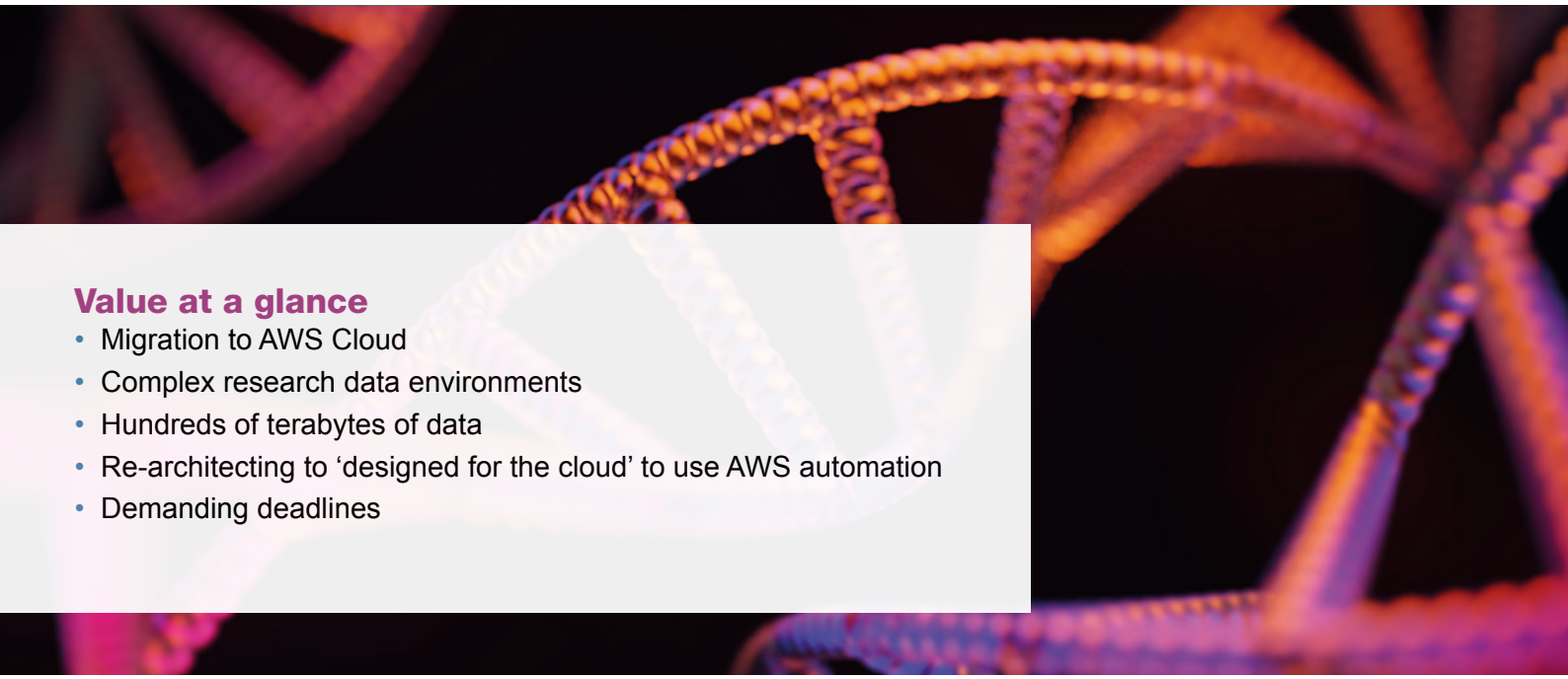
the SERVER LABS
cloud architects

Genomics England

Providing a cloud platform for world leading research.



Value at a glance

- Migration to AWS Cloud
- Complex research data environments
- Hundreds of terabytes of data
- Re-architecting to 'designed for the cloud' to use AWS automation
- Demanding deadlines

When Genomics England decided to migrate their research and business environment to the Amazon Web Services (AWS) cloud, The Server Labs' in-depth expertise helped them to meet their demanding deadlines and provide a platform that will support their world-leading research today and into the future.

A world leader in genomic medicine

Genomics England is the world's largest community in genomic healthcare and medical research. Owned by the UK Department of Health and Social Services, it is at the heart of the UK Government's vision to "create the most advanced genomic healthcare ecosystem in the world."

Genomics England analyses vast amounts of sensitive clinical and other genomics data using High Performance Computing (HPC) technology, where thousands compute nodes work in parallel to process quadrillions of calculations per second.

The big migration

Driven by a need to generate larger and more varied datasets which were query-able by its research partners, Genomics England decided to migrate their data and bioinformatics systems from their existing cloud provider to Amazon Web Services (AWS) cloud.

AWS met the criteria for a highly scalable, flexible and secure platform that enabled effective cost management of HPC resources.

A challenging project

The project was challenging for several reasons, including:

- The requirement to re-architect the applications to be 'designed for the cloud' and able to take advantage of the sophisticated automation capabilities of the AWS platform.
- An aggressive 'must-make' migration deadline, which left no time for re-architecting before the move. So applications had to be migrated 'as-is' then re-architected afterwards.
- The sheer volume of applications and data to be migrated, encompassing hundreds of servers and hundreds of terabytes of data.

Genomics England

the SERVER LABS
cloud architects

Genomics England

Providing a cloud platform for world leading research.

Trusted support

Genomics England turned to The Server Labs for help. They knew and trusted them, based on The Server Labs successfully provided engineering, solutions architecture and technology support for an HPC project the year before. They knew that as an AWS partner, The Server Labs has the required expertise to deliver the project's demands.

Legacy migration and re-architecting

The Server Labs' team of 20 consultants, led by CTO Paul Parsons, selected Cloud Endure as the tool to migrate the applications and created a repetitive, high-quality, high velocity 'factory' process. For the re-architecting work, they used Cloud Native services.

Other work included updates to new versions of key services such as database instances, licencing optimisations, and security enhancements using automation to provide real time monitoring and reporting of security vulnerabilities across hundreds of AWS accounts.

Success - by the numbers

Delivered in under three months, the project has been a success — on a massive scale — with:

- 64 applications migrated, across 4 business groups.
- Over 100 servers migrated.
- One single application migrated with a server with 55TB of data on its own.
- Over 200TB of data transferred.

Business and technical goals achieved

With The Server Labs' help, Genomics England has been able to achieve the business and technical benefits of moving their operation to AWS' cloud.

- Financial savings.
- A more secure and automated security posture
- Taking advantage of automation and serverless technology.
- Ability to handle the most demanding genome research workloads.
- A platform for driving positive health outcomes for patients and world-leading genomics research.

The customer view -

The Server Labs provided invaluable support to define and execute a smooth transition to AWS for many of GEL's services. They take genuine responsibility for successful delivery and are a pleasure to work with.

Pete Sinden, Chief Information Officer at Genomics England.