



CASE STUDIES

Digital Taxonomy

Azure native data and machine learning architecture accelerates Digital Taxonomy's growth

Challenge

Digital Taxonomy - builders of the cutting edge, AI powered CodeIt platform, a tool for tagging and categorising unstructured data. CodeIt is used by some of the world's leading teams and companies in order to turn unstructured text into high quality, actionable information. The CodeIt product has grown in both popularity and complexity at an exponential rate since it was first launched in 2016. Digital Taxonomy's client base continues to grow, rapidly attracting a number of large blue chip enterprise clients - each bringing their own complex requirements. Due to this impressive growth, the team felt it was time to perform an Azure cloud-native architecture review of their end to end solution, with a particular eye on how to help the company meet its growth goals over the next five years.

Colibri Digital were approached to undertake this review - and provide advice, designs and implement solutions to ensure Digital Taxonomy were optimally positioned for their next phase of growth.

Solution

The Colibri Digital team worked directly with Digital Taxonomy's CTO and leadership team to perform a rapid Cloud Native Architecture and Security Audit using our tried and tested approach. By understanding DT's product roadmap and anticipated growth trajectory over the next five years, a detailed assessment of the solution was conducted across the five key pillars of cloud native architecture:

- ✓ Operational Excellence
- ✓ Security
- ✓ Reliability
- ✓ Performance & Efficiency
- ✓ Cost Optimisation

As a result of this review, Colibri Digital Experts designed and implemented a range of performance, cost and scaling optimizations including:

- End to end infrastructure as code solution using Terraform
- Migration of CodeIt's Machine Learning solutions to a hosted Kubernetes platform to improve Operational Excellence and enable a range of new use cases requiring an order of magnitude increase in scaling capabilities
- Overhaul of data strategy, including providing solutions to continue scaling DT's primary databases as well as contributions to future advanced analytics use cases
- Improvements to API and versioning strategy
- Security and encryption enhancements

Results

In just ten weeks Colibri Digital completed an extensive review of Digital Taxonomy's existing Azure Cloud Solutions, with a view to enabling growth of the next five years and empowering the next generation of product features. Upon completion of the review, the Colibri team worked with DT's technical leadership to implement a number of high priority recommendations, including the deployment of a cutting-edge Kubernetes based Machine Learning platform.

By bringing together a team of certified industry experts across Cloud, Data, and Analytics Colibri Digital has been able to ensure Digital Taxonomy's technology, architecture and cloud strategy rest on solid foundations for the next exciting phase of growth.

Shell

Cloud and Big Data delivery expertise accelerates delivery of new analytics platform

Challenge

Shell, one of the world's largest oil and gas companies have spent the last six months trying to deliver an Azure analytics stack for its global retail lubricants business. Struggling with the volume, veracity and variety of data as well as suffering from a lack of experience delivering Azure data projects, the project was heading towards failure. Major issues included the time taken to manually deploy and execute the main data pipeline, an unstable data science environment, and a lack of automation and control around code changes.

Colibri were approached to resign and re-implement the analytics platform from scratch, using a DevOps first, Cloud first methodology to enable rapid evolution and prototyping of new use cases and the ingestion of new data.

Solution

We rapidly embedded into the existing Data Engineering, Data Science and DevOps teams instilling a culture of automation and Cloud First thinking. This allowed us to rapidly distill and simplify the architecture of the target data platform.

By working with existing business and engineering teams, we were able to develop a refined, prioritized backlog of development tasks supported by a best practice cloud and data architecture focussed on solving only the core business requirements, something that the project had failed to do.

We also sponsored the adoption of industry best practice technologies including Azure Storage, AKS, ACR, Spark, Kubernetes, and CircleCI enabling engineering teams to significantly improve productivity while dramatically simplifying the architecture of the platform.

Results

In just 10 weeks we were able to reduce the time taken to deploy a new version of the data engineering or data science pipeline from weeks to minutes. Pipeline execution performance increased by more than 15x on a significantly larger data set.

We also delivered a state of the art set of analytics infrastructure supported by fully automated deployments, providing environments for data scientists to rapidly explore and new use cases, and data engineers to test out the creation of new features in a scalable, repeatable fashion.

Somark

Cloud-native expertise ships Somark's latest product

Challenge

Somark, a pharma-tech company based in Australia, was trying to deliver their first cloud-native product on Microsoft Azure.

This was their first foray into cloud-native applications, and the engineering team wanted expert guidance on which Azure products to use, and how to architect the overall application.

In addition, key concerns like security and release processes needed to be redesigned for the cloud, specifically around a microservices architecture.

Solution

Colibri worked directly with Somark's CTO to run a security and architecture review. With a thorough review of each component, Colibri suggested risk/TCO-weighted suggestions to improve the architecture.

What-if analysis around feature released showed the need for API versioning and canary deployments.

Due to the unique business requirements of the product, Colibri designed custom, centralized logging and monitoring system that enabled cost and utilisation analysis.

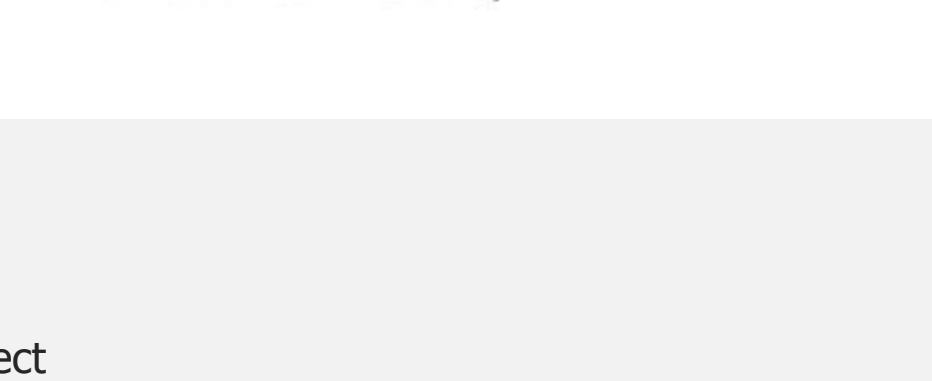
Taking advantage of the data processed on the product, Colibri built a custom business intelligence product for both internal and external users.

Results

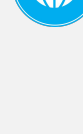
Our Azure expertise directly helped Somark ship a new product not only on time, but also free of security and performance concerns.

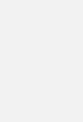
The engineering team upskilled, and now uses deployment automation and versioning to deliver rapid feature updates and API changes.

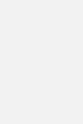
Our custom business intelligence solution enables Somark's customers to understand their own data, and allows the Somark to understand product usage patterns and opportunities.



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