

Content Management Systems (CMS) Case Study



Customer Challenge

The Content Management System (CMS) is used to help First Distribution employees securely and reliably store their contacts and related documents for each customer. Technology will need to be implemented to ensure security of customer information and to provide a highly available workload. This translates into a substantial investment into technology infrastructure and/or the outsourcing to third parties if the solution was deployed on-premises. We needed a cloud platform that has the most experience with Microsoft workloads, especially for Windows Server and SQL Server. Cost and high availability were also challenges for CMS. By utilizing the Bring-Your-Own-License model, CMS was able to utilize their existing investment in expensive SQL Server licensing and bring them to Amazon EC2. High availability was important because the workload needed to be always available for the sales teams. This availability was difficult to achieve on-premises because it would require building most of the infrastructure needed to ensure the availability of the system.

How the solution was deployed to meet the challenge

AWS supports everything CMS needed to build and run our Microsoft workload. Remote Desktop Services was deployed to enable administrators secure access to the Windows and database servers. The Remote Desktop Services we deployed using two availability zones for high availability. A fleet of frontend EC2 servers running Windows Server and IIS were deployed behind an application load balancer to serve the webpage content. The load balancer was used to provide encryption in transit with SSL. It also did SSL offloading to reduce the load on the web servers. The SQL Server database was deployed on EC2 to enable us to bring our own SQL server license into the AWS cloud. Automated backups are done daily and are security stored in Amazon S3. This was sufficient to meet our RPO and RTO requirements. Amazon CloudWatch, Amazon CloudTrail, IAM and AWS Systems Manager services were also used for monitoring, auditing, identity, and access management and automating operations as needed.

AWS Services used as part of the solution

Amazon EC2 hosts all the Windows Servers in AWS. The web servers are hosting IIS that serves web content to users. An Application Load Balancer is deployed in front of the auto-scaling group with the web servers. All monitoring in the environment is managed in Amazon CloudWatch. AWS Certificate Manager provisions, manages, and deploys public certificates. FSx for Windows File Server is used to provide secure, highly available shared file server. AWS Systems Manager is used to run admin level such as install Windows updates. AWS Backup is used for disaster recovery to backup all EC2 EBS volumes daily. VPC flow logs and CloudTrail Logs are used for monitoring and alerting.

Epsidon Marketing and Management Consultancy



Epsidon Management and Marketing Consultancy provides professional business support services and management consultation to the IT Industry.

Date the project entered production

February 20, 2023

Outcomes

The CMS workload has become a valuable tool for the sales teams because it is reliable and secure. Sales team's are more productive because of this. Amazon FSx is a fully managed service, it makes it simple to launch and scale reliable, performant, and secure shared file storage in the cloud, so now there is less infrastructure to manage. With Amazon FSx, we pay only for the resources we use, with no minimum commitments, licensing costs, or up-front fees, so we were able to save costs. Data is automatically encrypted at rest and in transit.

Architecture Diagram

- 1 Microsoft SQL server running on EC2.
- 2 Automated backups are taken daily And securely stored in Amazon S3.
- 3 Remote access layer provides remote FD administrators access to the environment.
- 4 Front-end servers hosting IIS webserver.
- 5 NAT gateway provides internet access to the database servers to safely download patch updates from the Internet.
- 6 AWS Systems manager is used to automatically patch the EC2 instances.
- 7 Amazon CloudWatch is used to monitor all AWS resources to help with future performance tuning.
- 8 Identity & Access Management (IAM) is used to manage all authentication and grant access to FD administrators.
- 9 Amazon CloudTrail records all API activity in the AWS account for auditing purposes.
- 10 FD administrators login remotely via Remote Desktop Services.
- 11 Internal FD employees access the CMS platform via the Internet. Data in transit is encrypted.

