

Solution: Data

Industry: Higher education

Country: United States

GREAT PLAINS NETWORK

Accelerating life-changing research through open science

Tackling some of the world's most pressing problems often relies on complex calculations or the analysis of large volumes of data. But many underserved academic institutions in the U.S. don't have the computing resources to complete this work. The Great Plains Network's GP-ARGO project is changing this by giving 58 academic institutions access to distributed high-performance computing. This is empowering researchers to make important scientific discoveries, from methods for increasing crop production amid climate change to creating a better understanding of fundamental physics, helping address food security issues and other challenges.

"Researchers are trying to make sure plants are adaptive to climate change and drought and illnesses. It has very pragmatic outputs in terms of ensuring the supply of wheat, and ultimately, helping solve the world's food issues."

– **Daniel Andresen,** Director, Institute for Computational Research in Engineering and Science, Kansas State University

Objectives

- Enable more institutions in the Midwest and Great Plains to run computational, data-intensive research
- Develop research skills and capacity in the region's underserved academic institutions
- Meet current and future needs of researchers for complex, large-scale research

Requirements

- Provide distributed and powerful computing capacity to the region's smaller academic institutions
- Install computing systems that are physically small but are highly efficient and have a large capacity
- Manage GPU and CPU requirements to meet more diverse research applications and needs

Solution

- HPE ProLiant DL385 Gen10 Plus v2 servers
- AMD EPYC CPUs
- NVIDIA® A100 Tensor Core GPUs

Key partners

- AMD

Outcomes

- Enables 58 academic institutions across the Midwest and Great Plains to make important discoveries
- Expands research scope through machine learning technologies
- Supports the region's agriculture by helping crops and animals adapt to a warming climate
- Helps address global food security problems by better predicting crop yields

Additional resources

- Case study

→ Explore digital game changers

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