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Department for Education UK

Cloud-Based Graph Technology Drives Efficiencies

The UK Department for Education provides services across England, but a complex services landscape obscured opportunities for cost cutting. A Neo4j AuraDB-based centralized information repository enables component reuse, resulting in cost savings.

BY THE NUMBERS

55K nodes

60K relationships

PLATFORM
Neo4j AuraDB on GCP

INDUSTRY
Government

USE CASE
Service 360

OBJECTIVE
Gain visibility of service landscape to modernize service delivery, eliminate duplication and do more with less

CHALLENGE
Complex data environment inhibited strategic decision making

SOLUTION
Use Neo4j AuraDB to capture and Neo4j Bloom to visualize myriad logical and physical relationships across a complex IT landscape

RESULTS
- Substantial savings from rationalizing components
- Multiple teams across DfE served

The Company
The Department for Education (DfE) is the UK ministerial department that provides education and care amenities throughout England. Schools, universities and colleges, apprenticeships, wider skills development, and government policy fall under its purview. It works alongside 17 agencies and public bodies such as those setting educational standards and funding. With around 10,000 employees, the DfE plays an essential role in delivering education, training, and care for citizens of all backgrounds.

The Challenge
In recent years, the DfE has taken a user-centered approach to see how it could best serve the needs of citizens and stakeholders, like educators. "The Department for Education delivers critical services across the education sector, for which we depend on a complex IT infrastructure composed of multiple business systems, services, applications, and components," said Luke Slowen, Head of Architecture, DfE.

DfE needed visibility across its entire IT infrastructure and all its connections. A small team started mapping services to help identify opportunities for modernization and cost-cutting, and speed up the development and rollout of new services. Creating a central repository of services information, accessible to all users, would aid in faster decision-making and avoid duplication across the landscape.

The team's initial review of the data environment highlighted where potential reuse could be achieved to enable faster and less costly service delivery.

The Solution
The team needed to model the many relationships across its IT landscape, both physical and logical. They began working with Neo4j and quickly saw that it would support the DfE product roadmap.

"Our graph creates a shared view of our service landscape, which we use to find ways to reuse capability, improve usability, and rationalize, delivering better value services for our users," said Slowen. "Neo4j helps us visualize our data and the opportunities in one place, so we can focus our efforts on streamlining our service delivery and operations."

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Visualization, provided by Neo4j Bloom, is critical, enabling architects, service owners, and product owners to see across the landscape. "Visualization enables us to prioritize our efforts based on where needs are highest and where there are opportunities to do more for less," said Slowen.

The team needed enterprise functionality, like advanced security features. They chose Neo4j AuraDB, a fully managed cloud graph database.

"As a turnkey SaaS product, Neo4j AuraDB provides lots of flexibility," said Mario Gledhill, Enterprise Architect, DfE. "It's very reliable, with little administration required, with items like service upgrades and backups fully automated. Since the cloud version does away with the need for individual Bloom licenses, we're able to roll it out to all key business users."

Neo4j's architectural flexibility enables data pipelines that refresh visualizations. "I've been working with the team very closely around modeling and integration. It's important to automate these activities so that the visualizations stay current," said Gledhill.

The Results

People in DfE are very excited about the rollout of Neo4j AuraDB, with the cybersecurity team planning to use it to assess the risk profiles of services across the landscape. Active use by the National Careers Service has followed and plans are in place to use it as a social platform to connect the change management, service management, and business continuity teams.

"Neo4j has helped us to really prioritize tasks and enabled us to rapidly identify cost savings for service teams using components. Postcode look-up and geospatial mapping have been greatly boosted already. It's really changed our strategic thinking in a big way," adds Slowen.

Contract, finance, service documentation, resources, and capabilities information can also be linked in. Now, seeing the cost of each service and how they are procured is much easier. All this helps to eliminate duplication and empower the DfE to make better-informed business decisions.

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Luke Slowen, Head of Architecture, UK Department for Education

Questions about Neo4j?

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