

VDURA powers AI and HPC research at New Mexico State University

A 6PB VDURA Data Platform deployment anchors high-performance computing for NMSU's Research Cores Program, live in production August 2026.

**6 PB**

USABLE CAPACITY

R1CARNEGIE R1
INSTITUTION**\$141M+**

ANNUAL RESEARCH

2026

LIVE IN PRODUCTION

Overview

New Mexico State University (NMSU), a Carnegie R1 research institution supporting more than \$141 million in annual research expenditures, selected the VDURA Data Platform to anchor high-performance computing within its Research Cores Program, the university's network of shared research facilities, instrumentation and computational resources.

In production as of August 2026, the deployment gives NMSU researchers a high-performance, highly durable data foundation for workloads spanning aerospace, agriculture, cybersecurity, water science and biomedical research. The installation builds on the strategic partnership VDURA and NMSU announced in 2025 to co-develop post-quantum cryptographic technology for AI and HPC data infrastructure.

The challenge

As NMSU's research profile expanded following its R1 designation, its computing environment faced growing demands:

- Diverse mixed I/O workloads across AI training, simulation and data-intensive science competing for shared resources
- Growing datasets requiring both high-performance access and economical long-term capacity
- The need for infrastructure that could serve a broad, multi-disciplinary research community through the Research Cores Program

The deployment

NMSU deployed the VDURA Data Platform in a Mixed-Fleet configuration combining NVMe flash and high-density HDD capacity under a single control plane.

ENVIRONMENT	High-performance computing within NMSU's Research Cores Program
USABLE CAPACITY	6 PB
ARCHITECTURE	Three VeLO director nodes for metadata and orchestration, plus three Mixed-Fleet storage nodes, each combining 12 SSDs for low-latency active data with 78 high-density HDDs for bulk research data
FABRIC	Data traffic runs over the university's InfiniBand fabric, shared with compute clients
NAMESPACE	One unified global namespace, a single control plane spanning flash and HDD tiers

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Partnering with the NMSU Vision Team and the Research Cores Program allows us to deliver a world-class VDURA data storage solution to campus. This facility will ensure NMSU researchers continue to push boundaries in areas vital to New Mexico's growth and economic future.

Amy Wagler, Director of Research Computing and Data Science, New Mexico State University

Results and benefits

- ✓ **Performance.** Flash-level responsiveness for active research data
- ✓ **Efficiency.** Mixed-Fleet economics deliver bulk capacity at a fraction of all-flash cost
- ✓ **Simplicity.** A single namespace across tiers eliminates separate performance and capacity silos
- ✓ **Scalability.** Capacity and performance grow with research demand, no forklift upgrades
- ✓ **Durability.** Production-hardened platform built for environments where failure is not an option

Why choose VDURA

Research-ready performance

Flash-level responsiveness for active datasets keeps AI training and simulation pipelines moving without storage bottlenecks.

Mixed-Fleet economics

NVMe flash and high-density HDD capacity managed as one namespace, performance where it's needed and economical bulk capacity everywhere else.

Seamless fabric integration

Runs over the university's existing InfiniBand fabric, shared with compute clients, with no separate storage network to build or manage.

Scale without re-architecture

Software-defined architecture and a subscription model let capacity and performance grow as research demand grows.

Conclusion

The VDURA Data Platform gives NMSU a future-ready data foundation for AI and HPC research, combining the velocity researchers demand with the durability an R1 institution requires. As one of America's newest R1 universities, NMSU now has storage infrastructure built to keep pace with its ambitions.