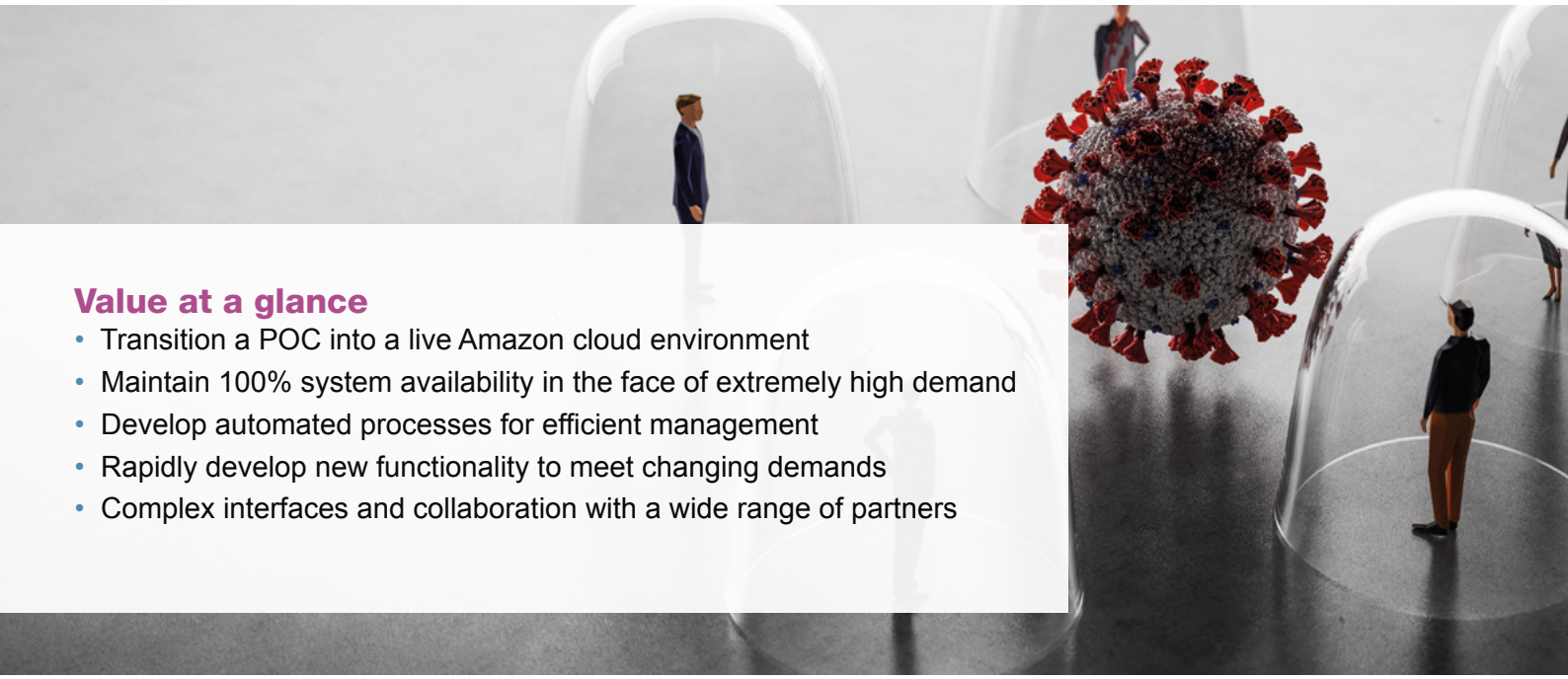
the SERVER LABS
cloud architects

NHS Digital

TSL's rapid response and deep skills help to keep frontline staff safe.



Value at a glance

- Transition a POC into a live Amazon cloud environment
- Maintain 100% system availability in the face of extremely high demand
- Develop automated processes for efficient management
- Rapidly develop new functionality to meet changing demands
- Complex interfaces and collaboration with a wide range of partners

When the NHS needed to get a coronavirus home testing system up and running, they had a big challenge on their hands – a complex system, with multiple interfaces, 100% availability, massive scaling and constant change. And no time to waste. With the help of The Server Labs, they achieved what had looked like an impossible goal.

NHS top priority - coronavirus testing

As the coronavirus hit England in March 2020, one of the NHS's first priorities was testing - particularly for frontline healthcare workers. As these staff were high risk, the NHS decided on home-based testing.

That meant the NHS rapidly needed a dedicated website for staff to order testing kits, along with back end logistics for delivery and processing – and a system that could scale efficiently to meet the ever increasing demand.

Complexity, scale and speed

The NHS had a proof of concept, built by Amazon's Professional Services using their cloud services and serverless framework, which they needed to transition into a live service.

The project was unprecedented – it was highly complex, had to scale to meet massive demand and, such was the speed with which the virus was spreading, it needed to be live within weeks.

Finding the right partner

The NHS England Business Services team knew they needed a partner with expertise, innovative thinking, strong collaboration skills and the flexibility and dedication to go above and beyond the expectations of any normal project.

So they selected The Server Labs - an approved Government cloud supplier (CCS G-Cloud 11) and trusted AWS partner, with outstanding technical credentials and previous experience of healthcare projects.

The Server Labs took the system into production in an AWS serverless environment, managed the coding of additional functionality, set up all the required security, monitored the system and adapted it as the situation changed.

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Collaboration

The system had many interfaces and The Server Labs collaborated on the project with Deloittes' planning consultants, Kainos, Amazon warehouses, Trans Union, Amazon Web Services, Royal Mail, and a number of regional testing laboratories.

Constant evolution

As the pandemic landscape changed the system also needed to constantly evolve. For example when the Government changed the scope of the home testing program to include the public, the change to multi-tenancy meant a lot of work at the back end. And like every other change, it was all needed in a very short timeframe.

Challenges

- **Massive spikes in demand** - sometimes up to 30,000 kits a day.
- **Developing automated services for efficient management** – such as a temporary hold on orders if stock limits triggers were reached, and a restart when the replenishments were in place.
- **No downtime** – the system had to be fully available, so The Server Labs upgraded the system to a blue/green serverless deployment.

A successful outcome

The Server Labs succeeded in delivering a system that met every challenge that was thrown at it, never failing to scale, always available, meeting all requirements. It exceeded the expectations of the NHS, who were able to rapidly deliver tests and results to hundreds of thousands of frontline staff, so they could continue their work of saving lives.

The CTO view -

Technology underpins, enables and inspires so many aspects of life in today's world, and has never been as important to the health of our nation as during this pandemic. We're proud that the innovative, scalable and flexible technology that we implemented played such an important part in this story.

Paul Parsons, CTO of The Server Labs.