



Storage. Solutions. Support.



A High-Performance, Low-Cost Storage Environment



CUSTOMER TESTIMONIAL

JetStor® RAID Arrays and DataCore SANsymphony-V Software Offer Telecom Provider an Economical, Reliable Storage Solution

THE ORGANIZATION

With roots dating back to the founding of the Mattoon Telephone Company in 1894, Consolidated Communications, based in Mattoon, Illinois, is the 7th largest telecommunications company in the US. With a goal of “connecting people, enriching lives,” Consolidated offers a full range of services to residential and business customers in California, Kansas, Missouri, Illinois, Texas, and Pennsylvania. Though it provided telephone services for most of its history, the enterprise now offers television services, including video on demand and programming to mobile devices, and Internet connectivity, including online backup and file sharing. The company employs some 1,700 people in the six states in which it operates.

THE CHALLENGE

Consolidated Communications must store a wide range of data at its data centers. This data, unstructured and structured, runs the gamut of use cases. “Our data stores span every application, from email to virtual machines and web servers,” said Jeff Fuesting, network engineer for Consolidated Communications. “This mixed workload puts a lot of pressure on storage environments.”

Despite its challenging storage needs, Consolidated wanted to avoid the costs and complexity of traditional storage area networks (SANs). Instead, it deployed SANsymphony-V from DataCore, a software solution that utilizes an innovative storage hypervisor. The application provides the tools, resources, and functionality to create, manage, and scale virtualized storage infrastructures. The telecom provider then needed storage platforms as the back-end for its virtualized storage solution. The systems had to provide robust, reliable, high-speed performance to support Consolidated’s data loads, but they also needed to be flexible and affordable.

“We wanted RAID arrays that would support generic drives to save money, but we found such solutions to be rare,” explained Fuesting. “Systems from big name storage providers work only with their drives, which drives up costs. We didn’t want the expense of being rigidly locked into a vendor’s ecosystem.”

THE SOLUTION

Six JetStor SAS 716S 16-bay RAID Arrays, four JetStor SAS 716J 16-bay JBOD Arrays, and two JetStor SAS 742S V2 42-bay RAID Arrays from Advanced Computer & Network Corporation (AC&NC).



Storage. Solutions. Support.

CUSTOMER TESTIMONIAL

SYSTEM CONFIGURATION

- Six JetStor SAS 716S 16-bay RAID Arrays
- Four JetStor SAS 716J 16-bay JBOD Arrays
- Two JetStor SAS 742S 42-bay RAID Arrays
- The DataCore SANsymphony-V storage hypervisor
- IBM x3650 M3 servers
- HP DL380P G8 servers

BENEFITS IMMEDIATELY REALIZED

Anchoring the DataCore SANsymphony-V solution with **JetStor platforms** proved to be a winning combination for Consolidated Communications. The telecom provider avoided the expense of deploying high-end storage systems at its data centers while obtaining the control, performance, and reliability to meet its business and operational needs.

“The **JetStor platforms** are an exceptional fit with DataCore SANsymphony-V,” said Fuesting. “They comprise such a robust, function-rich storage solution that they are practically seamless for us.”

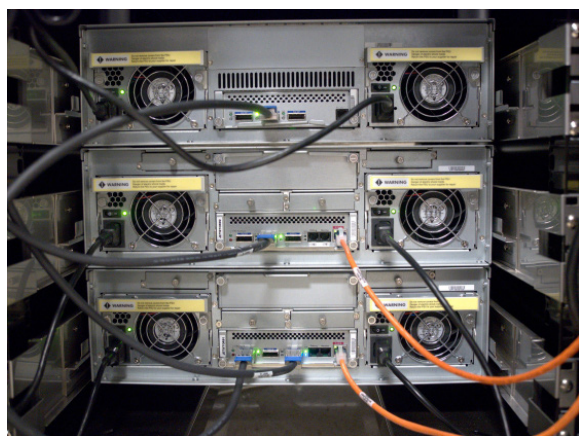
By supporting generic hard drives, the **JetStor RAID arrays** enabled the company to save approximately 50 percent over the costs of traditional storage environments and avoid committing to proprietary technologies. “With some drives costing up to five times more than others, our ability to use third-party drives impacts our bottom line,” adds Fuesting.

Consolidated deployed four **JetStor SAS 716S 16-bay arrays** in its regional office in Pittsburgh and two in a Texas data center. The systems provide outstanding data protection thanks to features like a cable-less design, dual hot-swappable power supplies, and hot-swappable drives with automatic rebuilding of data on new drives. Moreover, for extraordinary scalability, the solutions each support up to six JBODs (just a bunch of disks) for up to 448 terabytes of capacity. The enterprise already links a pair of **JetStor SAS 716J 16-bay JBODs** at its two sites.

With the JetStor systems having proven themselves for reliable, economical performance, Consolidated is deploying two **JetStor SAS 742S RAID arrays** at a California data center. The high-density solutions offer 42 bays for up to 168 terabytes of capacity in a 4U chassis. The company will also implement its **JetStor/DataCore** solution at data centers in Illinois and Kansas.

HOW WE DID IT

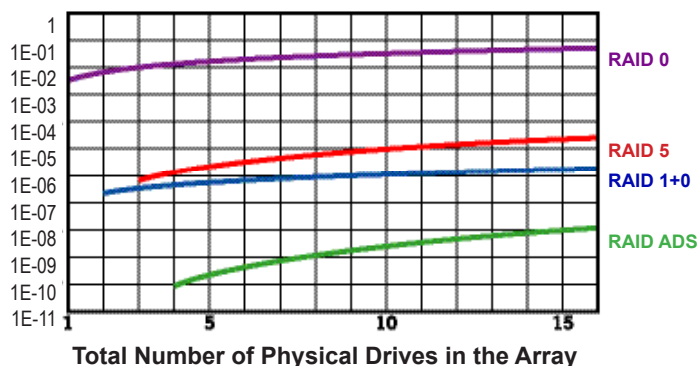
Consolidated engineered its storage environments for speed, economy, and data protection. The company runs the SANsymphony-V application on two IBM x3650 M3 servers at its Pittsburgh data center that directly attach to two **JetStor 716S arrays** via 6 gigabit/second SAS connections. These in turn link to two **JetStor 716J JBODs** at the same speed. All data is mirrored



The front (top) and back (bottom) of Consolidated Communications' **JetStor SAS 716S RAID Arrays** and **JetStor SAS 716J JBOD Arrays**.

CUSTOMER TESTIMONIAL

Probability of Data Loss by RAID Level



AC&NC JetStor SAS 716S RAID Array



on the two pairs of JetStor 716S and their JBODs. Each side has 18.73 terabytes of storage capacity with approximately nine terabytes used. The Texas data center has two mirrored JetStor 716S arrays, each with a JetStor 716J JBOD. They have 13.6 terabytes of storage, of which half is currently used.

The Texas data center has two mirrored JetStor 742S chassis that directly attach to HP DL380P servers running SANsymphony-V. Each array presently has 12 terabytes of capacity, which will increase over time.

All of the JetStor storage arrays are configured for RAID 5, ensuring data is protected even if a disk fails. Administrators rely on the browser-based JetStor RAID Manager application to administer the storage platforms and notify them via e-mail should issues arise.

CONCLUSION

Consolidated Communications found the JetStor RAID arrays to be the ideal complement for DataCore SANsymphony-V. Even in the firm's dynamic data centers, they deliver the throughput to support the most demanding applications in virtualized storage environments.

"JetStor products give us rock-solid reliability and the freedom to choose cost-effective disks that meet our needs, not the vendor's," said Fuesting. "It's hard to find such flexibility, excellent service, and warranty in affordable devices. And we looked."

ABOUT ADVANCED COMPUTER & NETWORK CORPORATION (AC&NC)

Advanced Computer & Network Corporation designs, manufactures and markets high-performance, competitively priced data storage RAID systems. With an extensive line of Fibre Channel, NAS, DAS, and hybrid flash storage solutions for any computing platform and operating system, comprehensive free technical support, and fast on-time product deliveries, AC&NC brings freedom of choice to all clients, from workgroup to enterprise. Our RAID systems ensure rapid, round-the-clock access to all of the information our customers rely on to move forward in the 21st century.



USA HEADQUARTERS
Advanced Computer & Network
Corporation
5001 Baum Blvd., Suite 680
Pittsburgh, PA 15213
tel: 412.683.9010
toll-free: 800.213.2667
fax: 412.683.9070

www.acnc.com
info@acnc.com

SALES
toll-free: 800.213.2667
tel: 412.683.9010
fax: 412.683.9070
sales@acnc.com

OEM/VAR SALES
toll-free : 800.213.2667, ext. 122
partners@acnc.com

GOVERNMENT SALES
toll-free: 800.213.2667, ext. 125
gov@acnc.com
GSA Schedule GS-35F-0694J

EUROPE
Vector & Scalar Products Limited
tel: +44 (0)1628 891616
fax: +44 (0)1628 472137
sales@vspl.co.uk
www.vspl.co.uk