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Case Study

Firefighter College Improved SQL Server Performance & Reduced Costs with a Move to AWS EC2

This case study covers the ways that Datavail helped a firefighter college lower expenses and improve performance by moving the client's on-premise SQL Server to the AWS cloud.

The Challenge

The firefighter college had substantial infrastructure costs due to an on-premise deployment of SQL Server. This configuration did not lend itself to cost-effective scaling, so a switch to the cloud became necessary.

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The Solution

Datavail had an established relationship with the firefighter college already, as we supported their on-premise SQL Server database environment. Datavail's Data Engineers assessed the customer's current environment and educated the customer on SQL Server's ability to cost-effectively run on AWS, as well as the optimizations available in this environment.

Our solution included the Window Rapid Migration Program. The goal was to run SQL Server on EC2 with a merge replication configuration to one of their datacenters. We needed to set up and configure several servers and accounts prior to starting the migration process.

The setup process for the AWS account included:

- Followed AWS security best practices to create a secure environment
- Developed an Identity and Access management configuration through defined roles and rights for all AWS users
- Put a Virtual Private Cloud and virtual servers in place
- Deployed Subnets
- Established routing definitions
- Configured AWS firewall policies for all workload tiers through Security Groups

Once the AWS account was set up, we needed to choose the right database instance type and storage in EC2:

- Created a load balancer
- Deployed the customer's application on the Application Servers
- Migrated the SQL Server databases to AWS
- Scheduled automated backups for all critical elements to improve availability and protect against data loss with S3
- Setup verification and testing
- Configured AWS CloudWatch Monitoring to track the performance and overall health of the servers
- Handled the domain configuration and VPN tunnel setup; the VPN connects the EC2 server and the on-premise server
- Provided User Acceptance Testing for the application
- Offered ongoing support with the proof-of-concept

As part of this migration, we used SQL Server merge replication to pull and push data from the outside vendor.

The Results

Following this migration, the customer is successfully running SQL Server on EC2 with a 30 percent performance improvement and substantial cost savings. They are able to scale the environment with this new configuration and will not need to spend any extra money on the operating costs.