

**Capfin** is revolutionizing personal finance in South Africa, and it capitalizes on the breakthrough performance, reliability and effortless management provided by Pure Storage all-flash array technology to deliver optimum access to mission-critical databases.



#### BUSINESS TRANSFORMATION

Call center agents, loan processors and department managers have fast, reliable access to the data they need to do their jobs efficiently.

#### GEO

South Africa

#### INDUSTRY

Financial Services

“It’s so simple and streamlined.”

Riaan Swart,  
Database Administration Manager

#### CAPFIN HANDLES EVER-INCREASING LOAN VOLUMES THANKS TO PURE STORAGE

Capfin is revolutionizing the personal finance industry in South Africa. The company offers personal loans of up to 50,000 Rand (around \$4,200) on-line or through more than 2,700 outlets of its retail partners, and relies on advanced technology to make the loan-application process easy. Borrowers can use kiosks, mobile devices or a telephone, and Capfin ensures they never need to waste precious time at a bank securing a loan.

The popularity of Capfin’s approach is reflected in an average of around 150,000 loan applications a month. That volume places a heavy demand on the company’s IT systems. Call center agents, loan processors and department managers all need quick and reliable access to data stored in ever-growing Microsoft SQL Server databases totaling about 3.5TB. At peak times, Capfin handles up to 3,000 transactions per second.

“We have a very busy OLTP environment,” observed Riaan Swart, manager of database administration for Capfin at the company’s headquarters in Cape Town. “At peak times, we may have as many as 1,000 call center agents at work, and they all are hitting the database.”

Capfin’s IT infrastructure is based on HPE servers, VMware vSphere virtualization software, and two versions of SQL Server – 2012 for production loan processing, and 2016 for business intelligence (BI) applications.

#### AGING STORAGE SAPS PERFORMANCE OF KEY APPLICATIONS

By early 2016, the legacy storage element of Capfin’s IT infrastructure was causing problems. “Because we are so SQL-intensive, there is a high demand on the underlying storage. We require high IOPS and low latencies. Otherwise, you get bottlenecks, and the problems just snowball throughout the organization,” Swart noted.

“We got to the point that our processing times were getting longer and longer,” he said. “There was a lot of contention on the databases, and that led to a lot of waiting. Everyone noticed the poor performance.

“We continually looked at everything we could do to optimize performance of all our systems. But you can only optimize things to a point, and then the bottleneck shifts elsewhere. Once we identified storage as the primary reason for declining performance, we started looking at alternative solutions.”

**COMPANY:**

Capfin  
[www.capfin.co.za](http://www.capfin.co.za)

**USE CASE:**

- Database – Microsoft® SQL Server
- Virtual Server Infrastructure – VMware® vSphere®

**CHALLENGES:**

- Legacy storage system was not keeping up with ever-increasing demands on databases.
- Response times for key applications was unacceptably slow.

**IT TRANSFORMATION:**

- Consistent sub-millisecond latency on FlashArray delivers superior database access times.
- Time to produce key BI reports cut by up to 85%.
- Ease of management frees IT staff for more strategic activities.

“It improved business efficiency throughout the company.”

Riaan Swart,  
 Database Administration Manager

The first option tried was an all-flash array from a legacy provider of storage systems. But the proof-of-concept (POC) trial yielded disappointing results. In fact, Swart said, “there was no visible change from the SAN we had.”

**PURE STORAGE REMOVES BARRIERS TO PRODUCTIVITY**

Then, Capfin’s system integration partner, First Technology, recommended Pure Storage.

“We moved our production servers onto a Pure Storage FlashArray//M20, making sure we had the exact same profile as we were running on the old SAN, and then ran our daily workloads,” Swart said. The improvement was noticed immediately.

“Pure Storage removed all the bottlenecks on the back end, and there was no contention on the databases,” Swart noted. “That meant we didn’t have call center agents waiting for their screens to load. It meant we didn’t have managers waiting for reports. It improved business efficiency throughout the company.”

Each day, a team of around a dozen BI analysts draw upon the SQL databases to create reports analyzing all key performance indicators related to Capfin’s operations. “With our old storage, some of these reports took three to four hours to produce,” Swart said. “After we moved to Pure Storage, they were running in 30 minutes” — a decrease of up to 85%. “Not only do they get their reports faster, they can perform more queries and expand their analysis.”

In addition to the BI team, “call center agents and loan processors also saw improved response times and greater efficiency,” Swart added.

**EFFORTLESS MANAGEMENT SIMPLIFIES LOAD ON I.T. STAFF**

In the data center, installation of the Pure Storage array has also improved day-to-day work conditions. “It’s a big relief not to have to go through all the complexities of legacy storage systems,” Swart said. “With our old SAN, we always had to worry about configuring LUNs, deciding where to locate volumes, how to divide up our databases. We don’t have to do any of that now. We have just one LUN for the whole database. It’s so simple and streamlined that it really lowers our administrative overhead.”

A major benefit of the Pure Storage array is the high rate of data reduction achieved through its deduplication and data compression features. “We are seeing 5:1 reduction across the board, including concurrent, disparate workloads,” Swart reported. “That means much greater return on our investment, not to mention less equipment to manage.”

With its previous SAN, “we were always having to come up with tweaks to enhance performance. But even without doing a thing, we saw performance improvements with Pure Storage of 30% to 40%. One of our main daily SQL processes went from an average of 300 minutes to about 130 minutes after we moved the main production SQL servers onto Pure.”

Software upgrades on the Pure Storage array have all been made without downtime or disruption to operations, “even when we added capacity,” Swart noted.

Swart said the Pure Storage array “has shown great resiliency and reliability. It just works.”



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