**smartestenergy**

# Achieving a High-Availability Hybrid Cloud Architecture While Reducing Licensing Costs

## Introduction

SmartestEnergy is a leading purchaser and supplier of energy generated by the independent sector. They combine customer knowledge built up over 13 years with a uniquely flexible approach to service delivery. It's their mission to help customers find the right energy solution for their business.

They offer bespoke service with a range of fixed and flexible products to meet the specific needs of their customers, who range from large industrial users to high-street retailers.

## Client Challenges

SmartestEnergy was undertaking a data center migration to a single co-location data center and needed to redesign their production SQL Server architecture to incorporate on-premise resilience and provide disaster recovery (DR) capability to the cloud.

SmartestEnergy engaged Data Intensity to design and build out a hybrid SQL Server topology using SQL Server Standard Edition and Microsoft Azure. The challenge was to deliver the on-premise resilience requirement of a two-node cluster while leveraging Azure for DR with a third node. SQL Server 2017 Standard Edition provides only basic availability groups that support a single replication.

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## Solutions

Data Intensity designed and built out a stretched three-node Windows Server 2019 Failover cluster. The cluster comprised two on-premise nodes with shared storage and a third Azure VM node. An SQL 2017 Standard Edition Failover instance was configured for the two on-premise nodes, meeting the on-premise resilience requirement.

The SQL Server failover instance is recognized as a single SQL Server instance, allowing the database to be mirrored to the third Azure node using basic availability groups. The application connectivity was accomplished using a single database listener associated with one of the many availability groups and stretched into Azure using Azure Load Balancer. The use of a single database listener meant that all databases had to reside on the same availability group replication and move as a collective. To achieve this, Data Intensity developed a script to check the database status and move databases by code as appropriate.

# Benefits

By combining two native SQL Server HA technologies, Failover Cluster Instances, and Basic Always-On Availability Groups, SmartestEnergy was able to achieve a highly resilient architecture on-premise and incorporate a third warm disaster recovery instance without incurring the higher licensing costs of Enterprise Edition. Data Intensity provided support during the migration process, scripting, and rebuilding the transactional replication post-migration.

# About Data Intensity

Data Intensity is a Microsoft and Oracle Strategic MSP partner delivering managed services for the complex lifecycle of Oracle-powered workloads. Offering a complete portfolio under one roof, we provide full-stack, technical, and functional application managed services on any cloud.

Additionally, we maximize and future-proof our clients' Oracle investments through effective license position assessments and cloud-independent migration services. Learn more at **www.dataintensity.com**.

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