Case Study: TESLA (Europe) ltd

After experiencing problems with performance and stability of their forecasting application on their legacy infrastructure. TESLA were open to migrating their application to a new platform on AWS, designed for resiliency.

Client

The TESLA group of companies are leaders in their field of providing energy industry forecasting data.

Specific Challenge

As a processor of large volumes of data, TESLA needed to allow secure customer access to their solution whilst also keeping it performant.

Solution Summary

To design and deliver new web application infrastructure within the AWS London Region.

Outcome

A scalable, secure and flexible hosting platform which delivers significant performance gains.

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TESLA GROUP

The TESLA group of companies aim to be the premier global provider of energy industry forecasting solutions.

TESLA (Europe) Ltd was incorporated in 1992 and the first TESLA Model was developed for The London Electricity Board. TESLA, Inc. was founded in 1995 to continue to build on this success in the United States. In 2010, TESLA Asia Pacific Ltd was founded as part of a plan to offer energy industry forecasting solutions worldwide.

The Requirement

TESLA analyse data from a variety of sources, subsequently providing forecasting across their industry.

One of the most important requirements is that, following forecast production, customers can access the data in a timely fashion.

The existing solution was hosted in-house on a VMware vSphere infrastructure which was also used to host TESLA's corporate infrastructure.

Whilst TESLA were happy with their existing solution, occasional performance issues and server outages highlighted resiliency risks.

The Challenge

A change of mind-set was required to move the application from in-house hosting to being hosted in the public cloud.

In addition, lack of automation of the solution's component parts limited the scope for a fully automatic scalable cloud-based solution.

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Solution Considerations

There were many considerations when designing the solution for TESLA.

Some of the important points are listed below:

- **Integration**

  The new platform was to be integrated and connected to the existing on-site solution, therefore connectivity was required. TESLA were keen for this connectivity to be as seamless as possible.

- **Directory integration**

  A directory service was to needed to integrate the cloud components. An option was to extend the existing TESLA directory into the cloud. However, we opted for the use of the AWS directory service.

- **Resilience**

  Previous stability issues with the legacy solution caused this design to be very much focussed on resilience. In the first instance, it would not be possible to implement a fully resilient modern solution without a complete review of the application architecture, proactive monitoring was extensively used to mitigate any deficiencies.

- **Layout of services**

  With the elasticity of the cloud, new consideration was given to the services required by the application during its migration with components reorganised to take advantage of the new platform.

- **Database requirements**

  The solution required a back-end database, legacy code and performance issues ruled out the use of certain database technologies.

Proof of Concept

TESLA engaged Cloud Fundamental to discuss the technical requirements for a new platform for the European forecasting application. In-depth discussions were undertaken regarding the application architecture and its suitability for migration. It was deemed that a phased approach would be best for the migration, starting with a proof of concept followed by the full solution implementation and the eventual re-architecture of the application to be cloud-native.

Solution Implementation

Cloud Fundamental designed and built a secure platform for the European Forecasting application in the AWS London Region which offered enhanced performance capability, stability and resilience.

The solution included multi-layered security services and a VPN to the TESLA corporate network.

An Established Team

Thanks to the success of the implementation and support services, Cloud Fundamental are now a trusted partner of TESLA and are currently involved in the delivery of support services for their internal and externally hosted virtual environments.

Amazon Web Services

AWS has more than 15 years' experience in delivering global infrastructure on a large scale. In 2017, they launched a UK-based Region.

Cloud Fundamental with their experience of AWS and traditional hosting models, became an AWS certified partner – cementing their place as a UK leader in cloud migration within secure environments.

Solution Benefits

- Ability to adjust capacity on demand with 'Pay as you go' pricing
- A more stable and performant platform
- Reduced administration
- Enhanced security
- No hardware management

"These guys have forgotten more about I.T. than I ever knew".

Mark Hewitt
Operations Director, TESLA (EUROPE) Ltd.
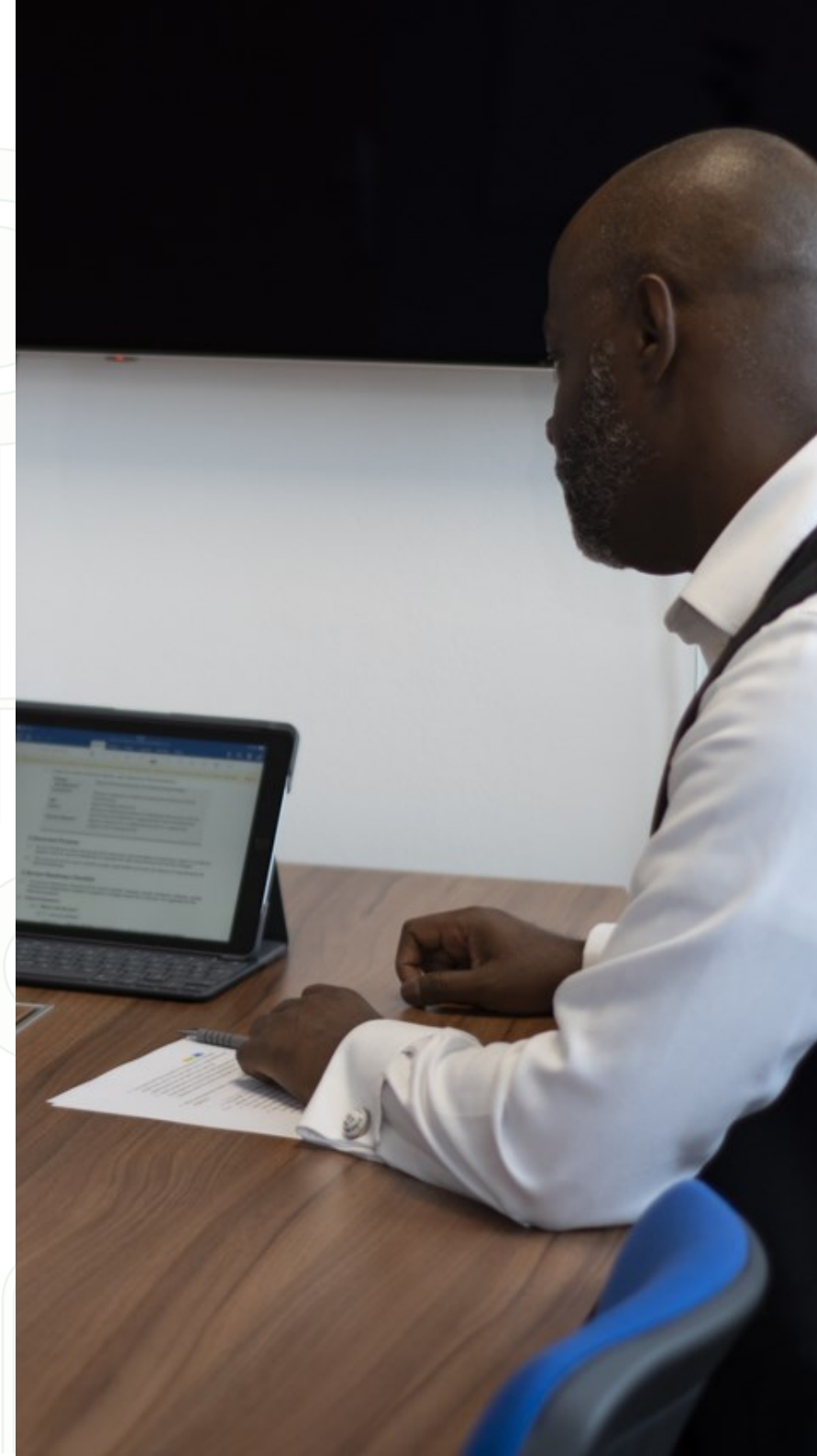
About Cloud Fundamental

Cloud Fundamental's reputation and continued success is the result of unrivalled technical expertise in the design and implementation of secure solutions in both the private and public sector. Their technical team has a wealth of experience honed over several decades and are recognized for their successful implementations and unsurpassed service levels.

As an AWS Certified Partner, they specialise in delivering secure, public cloud deployments - from small scale cloud pilots to phased mass migration. Able to work to strict timeframes and within tight budgets, their services range from initial technical guidance and advice to end delivery of full cloud migrations.

Dedication, commitment and flexibility are the cornerstone of Cloud Fundamental's approach, ensuring they are the preferred business partner on an increasing number of cloud migrations..

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