



## CLIENT SPOTLIGHT UNIVERSITY RESEARCH CENTER

University genomics research center sees 400% performance increase & reduces runtimes from days to hours with Azure HPC

### CHALLENGE

This client is a large university genomic research center looking to advance their research capabilities and increase their ability to secure higher grant funding. They were originally on-premises and needed the ability to process a substantial amount of genome pipelines beyond the current High-Performance Computing (HPC) cluster's processing capacity. One of the research center's key goals was to increase their ability to deal with clinical care and obtain national certification as a tier one cancer center, enabling them to secure the higher levels of funding they were seeking. One hurdle was the client's knowledge gap in leveraging HPC within the Azure cloud environment. Additionally, logistical and security concerns posed obstacles within the University Medical Center, particularly in the movement and utilization of sensitive human data in Azure. Navigating these challenges required a comprehensive strategy that addressed both technical and organizational aspects, ensuring a seamless transition to a more advanced and scalable infrastructure.

### SOLUTION

3Cloud successfully addressed the challenges faced by the genomic research organization through the implementation of a hybrid environment that allowed them to take advantage of Azure. This hybrid approach eliminated the need for substantial investments in specialized hardware on-premises, allowing the research center to capitalize on the scalability offered by Azure. By optimizing the environment, we enabled the client with the ability to leverage the platform in more native ways, resulting in improvements in cost-effectiveness, efficiency and time management, plus removed administrative overhead for both admin and researchers.

⬇️ [SCROLL TO VIEW THE RESULTS](#)



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The shift to High-Performance Computing (HPC) in Azure presented an opportunity of a blank canvas for users to tailor their processes according to their specific needs, thereby enhancing overall capability and efficiency. Furthermore, our centralized research portal established a secure cloud environment, providing computational resources and data repositories. This comprehensive solution will allow future research expansion to be easily integrated into the platform, thus leveraging efficiencies and scalability and adhering to industry security standards.

### RESULTS

The implementation of our comprehensive solution has had a huge impact on the business, marked by a remarkable 400% improvement in performance for sequencing and secondary analysis in genomics analytics pipelines. The reduction of runtimes from a three-day on-premises solution to a mere 18 hours not only signifies a significant boost in efficiency but also underscores the power of high-performance computing. In addition, we successfully established a NIST 800-171 fully compliant environment, ensuring robust controls over both data and infrastructure. This compliance not only safeguards sensitive information but also positions the client in alignment with regulatory standards. The benefits extend beyond operational enhancements, translating into increased grant funding opportunities by increasing the research center's capability to secure higher levels of grant funding, fostering continued growth and advancement in its research endeavors.

### CLIENT PROFILE

Large university genomic research center.  
**Employees:** 10,000  
**Innovation Focus:** Cloud Platform