

C&S Companies Reduces File Open Times by 99.3% With Panzura

Like all Architecture, Engineering, and Construction (AEC) firms, C&S Companies uses geographically distributed design and development teams to facilitate proper matching of the talent pool with growing project demands. However, challenges associated with providing seamless access to CAD project data across dispersed teams often create excessive amounts of infrastructure and management complexity with sub-optimal results or productivity loss.

Challenge: Productivity Loss Due to Inability to Collaborate and Engage the Team on Projects

Key to the success of C&S was the ability to quickly access complex project datafiles, regardless of the office in which they reside. Common applications in use were Revit, Civil 3D, and Bentley MicroStation. With a centralized model, most application data movement was between Syracuse and a remote site, but also included some peer-to-peer sharing across sites. C&S had a MPLS network between sites, with bandwidth varying from small to 100 Mbps or more. Latency ran 30-90 ms from Syracuse but as little as 10 ms between some sites.

Prior to implementing Panzura, C&S was suffering from what the AEC community commonly refers to as the “File Open” problem. Their files were taking over 20 minutes to open and as a result, remote applications were timing out. They tried significantly increasing bandwidth but soon found that had very little impact.

The pain of a centralized IT infrastructure is felt most acutely in complex, vertically integrated projects (as seen in Civil 3D) that include many, maybe thousands, of files requiring thousands more file system transactions, such as opens, lookups, locks, closes, and unlocks. As the company discovered, more than 90% of the delay was associated with numerous round-trips being made to the data center for specific file operations.

The farther the office was from the centralized system, the more acute the problem. Users went through dramatic changes in their workflows in an attempt to circumvent the delays without success and, over time, the frustration became unbearable. Something had to change.



C&S Companies (C&S), founded in 1968, has more than 550 employees providing engineering, architecture, planning, environmental, and construction services to clients through 20+ offices, distributed network stretching from California to New York.

Industry: provides services to local, state, and federal governments; industry and manufacturing; and private businesses

Employees: 550+

Customer Since: 2013

Cloud: Amazon AWS & Azure

Partners: Microsoft & Amazon

Competition: None

Panzura Product: Freedom Collaboration

Number of Sites: 20+ with plans to continue expansion

Pain Points: C&S was facing latency issues, taking almost 20 minutes to open files. They were also finding it difficult and costly for their dispersed teams to collaborate, access, and share files, and most importantly they were concerned about data protection.

Panzura Solution: Panzura empowered C&S to eliminate Revit, Civil 3D, and CAD modeling performance issues by implementing a distributed Global File System with centralized, redundant, offsite cloud storage, thereby allowing architects and designers to work as if they are local

www.cscos.com

Solution: Freedom Collaboration Improves Productivity, Enables Collaboration, and Eliminates CAD Latency

C&S turned to Panzura to solve its remote Revit, Civil 3D, and CAD modeling performance issues by implementing a distributed Global File System with centralized, redundant, offsite cloud storage, thereby allowing architects and designers to work as if they are local. C&S deployed a single Global File System with eight controllers in a NAS configuration at each one of its major sites, with all data securely stored and archived on hybrid cloud storage. Latency has been reduced dramatically and the “file open problem” is a thing of the past. The distributed workforce are now empowered to work collaboratively on projects regardless of file size or location. Any office that had excess capacity of manpower could be channelized to an appropriate project or any project that needed a specialist from their team could contribute in real-time irrespective of the location. The ability to divert its workforce became a major advantage to their business.

With Panzura, C&S saw the following immediate results:

<p>LATENCY ELIMINATED</p> <p>150X</p> <p>Performance Improvement</p>	<p>COLD TRANSFER</p> <p>90 s</p> <p>From 20 mins</p>
<p>WARM TRANSFER</p> <p>8 s</p> <p>From 20 mins</p>	<p>INHERENT DATA PROTECTION WITH CLOUD REDUNDANCY</p>

Benefits

With Panzura deployed, latency has been just about eliminated. The first read of a remote file takes less than one minute, with subsequent reads requiring only a few seconds. File sharing across sites now happens in real time, boosting productivity and reducing time to job completion. The standard practice under the old infrastructure that saw locations working on day-old copies of data has changed to instantaneous updates. End users noticed an immediate difference without having to

“ Adding bandwidth, doubling bandwidth, or even quadrupling bandwidth did not make a difference. Despite all the things we had done, the problem was never about bandwidth. Nothing resolved the issue - It was always about latency. A key to our success is the ability to quickly access complex project data files, regardless of the office in which they reside. Only Panzura made it possible for our workers to access complex data files at LAN speeds from any of our offices.

Eric Quinn, IT manager, C&S Companies



	CA to NY	AZ to NY
File Size	1.5MB	1.5MB
Round Trip Latency	68 ms	66 ms
Time to Open Directly	22 min	16 min
Open Over Cold WAN Optimized Link	24 min	17 min
Open Over Hot WAN Optimized Link	20 min	15 min
Time to Open with Panzura	8 sec	8 sec

alter their workflow. Application integration went smoothly and included all highly used items such as Revit, Civil 3D, and Bentley MicroStation, amongst others.

C&S now has the system it requires today, but also knows this system can scale easily as the company grows. For its end users, the solution design was exactly the right fit. For any CAD environment using a centralized storage model, Panzura provides a unique and valuable solution. No other solution comes close to providing the performance of reading and writing at LAN speeds.

Discover how Panzura can benefit your enterprise and help you manage your data with ease.