

BETTER HEALTHCARE FOR INDIGENOUS AUSTRALIANS.

Background

Computational biologists at Indigenous Genomics (IG) at the Telethon Kids Institute are developing novel healthcare solutions for Indigenous Australians.

Their research involves analysing a range of large, complex and sensitive datasets using custom bioinformatics workflows.

Challenges

Configuring a high performance computing (HPC) environment with respect to software, scalability and data pipelines takes time and effort, and can slow research progress. Clinical applications need timely results and require data to be processed immediately.

The IG research group required a new HPC cloud solution that could deliver both secure data management and rapid processing, while allowing collaboration with research partners.

Solutions

Our HPC Experts optimised their workflows so they could scale up with DUG HPC Cloud.

Our powerful, bare-metal compute and storage delivered efficiency, security and privacy.

Results

In one particular study, our tailored HPC solution enabled the IG group to process 1287 whole genomes in 140 hours—a workload that was historically taking many weeks to complete.

IG researchers are investigating how the genetic architecture of Indigenous Australians relates to the incidence of type-2 diabetes—driving the development of precision medicine, new treatments to mitigate disease progression, and improved healthcare outcomes for the community.