



# Arriva Bus

Working with N4Stack has helped Arriva to drive their database design forwards.



*Arriva wanted to optimise its growing SQL Server estate, so it turned to N4Stack for advice and support.*

## The Customer

Arriva UK Bus is a major public transport operator, operating c.6,000 buses across the north, south, east and west of England coupled with Wales. Employing 16,000 people, it provides a vital service for many regions of the UK.

## The Challenge

Going back to 2015, Arriva Bus had a large estate of SQL Server which had grown organically, often with new applications being deployed on standalone servers. This had led to challenges with the performance management of the databases. There were also cost implications relating to how the systems were being licensed and maintained, whilst ensuring vendor compliance.

## The Solution

Arriva asked N4Stack to address two requirements.

Firstly, it asked N4Stack to review a key SQL Server database running a critical EPOS application which was suffering from significant performance degradation.

N4Stack undertook a detailed assessment of the environment including analysis of application queries and indexing strategy coupled with infrastructure performance. This resulted in a clear set of recommendations and agreed remediation actions.

Arriva also asked N4Stack to assess the entire SQL Server estate and provide recommendations for a modernised and consolidated configuration.

Through detailed onsite review sessions, N4Stack were able to identify four alternative architecture options for the SQL Server environment. They documented the pros and cons of each solution, taking into consideration the complexity, supportability and cost implications for each of the options. This enabled Arriva to make an informed decision on the future design of the environment.

### Result

N4Stack effectively optimised the SQL Server databases and built an upgraded SQL Server AAG (Always on Availability Group) using a multi-site 3-node cluster. This resulted in a significant consolidation of infrastructure and reduction in software licensing cost.

N4Stack continue to provide a 24\*7 Managed Service including proactive monitoring and performance management of the SQL Server estate. They continue to modernise the environment with migration and management of instances, using both Azure and internal data centre platforms.

### Why N4Stack?

Arriva considered a number of DBA services partners for assisting with their challenges and N4Stack were able to quickly demonstrate an effective business and cultural fit.

### The key benefits that N4Stack brought to the Arriva project include:

- flexibility
- speed of response through an easily accessible UK based team of DBA specialists
- in-depth expertise to both design and implement the new SQL Server environment
- 24\*7 Managed Service

A combination of all of these aspects has resulted in proactive performance management of critical SQL Server databases which have to operate on a full 24\*7 basis.