



**1A AUTO**

# CASE STUDY



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**OVERVIEW:** 1A Auto needed a reliable and affordable networked attached storage (NAS) solution for their main office. 1A Auto runs all warehouse and analytic operations in a virtualized environment. The IT department was seeking to replace existing storage with two robust storage arrays capable of replicating all of their data daily between a primary and secondary array to ensure operations would resume in the event of a catastrophic data loss. 1A Auto must run all virtual machines and databases off the storage appliance simultaneously while supporting replication. The solution must offer better latency and support for more Random IO than the existing InfiniBand based storage. 1A Auto found the perfect solution for a critical operations environment with Brickstor from RackTop Systems.

**1A AUTO PROFILE:** 1A Auto is a large online retailer of aftermarket auto parts. 1A Auto provides customers with the best prices on parts through their online marketplace in addition to phone orders. To provide customers with the best pricing and to source parts from the closest warehouse, 1A Auto relies on proprietary analytics they have developed. These analytics run continuously providing an unmatched level of customer focus and satisfaction.

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**Company:**

1A Auto

**Industry:**

Online Retailer

**Challenges:**

Reliable Network Attached Storage with Low Latency for Virtualization

Support for iSCSI, CIFS, and NFS

High Performance Storage for Database Applications

Replication to a Second Array for Rapid Disaster Recovery

**Solution:**

2 x BrickStor TI 2110

**Benefits:**

Self-Healing Storage Architecture

Built-In Block Level Replication

iSCSI Support for Citrix XenServer Virtual Machines and CIFS/SMB Support for Windows SQL Databases

Call Home Storage Monitoring

“Our business depends upon all of our IT services to be running perfectly and our data to be intact so we can provide timely and accurate information to our customers about the availability of a product in our inventory and the status of their order in real time. We know we made the right choice by choosing RackTop.”

Kiley Couch, Senior Network Administrator  
1A Auto

**1A AUTO'S NEED:** 1A Auto was in search of an affordable data storage solution capable of meeting the needs of their operations environment for development, warehouse operations and product analytics. 1A Auto was concerned that a new storage solution without InfiniBand network interfaces would yield inferior performance results. They were in search of a new solution that was more reliable than their existing storage appliances and had a seasoned company expert in storage technologies to support them. They were searching for a storage vendor partner that was capable of providing them with a plan and a path to successful and more efficient operations.

The existing environment included a heterogeneous mix of virtual machines using XenServer on blade centers. A majority of the virtual machines were mounted as iSCSI LUN's from the storage array. The SQL databases were running on a Windows File Share. Additionally, the organizations shared network directories were being shared off of the existing storage as a SMB/CIFS directory.

RackTop's support started from the very beginning, even before installing the new BrickStor arrays. RackTop worked with 1A Auto's admins to analyze the performance metrics of their current storage system to determine the minimum performance requirements for the new storage system. After a thorough analysis of the existing storage during different times of the day and week, RackTop presented its findings to 1A Auto's Administrators and IT director. RackTop explained that the move to 10Gb Ethernet would not hinder performance and would likely increase performance across the network interface. RackTop assured 1A auto that the proposed BrickStor solution would exceed the random IO performance limits of the existing storage array. This meant the proposed solution would enable 1A Auto to scale should they need to operate more virtual machines and databases with higher IO requirements in the future, a likely scenario for any business that is growing like 1A Auto.

1A Auto wanted a partner that would take the time to understand the uniqueness of their situation and deliver a storage array and plan to get 1A Auto operating in a manner that followed best practices, would protect their data, and make their business operations more resilient through IT. Any time the storage or the systems that depend on that storage are down or unavailable the company is vulnerable to loss of revenue.

**THE SOLUTION:** RackTop is a true partner to each customer, RackTop equates their success with the shared success of each customer. Beginning at the initial consultation, Racktop sought to understand 1AAuto's needs and the best way to implement a new storage solution. 1AAuto wanted to be sure they had a realizable and well-documented plan for migrating data off of the old storage array, onto the new storage array and then restarting all of the virtual machines and databases on the new array. RackTop worked remotely with 1A Auto to replicate the Terabytes of data from the old array to the new BrickStor while keeping the same permissions and ACL's. A RackTop storage engineer worked on-site to help complete the migration and assist with the turn up of the databases and virtual machines on the new

BrickStor during a scheduled maintenance window on the weekend.

Two BrickStor Titaniums for primary and secondary storage arrays were configured with appropriate cache packs to meet the operational business requirements and the budget. The primary array used a slightly faster cache pack than the secondary array because it would be doing a bulk of the work during normal operations and a slight performance impairment during a disaster recovery scenario was acceptable to 1A Auto's business operation needs. BrickStor supports both block and file protocol without an extra fee, so it was not a problem for BrickStor to meet 1A's demand for iSCSI, CIFS, and NFS storage from the same networked attached storage (NAS) array. With built in block level replication RackTop was able to instruct 1A's admin on how to set up replication schedules and replicate all of the data between the primary and secondary array and meet 1A's recovery point objective.

The new storage offered significant performance improvements over the previous storage solution. This was most noticeable in the drastic reduction in time to service and complete SQL queries on the new BrickStor. Query times were orders of magnitude better down from 200 milliseconds to just a few milliseconds. More importantly to 1A Auto, RackTop provided a consultative team of experts that helped them through the process and are always available for support to ensure the storage solution meets their needs. Additionally with the included StorageNOC from RackTop the call home feature alerts RackTop of any event or failure so that RackTop can be proactive in supporting 1A Auto.

**RackTop delivered a unified storage solution to meet the operational business needs of 1A Auto at a price within their budget. 1A Auto has remarked on the ease of the solution and the expert advice received from RackTop regarding their IT infrastructure. RackTop facilitated the migration of data from an old storage array to BrickStor, turned-up the virtual machines and databases on the new BrickStor solution, and created replication schedules between the primary and secondary BrickStor to meet 1A's recovery point objective. Throughout the project RackTop provided advice and best practices to 1A on the storage, network and virtual environment.**

## ABOUT RACKTOP

RackTop Systems is a developer of award winning data appliances, focused on designing valuable, easy to use, and economical computing solutions. RackTop understands what it takes to operate a business and understands the technology challenges from the customer's perspective. RackTop leverages corporate knowledge and the top human capital to implement their best in class solutions to enable operational success for businesses and organizations of all sizes.

## ABOUT 1A AUTO

1A Auto is a second generation, family-owned business. For more than 50 years, the Green family has been installing and using the same high-quality auto parts that you'll find on their website. The company's mission is to make your car projects smoothly, and to become your trusted source for auto parts. To this end, they treat each customer like family. 1A Auto employs USA-based, knowledgeable support technicians to help you through your project. 1A is there to always make sure that you get the right part.