

Case study
DVLA
Real-Time Data Platform



PROBLEM

The DVLA are in the process of modernising all of their existing systems to use cloud-based infrastructure, presenting new analytical opportunities.

Key to this is the requirement for a real time strategic data platform, providing timely access to data, consistency of reporting and removal of redundant and siloed data sources.

We worked collaboratively alongside the DVLA's existing MIBI team to develop functionality through a series of Proof of Concepts that would enable the DVLA to build a Strategic MIBI Data Platform.

We were charged with identifying and creating a long-term solution capable of processing roughly 60m messages a day in real-time from a wide-range of systems, multiple message types and variations of message. Providing this into a structured serving storage solution using technology in-line with the wider DVLA strategy.



APPROACH

We worked in blended teams with existing DVLA colleagues to understand and specify a technical solution that would complement and develop upon their existing Azure tenancy. Settling on an architecture that utilised core Microsoft technologies to provide the capabilities needed.



EVENT HUB
to ingest data



DATA FACTORY
to store data



ANALYSIS SERVICES
for aggregated reporting

The design used Event Hub to manage and handle real-time ingestion from data streams with capacity designed for up to 60m events per day. This data was streamed to both persistent and serving storage depending on reporting requirements with analytics performed both using the Cortana Analytics suite for data science and Analysis services for ROLAP provision on a 15 minute refresh cycle.

This design delivered on the key benefits required from the project with regards to access to real-time data and near-real-time aggregate high-volume analytics.

The design was rigorously assured using a comprehensive unit, integration and system testing approach both through concept testers and during the system build.

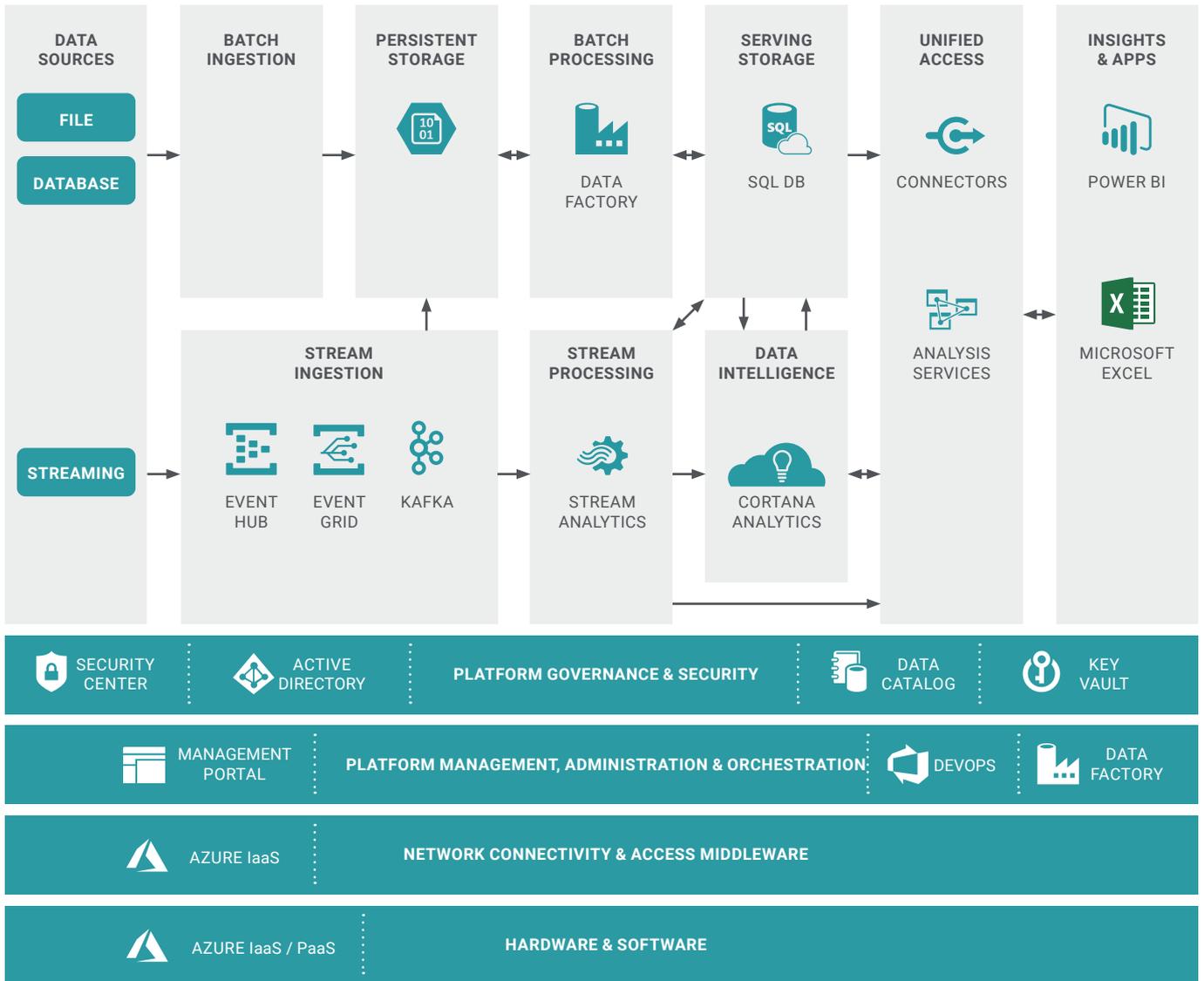


Case study
DVLA
 Real-Time Data Platform



AIM

The aim was to re-architect and re-engineer their analytics infrastructure into a cloud hosted platform on Azure and establish this as a strategic insight platform. This was to be built in the Azure/Cortana Analytics Suite, which utilises Microsoft's supported variants of many open source cloud technologies. The high-level reference architecture is shown below.



RESULT

The platform went live in December 2019 with its first source system which involved surfacing data from tachometers used on passenger carrying and goods vehicles. This represents a significant shift from taking snapshots at set intervals to real time event based processing, enabling faster visibility of the data and a higher degree of reporting accuracy at any given time. Further systems are being evaluated for on-boarding in the future as they come online.

Office locations:

London | Birmingham | Bristol | Cardiff | Chelmsford | Edinburgh | Manchester | Sheffield

