



## COMPELLENT SAN WITH SOLID STATE DRIVES TURBO-CHARGES CRITICAL BUSINESS SYSTEM



The conveniences of a centralized, consolidated business system quickly evaporate if users cannot access the information they need in a timely manner. This is especially true for a company such as Marketing Architects, a full-service direct marketing agency specializing in radio and television, as its services are based on rapid response and measured results.

Marketing Architects used to encounter this accessibility problem with its enterprise resource planning (ERP) system, an evolution of Marketing Architects' sizeable customer relationship management (CRM) package that integrated all of its advertiser information, media format information and associated business workflow into a single application running on a 150 GB non-relational SQL database.

This database is the lifeblood of Marketing Architects' employees, media partners and clients, providing inventory management, file storage, CRM, ERP and business intelligence. However, the company's previous storage area network (SAN) had difficulty keeping up with the high I/O demand necessary to keep the system responsive. Despite allocating two additional shelves with 15-146 GB Fibre Channel drives each, performance continued to suffer.

## INTELLIGENT SSD DELIVERS HIGHER PERFORMANCE AT A LOWER COST

To alleviate these issues, the IT team at Marketing Architects chose to migrate to a Compellent® Storage Center™ SAN with solid state drives (SSDs). Compellent offers the first SAN with intelligent SSDs, giving Marketing Architects cost-effective performance alongside seamless implementation and block-level data management.

The difference Compellent's intelligence delivers is easy to see in the numbers. Through a simple cost analysis for its board of directors, the IT team discovered one solid state drive would deliver 5,000 IOPS to the ERP system, compared to just 180 IOPS for the Fibre Channel drives. Marketing Architects figured it would need about 28-146 GB Fibre Channel drives to equal the performance of a single solid state drive, a difference of nearly \$75,000.

"The board wanted to know that we would be covered from a performance and stability stance, and that the cost made sense," says Bill Konkol, vice president of technology, Marketing Architects. "After considering enclosures, power, cooling and other ancillary



"After considering enclosures, power, cooling and other ancillary costs, delivering the performance we needed would have cost three times as much if we expanded into more Fibre Channel drives. Solid state drives were a no-brainer."

BILL KONKOL  
Vice President of Technology  
Marketing Architects

## RESULTS REPORTED BY MARKETING ARCHITECTS

- » A single solid state drive running on a Compellent SAN provides nearly 5,000 IOPS to the ERP system, turbo-charging this critical business system
- » Automated Tiered Storage dynamically stores snapshot data on RAID 5.5, saving Marketing Architects \$164 per GB
- » One solid state drive offers performance equivalent to 28 Fibre Channel drives, a difference of nearly \$75,000
- » Redundancy and high availability pay for the SAN investment in just a few hours
- » Modular, scalable architecture provides cost-effective path for growth without a forklift upgrade

## OPERATING SYSTEMS

- » Windows

## KEY APPLICATIONS

- » Microsoft® SQL Server™

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## AUTOMATED TIERED STORAGE CONTRIBUTES TO COST SAVINGS

Marketing Architects continues to see cost savings beyond the initial purchase due to Compellent's Automated Tiered Storage technology. Data Progression™ classifies and moves block-level data between tiers of storage or raid levels based on frequency of access. Relying on this automatic progression between raid levels, Marketing Architects has increased utilization of its SSDs by migrating Replays (snapshots) to RAID 5.5 for better storage utilization. As a result, the company has seen significant cost savings with SSDs, averaging \$164 per GB.

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"Block-level data management delivers ROI at a very granular level. We only use as much storage as we've actually written in the blocks."

**BILL KONKOL**  
Vice President of Technology  
Marketing Architects

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In addition to hard savings, Marketing Architects has seen a significant improvement in staff productivity as a result of the increased performance. Previously, when users would run large batches, the system would take one to two hours to complete, putting additional stress on normal user functions. Now with SSDs running on a Compellent SAN, the same batches take just 15 minutes, and all users continue to function normally.

"Users used to be challenged with the ability of the system to respond quickly to the demands of the business. Since we've implemented the Compellent SAN with solid state drives, we have the performance power we need to be timely and efficient. In fact, we've been told that even normal operations are faster than they were before," says Tony Holland, senior systems engineer at Marketing Architects.

Other operations within the ERP system have also improved. Pulling up forms is now as much as 45 percent faster than it was with the previous SAN solution. "The biggest win is the fact that we can pretty much do anything in the business as it relates to running stored procedures, queries, reports and more, and it does not impact our users," says Holland.

## BETTER PERFORMANCE EXTENDS TO BACK UP AND RECOVERY FUNCTIONALITY

The performance benefits experienced by Marketing Architects from Compellent extend beyond increased I/O for its ERP system. When Marketing Architects recovered its SQL database prior to implementing Compellent, it would have to revert to data that was as much as eight hours old, and the staff would have to work as long as 2.5 hours to restore the database.

That changed, however, with Compellent's Data Instant Replay™ snapshots. The RPO for restoring the SQL database is now only 15 minutes. The improved recovery time is an additional performance boost that keeps Marketing Architects up to speed.

Ultimately, the Compellent SAN with SSDs provides Marketing Architects with the insurance policy its board was seeking. "Our business requires the highest availability of our systems to support our Advertiser Partners. The cost of unplanned down time in just one day can cost five times the entire cost of the Compellent solution. The Compellent SAN offers superior high availability and redundancy to our previous SAN, so our single most-critical business system is much safer."

## PERSISTENT HARDWARE ARCHITECTURE PROVIDES PEACE OF MIND

Beyond reliability, Compellent's scalable, modular architecture gives Marketing Architects a path for growth that can follow the company's ERP system in lockstep. The company can continue to leverage its existing equipment as it grows while scaling capacity, connectivity and performance incrementally to match demand.

Compellent enables Marketing Architects to use SATA, Fibre Channel and solid state drives within the same system, mixing capacities and speed to fully optimize the balance between performance and cost as the ERP system expands. "We've found an integral tool in the Compellent SAN that can help us intelligently evolve IT to match the demands our business places upon it," says Konkol.