

# A database optimisation and migration success story

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**AWS SQL Database  
Case Study**

**PEOPLEVOX**



# Background

**Peoplevox Ltd provide ecommerce businesses with a fully managed warehouse stock management and fulfilment system to support their logistics. Predominantly, services are provided to customers in Europe with some further afield including Canada, Argentina, Hong Kong, New Zealand and the UAE.**

## Original situation

Customer environments were hosted within a third party Public Cloud with workloads spanning data centers in the UK, France and Canada. Whilst customer environments are configured to use their own databases and versions of website/APIs, these resources run on shared resources with databases for multiple customer environments running on a common set of database servers. Peoplevox customer environments range from small to very large.

The warehouse management platform was predominantly built on top of a Microsoft stack making heavy usage of a Windows Server that ran Active Directory, IIS and MS SQL server. The application itself was written using C#.NET. Application with load balancing performed using Window Network Load Balancing. Problems with their third party environment led Peoplevox to evaluate alternatives and AWS was selected.

### Problems included:

- Service impact caused by unreliable infrastructure (loss of network connectivity, loss of compute/database hosts) and failed deployments of application updates
- Infrastructure and database license costs had grown considerably as larger customer solutions were on boarded and placed greater demands on the workload
- In addition to increasing workload demand through growth of the business' customer base, specifically the intended tenfold increase, Peoplevox's service also sees significant seasonal load, such as the run up to Black Friday.

Peoplevox believed that by transitioning to AWS RDS hosted databases, they could take advantage of their reduced operational overhead and also reduce their MS SQL Server license commitments by moving from Enterprise Edition to Standard Edition. They embarked on an internally led migration project taking a re-platform approach, moving existing web/application servers into EC2 and utilising RDS to provide the MS SQL database services.

As the migration project progressed, unforeseen issues were encountered, most significant was that migrating the MS SQL server databases from the current SQL Server Enterprise Edition infrastructure to AWS RDS MS SQL Server Standard Edition led to a database configuration which prevented high availability (RDS Multi-AZ) being enabled. This put them at risk of missing critical customer SLAs.

Peoplevox have a small team with no specialist MS SQL Server DBA expertise. They sought the support of Zen to provide access to experienced MS SQL Server DBA expertise to overcome the database migration issues and successfully complete the project.



## Customer requirements

- Optimise existing database configuration
- Migration of customer workloads from the third party into the AWS Cloud
- Minimise application re-development
- Reduce operational overheads by making use of AWS managed services
- Improve system reliability
- Effective infrastructure cost management, ability to easily attribute infrastructure costs to customers
- Ability to rapidly scale the infrastructure resources to meet the demands of the workload.



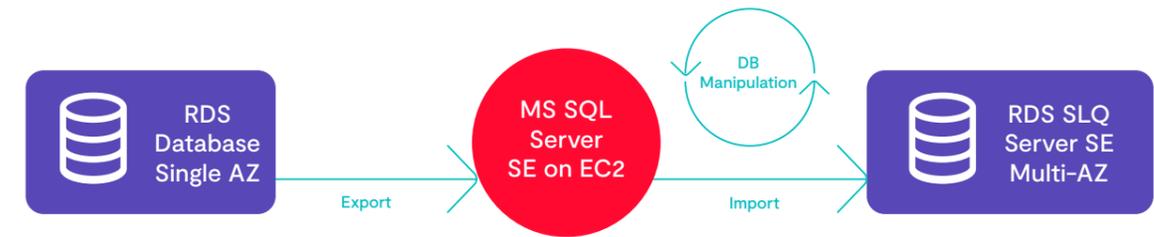
## Our solution

We identified that the problems were being caused by a number of features in SQL Enterprise Edition which had resulted from a historical requirement and were no longer relevant. These features aren't supported in RDS SQL Server SE.

We proposed a professional services solution to be delivered by an expert SQL Database Administrator to remove the unnecessary features and provide the necessary scripts to enable the customer data to be extracted from the old database and inserted into the newly configured Standard Edition.

## Chosen infrastructure

Infrastructure was redesigned to ensure that no customer data left the Peoplevox AWS account during optimisation.



**“Zen found creative and elegant solution to a complex AWS migration problem. Their staff were helpful, informative and highly knowledgeable. We enjoyed working with them and would have no hesitation in recommending them”**

**- Chris Allen**  
Systems Architect, Peoplevox

# Project timeline

The project consisted of three phases of Zen Database Administrator work. We took an iterative approach, meaning each phase could be run through multiple times within the time available to support successful database migration.

Phase 1

## Proof of Concept

This phase was to prove that it was feasible to take one of the production customer databases, remove unnecessary features (which aren't supported in RDS SQL Server SE) and migrate the data into a database running on a Multi-AZ RDS SQL Server SE instance. The process needed to maintain the integrity of the database, i.e. IDs and counters within tables remained the same and continued to increment as they would in the original database.

Phase 2

## Define Database Migration Process

This phase created the resources necessary to provide the following:

- A documented migration process
- Tooling/Scripting (where possible/appropriate) for supporting the migration process
- Training in the form of remote knowledge sharing sessions taking appropriate members of the Peoplevox team through the process.

Phase 3

## Migration Support

This phase provided ad hoc MS SQL server database support for the migration of the Peoplevox customer databases into the AWS environment.

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Tasks relating to migration of resources other than MS SQL Server databases were outside the scope of this project and were handled by the Peoplevox internal migration project team.

# Results



## High availability

Peoplevox no longer have service outages due to failure of single infrastructure components. Failover testing was proven during the course of the project.



## Reduced costs

By optimising the database infrastructure to a point where AWS RDS running MS SQL Standard Edition instead of Enterprise Edition met the customer's needs, we freed up resources from maintaining database infrastructure and significantly reduced costs.



## More rapid migration

Once we had proven our approach and methodology, we were able to provide scripts to Peoplevox to enable them to migrate the remainder of their customer base smoothly and efficiently.



Interested in finding out more?  
Speak to one of our specialists today...



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