Menk needed to centralize all of its data and then provide greater file uniformity between its remote offices. Nine of the offices use CAD applications, resulting in large files being moved around, yet needing consistency, transparency, and oversight. Versioning issues created difficulties coordinating the most recent data, resulting in incorrect overwrites, duplications, multiple copies, and lost manpower hours.

#### *Benefits gained by Bolton & Menk using Panzura:*

- *File protection from data collision with dynamic file locking*
- *Inherent data protection with cloud redundancy*
- *Support for a wide array of software applications, seamlessly integrating with Newforma*
- *Improved workflows, faster project cycles, higher productivity singular storage solution*

Additionally, the company has a wide assortment of business-specific applications, such as AutoCAD Map, Civil 3D, Bentley MicroStation, GeoPAK, ESRI ArcGIS, and Newforma (a project management / indexing software application) that needed to work with any new storage solution the company embraced.

Because of these issues, workflows were interrupted, project cycles slowed, and customer satisfaction was becoming an additional, yet significant, concern. A single, shared file system with locking became the most important functionality needed to address the situation.

### Seeking a Centralized Solution

The company had 100 Mbps Internet at its home office (Mankato) and 30-50 Mbps at the remote sites, with T1 MPLS for inter-site connections. It was using Microsoft's Distributed File System (DFS) and looked at DFS Replication (DFSR), as well as solutions from Globalscape and other competing cloud gateways. The Panzura solution succeeded where other gateways failed due to its real-time



global file locking capabilities, which was a fundamental requirement for Bolton & Menk.

Additionally, the Panzura Global File System provides a centralized data structure with global file sharing, snapshots, and military grade data security, which were critical factors in the company's decision to purchase.

## Data Ownership, Data Locking

For Bolton & Menk, the Panzura Global File System allows clients from multiple locations to view and lock files with a unified namespace that spans many controller systems. Each Panzura controller can lock any file, at any location, for writing or modifying.

Globally distributed file locking assigns data ownership to all files. Within global locking, data ownership flows naturally from node-to-node. At Bolton & Menk, data ownership transitions are frequent events. Panzura allows file locking in real-time while providing immediate data consistency. As data ownership flows to a new node, that new node instantly becomes the authoritative write node.

All new writes to the file now occur at the new data ownership node at full LAN speed. All file reads and writes now happen as local I/O operations on the local controller, which retains full read/write ownership until a new transition occurs. With many dispersed locations, this functionality was specifically what Bolton & Menk required.

*"Improving data collaboration between offices was our prime objective. With Panzura, we get that and a whole lot more. Our teams now can share files and preserve file integrity, regardless of how many locations or revisions they go through. The solution works for many distributed processes, including Newforma, which was vital. We acquired built-in backup and recovery as part of the solution, saving us time and adding even more confidence to our production staff"*

— Herman Dharmarajah, Sr. Principal Engineer, Bolton & Menk

## Locking In the Benefits

Bolton & Menk's implementation of a Panzura Global File System includes CIFS and deduplication licenses. This consists of a NAS-4048 Controller at its headquarter office in Mankato, along with AEC-2800 Controllers at many of its remote locations.

The Panzura solution eliminates islands of storage by centralizing data to the cloud while providing LAN-speed access to all files at all locations, enabling dynamic, global file and workflow sharing. The solution also provides complete synergy with the Newforma indexing application. Storage management becomes easier while rapid file access is maintained across locations in the file system.

Panzura architecture unites a single unified namespace and global file system that manages file creation, locking, storage, security, and replication across all locations in real time, making the latest iterations of any file visible and available to anyone, anywhere, at any time, regardless of where the file was created or last edited.

Panzura Cloud Storage Controllers utilize unique and proven technologies to ensure that files can be reliably locked with guaranteed data consistency while honoring write-order fidelity and preserving precision of data/metadata file states. These core operating attributes are attained globally with high performance.

As an additional benefit, the company had been using the Windows File Archive Bit for backup. However, relying on the archive bit for backing up files can be unreliable if multiple backup programs are setting and clearing the attribute bit on the same volume. With Panzura and replication in the cloud, traditional backup is not needed.

The ease with which Panzura solutions scale, and the concept of pay-as-you-grow, will allow Bolton & Menk to expand from its initial implementation to include the remainder of its remotes offices. Plans are in the works.

For additional, in-depth information on file locking, please read our white paper: [Panzura Global Cloud Storage System—Global File Locking](#)

