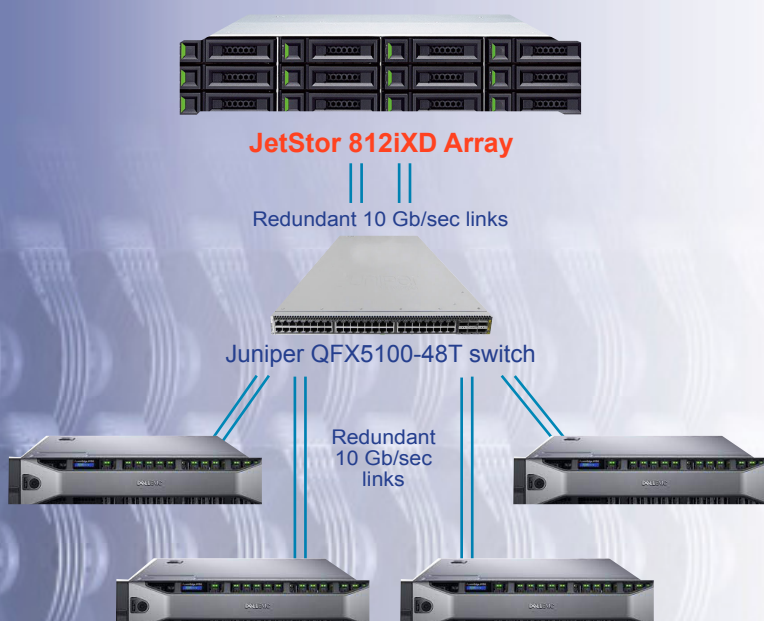




University Corporation for
Atmospheric Research

Administering Scientific Research Across the Globe



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JetStor® Storage Supports the World's Leading Atmospheric Research

Climate change, floods, droughts, hurricanes, tornadoes, and other impacts of evolving atmospheric conditions have been in the news almost daily. But who conducts this research? At the forefront is the University Corporation for Atmospheric Research (UCAR), the international hub for atmospheric research based in Boulder, CO. Founded in 1960 as a non-profit consortium of 14 universities, UCAR has grown to over 120 universities today.

UCAR's mission is to advance understanding of weather, climate, and water. How do the atmosphere, oceans, land surfaces, and ice interact? It relies on many scientists and a fleet of specially equipped aircraft, and satellites to gather data. These data are used to make models of Earth's systems to better grasp how the planet functions and to predict how these systems might change. UCAR seeks to educate the public, the future workforce, and government decision-makers to ensure sound policy and investment decisions that meet society's needs. UCAR's funders include such institutions as NASA, the National Oceanic and Atmospheric Administration (NOAA), the US Environmental Protection Agency (EPA), and the Federal Aviation Administration (FAA), among others. The organization has nearly 1,400 employees.

THE CHALLENGE

UCAR is responsible for the financial, human resources, facilities, and core information technology functions that are essential to its success, no small feat considering the roster of employees and participating scientists scattered across seven continents. Its many applications must always be available and storage performance has become critical because of the increasing size and sophistication of its apps.

Compounding the challenge is the Enterprise Information Technology (EIT) migration of some business functions to a hybrid environment using local data centers and Software-as-a-Service (SaaS) for greater efficiencies, enabling the team to retire a myriad of physical servers. This strategy significantly reduces management needs and energy costs, as well as eliminate the expense of periodically replacing the servers when they reach the end of their service cycle. As part of EIT, the Enterprise Software Applications (ESA) team needed a robust and reliable solution to meet its needs. Moreover, it required a cost-effective platform to fulfill its storage demands for the foreseeable future.

"UCAR has used **JetStor products** from AC&NC for many years," said a UCAR team member. "We have over 50 in



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our organization, such as **JetStor 816F units** distributed across several programs. For that reason, we again turned to AC&NC.”

THE SOLUTION

- One **JetStor 812iXD iSCSI platform** from AC&NC

SYSTEM CONFIGURATION

- One **JetStor 812iXD iSCSI platform** with 12 1.9Tb solid-state drives
- Four Dell R730 Servers
- Juniper QFX5100-48T switches

BENEFITS IMMEDIATELY REALIZED

The ESA team deployed a **JetStor 812iXD storage solution** provisioned with high-performance solid-state drives. The platform anchors a Microsoft HyperV Cluster virtualization solution that is much more efficient and cost-effective than its prior single-use physical servers. A mix of local and cloud virtualized solutions provides the integration between the human resources, financial, and administrative apps, where the **JetStor 812iXD array** is the local system’s backbone.

“A **JetStor storage platform** has been a mainstay of a VMware cluster in another department, so we knew that a **JetStor array** would support our data center virtualization architecture,” said the UCAR team member. “**JetStor products** provide availability at a competitive price. Moreover, the solid-state drives of the **JetStor 812iXD chassis** have the performance to deliver demanding applications.”

With a **JetStor array** at the back end of its hybrid on-premise/cloud environment, UCAR eliminated the expense and overhead of managing its legacy server farm and provide applications that support the organization’s business functions.

HOW WE DID IT

UCAR installed a **2U, 12-bay JetStor 812iXD platform** in its data center and provisioned each bay with a 1.9 terabyte solid-state drive for exceptional read/write performance. The solution supports virtualization for VMware VAAI, Microsoft Hyper-V ODX, and Citrix, and it features dual controllers. If one controller fails, the system automatically fails over to the second controller.

Each controller on the **JetStor array** connects to a Juniper QFX5100-48T switch with redundant 10 gigabytes/second



UCAR’s JetStor 812iXD Platform (top) and its Dell R730 servers (below)

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links, and the switch talks to four Dell R730 Servers via redundant 10 gigabytes/second links.

The **JetStor chassis** is configured for RAID 6, which protects data against the unlikely failure of two disks. It stores up to two terabytes of UCAR's data every month.

"We did the installation ourselves," said the UCAR team member. "When we had a question, we'd fire off an email to AC&NC and got answers promptly. This support factored into our decision to go back to AC&NC."

CONCLUSION

"Whether for enterprise data centers like ours or remote offices, **JetStor solutions** are a good choice," concluded the UCAR team member. "They help to fulfill our mission. Our ability to store and access data of all sorts enables UCAR to function smoothly and efficiently."

ABOUT ADVANCED COMPUTER & NETWORK CORPORATION (AC&NC)

AC&NC / **JetStor** meets the evolving needs for data storage, protection, and management. We leverage leading technologies to offer high-value solutions for NAS, SANs, clouds, and hyper-converged infrastructures (HCIs). Since 1994, our customers have spanned virtually every industry, and range from Fortune 500 enterprises to small and medium-sized firms. We support environments from data centers and clouds to branch offices and remote sites. Our expertise and sourcing in storage products, including all-flash and hybrid storage, allow us to provide the best pricing on the data storage market. More information at <https://acnc.com>.



JetStor 812iXD Array

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