## CiQ



TEXAS TECH

Texas Tech's High Performance Computer Center Maximizes Productivity with CIQ's HPC Software Stack and Support

Texas Tech University's High Performance Computing Center (HPCC) promotes and supports research and teaching by integrating leading-edge high performance computing and data processing resources for faculty, staff, and students. Its staff provides consulting and assistance to campus researchers with advanced computational software and/or hardware needs, helping them to port and optimize applications to make use of HPCC resources as well as scale up from local systems to national and international supercomputing resources.

## Challenge

HPCC, a High Performance Computing facility for Texas Tech University, is always looking for opportunities to save staff time by deploying technologies that increase reliability and decrease time to deliver the service. Their job is to deliver support in ways that empower researchers to do their best work, but their time to do that is at a premium, as it is in most university and lab settings. In adopting any suite of support products, they need to determine whether it will save more staff time in aggregate workload than it will cost them in money. Like many in the HPC run-your-own-cluster field, HPCC's immediate goal was to find a reliable replacement for CentOS, but they wanted a solution that would extend further, evolving all their technologies with each new version release. In addition, HPCC sought a support team that would help them resolve any issues rapidly, so they could achieve their ultimate goal: to maximize the research productivity of the university.







## Solution

HPCC chose the open source Rocky Linux operating system as a seamless, stable, and secure successor to CentOS. As part of the CIQ High Performance Computing software stack that integrates containerization with Apptainer (formerly Singularity) and cluster provisioning with Warewulf to deploy scalable system infrastructure, it allows HPCC to harness the full power of computational resources and easily and efficiently execute critically important performance-intensive workloads. To enable the HPCC team to focus their work on deploying, modifying, and updating applications used by Texas Tech's researchers instead of OS-level details, they convinced the university of the value in CIQ's escalation support, customization, optimization, integration, and other professional services.

It's been a good investment of money to spend on the service contracts we have with CIQ. It has accomplished my goals of not just saving staff time, but saving staff time in a way that lets them be more productive on other things.

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My experience with my staff has been that they can quickly become dismissive of support that they don't consider to be expert. If they're calling someone up, and they're getting an answer that they knew already, they will quickly tell me how much of a waste of time that was. That hasn't happened with the CIQ folks. Every time we've come to them with a problem, they've delivered a solution. That's what I was looking for: **people who know more than I do.** 

Alan Sill Manager Director · High Performance Computing Center · Texas Tech University

## **Results**

With best-in-class escalation help from the CIQ support team, backed by industry experts across HPC and Linux environments, it was immediately evident that CIQ's service benefits justified the investment. To measure the success of CIQ's engagement, HPCC set qualitative goals that were greatly exceeded. For example, based on a previous experience of upgrading operating systems on head nodes, they put aside four days for the process in a planned shutdown schedule; instead, with the active involvement of CIQ's team, it was accomplished in a little more than a morning, saving significant time and money. HPCC increased up time and minimized staff time, successfully achieving their mission to maximize the university's research productivity in dollars, sophistication of technology, papers, and students taught.

