

RamSan Solutions

The World's Fastest Storage®

Client: Banco Azteca

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Banco Azteca has more than 1,500 branches throughout Mexico and other Latin American countries and is already among the two largest banks in Mexico in terms of coverage. With more than 5.2 million savings accounts, Banco Azteca continues showing dynamic growth in every banking variable of significance. In addition to consumer credit for goods, Banco Azteca offers credit cards, personal loans, car loans, and mortgages, among other types of credit. Additionally, Banco Azteca furnishes payroll systems and acts as an agent for Procampo, a government agricultural financing program, reinforcing their presence in rural areas.

The Challenge: Manage growth and improve financial systems performance

Banco Azteca began to consider high performance storage solutions because they were willing to invest in order to have the most stable financial systems with the best response times to meet the high level of demands from their millions of clients. Director of Systems, Juan Arevalo Carranza, notes, “We need to continually improve on our business processes.

It is important to offer better, faster, and more efficient service to all clients with accounts in Banco Azteca.” But success and growth brought information system problems. As data traffic increased, they began experiencing performance problems with their banking transactions because of degradation in response times from their enterprise storage array. These performance degradations also led to problems with application stability. Under periods of heavy load, the application was prone to lock up and deny features to Bank customers.

At first, Arevalo and his team considered RAM disk software, where server memory is presented as a disk drive to the application. “We initially looked for a solution that would let us move the main database tables to memory and improve our response times.” But this solution became too expensive because they would need to buy more memory for each of their servers plus additional software. They also looked at locking a LUN in the cache memory on their existing storage arrays, but this option was limited by the cache capacity and would have interfered with the normal operation of the cache. Arevalo adds; “We also thought about implementing new disks with less capacity and higher revolutions; however, we are still talking about response times in milliseconds, when we really require nanoseconds.” Banco Azteca eventually began analyzing solid state disk (SSD) products when they realized that other methods for improving application performance did not meet their objectives.

Quick facts:

- **Industry:**
Financial Services
- **Application:**
Transactional processing and disaster recovery
- **Operating System**
Microsoft DataCenter
- **Environment**
HP Superdome
EMC DMX
- **Challenge:**
Manage growth and improve financial systems performance
- **Solution**
8 128GB RamSan-400s
- **Result**
No storage bottlenecks and an increase in overall system performance



The Solution: Texas Memory Systems Tera-RamSan

After analyzing many different alternatives, Banco Azteca chose Texas Memory Systems (TMS) because they were the only vendor offering an enterprise-grade one terabyte SSD solution. Plus, TMS was the only company with adequate experience in financial systems database performance issues. Arevalo explains; "TMS has been with us since the beginning of the project because they had the necessary resources to find a solution to the problem we were experiencing at the time." Texas Memory Systems could provide numerous examples of customers who had deployed their Tera-RamSan in performance sensitive applications. Furthermore, Texas Memory Systems recommended an advanced architecture which provided unbeatable performance and yet retained the high availability components already in place at the Bank. This advanced architecture integrated Symantec's Veritas Storage Foundation Suite operating on the Bank's HP Superdome servers running Microsoft Windows DataCenter, which provided host-based preferred-plex mirroring services to mirror the Tera-RamSan array with the Bank's EMC DMX systems. All writes were synchronously mirrored to the EMC DMX, ensuring data availability and complete integration with the Bank's existing disaster recovery strategy. All reads for the application are serviced by the extremely low latency Tera-RamSan solid state disk system.

The Result: Optimum response times

Once in production, the Tera-RamSan eliminated the bottleneck the Bank's storage was experiencing and accelerated overall system performance back into the target ranges. "The Tera-RamSan solution since the day of implementation has been working perfectly," Arevalo says. "We haven't had any problems because the RamSan offers a high availability solution that helps guarantee that our equipment and systems will always be working and our data will always be secure." Issues with application stability were resolved and when the Bank experiences peak demand, such as national holidays, the system responds as quickly as it does on slow business days.

"We have had excellent results, really spectacular, because now we can process a huge number of transactions in one day with lower response times," Arevalo states. The initial Tera-RamSan deployment was so successful that Banco Azteca is planning to implement the RamSan as a standard solution in all new projects. The Texas Memory Systems solution provides continuous availability, data security, better database response times, and a much larger volume data transfer between storage and servers. Banco Azteca has already acquired additional Tera-RamSans in order to improve the performance of other applications and generate added value to the organization. "We hope that in the future storage will move toward SSD technology," Arevalo says, "because it is a solution that offers optimum response times to companies handling huge data volumes and requiring immediate and continuous information availability."

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About Texas Memory Systems

Since 1978, Texas Memory Systems (TMS) has specialized in high bandwidth, low latency, I/O-intensive storage systems. While the primary feature of our products has always been high performance, we achieve this performance without resorting to overly complex circuitry or unwieldy protocols. This emphasis on simplicity allows TMS to deliver outstanding performance using mature technologies and readily available off-the-shelf components. Our record of success, however, is as much a function of close customer relationships as it is a function of our technology. As we continue to grow, we will strive to maintain these close customer relationships and we will continue to provide outstanding customer support.

TMS products were originally designed to meet the needs of the US defense industry, a primary TMS customer throughout our history. This market has always demanded the ultimate in performance and TMS has always delivered it. Texas Memory Systems now brings its expertise to the commercial SAN market. The RamSan-400, TMS' 10th generation SSD product, delivers a level of performance previously unavailable in a commercial storage product.

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