

EQUINIX CUSTOMER SUCCESS STORY HESS CORPORATION



EQUINIX PROFESSIONAL SERVICES FOR CLOUD (EPS CLOUD)

Leading global energy company successfully enables billion dollar divestment by migrating entire enterprise IT suite to the cloud.

“We had an obligation to deliver a functioning, operational infrastructure to the buyer. We also had an obligation to Hess to make sure that infrastructure could be handed off in short order, both legally and physically. Using the cloud enabled us to meet all of these requirements and we are thrilled with the results.”

Jim McDonald, Lead Architect, Hess Corporation

Overview/Executive Summary

Hess Corporation, a leading global independent energy company engaged in the exploration and production of crude oil and natural gas, wanted to streamline its business to focus on energy exploration and production (E&P); and in March 2013 announced its intention to divest its downstream businesses, including retail, energy marketing and terminals. As part of this initiative, Hess IT needed to separate business systems and data for potential buyers and it looked to EPS Cloud to help it migrate those systems and data to the cloud.

Business Challenge

Companies acquire and divest businesses for strategic, financial and other reasons. If not managed effectively, the process can negatively affect the company, causing disruptions for the organization and the business.

After Hess decided to streamline its business to focus on energy exploration and production in 2013, Hess IT determined that they would need to separate business systems and data for potential buyers, and initiated work on Amazon Web Services (AWS) in July 2013, with a contractual agreement to have the new environment operational and in production by January 2014.

Customer Profile

History

Founded in 1933, Hess Corporation is a leading independent energy concern, engaged in the global exploration and production of crude oil and natural gas.

Headquarters

New York City, NY

The company also has regional headquarters in Houston, Texas and Kuala Lumpur, Malaysia.

Solution

Hess Corporation's IT organization had begun conversations with EPS Cloud (an Advanced Consulting Partner with the AWS Partner Network) in early 2013 about migrating to the cloud. Working with EPS Cloud, Hess developed a short list of cloud providers and ultimately chose Amazon Web Services.

"We didn't have time to re-design applications," says Jim McDonald, a lead architect with Hess Corporation. "AWS could support our legacy 32-bit applications on Windows Server 2003, a variety of SQL Server and Oracle databases and a robust Citrix environment."

Preparing an Infrastructure for Acquisition

To prepare the infrastructure for migration to AWS, Hess and EPS Cloud developed a dual approach that was implemented in parallel:

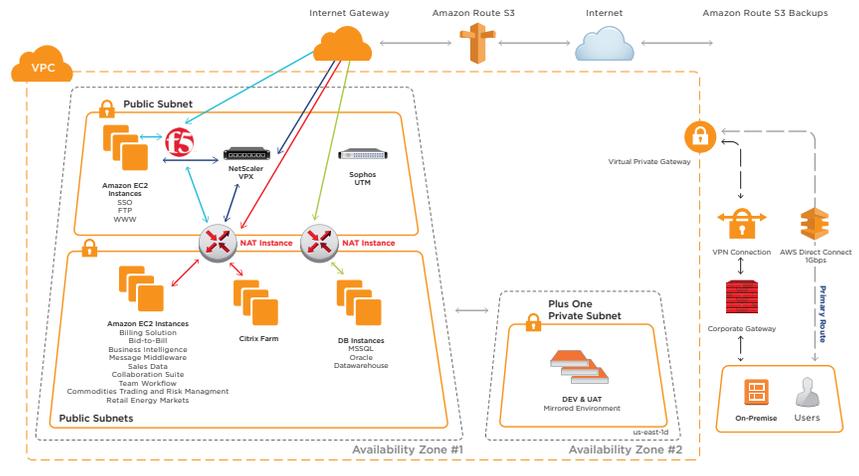


Figure 1. Energy Marketing Infrastructure on AWS

- A detailed inventory that identified the servers to be moved, along with operating system levels, processor and memory requirements, storage configuration; and backup and restore requirements.
- An application review process that identified the applications that would transition to the buyer, integration points, performance requirements, remote access, disk consumption and growth.

Hess selected a series of pilot applications in July and began building out the base infrastructure on the AWS platform. After developing quick wins and getting buy-in from leadership, the team spent several weeks gathering detailed information on the remaining application portfolio and providing guidance to EPS Cloud on security requirements.

Seamless Migration to the Cloud

- To bridge its on-premises data center, Hess established a VPN connection in August 2013 using Amazon Virtual Private Cloud (Amazon VPC) on AWS.
- To achieve a more consistent network performance as the company's needs evolved, Hess switched to AWS Direct Connect with a 1Gbps connection.
- Hess migrated approximately 300 servers based in the Eastern US (Northern Virginia) region. Amazon Elastic Block Store (Amazon EBS) attached to Amazon Elastic Compute Cloud (Amazon EC2) provided block level storage for almost 500 TB of data. Provisioned IOPS volumes for storage (in conjunction with instances optimized for EBS) provided consistent, low-latency performance for servers with more strenuous IO demands. In extreme cases, provisioned IOPS volumes were configured as a RAID array to increase performance.
- In addition, the environment spanned multiple availability zones to better position the environment for disaster recovery (DR).
- Hess had been using a tape backup system for its on-premises environment. On AWS, the team configured the platform to create snapshots of every volume and stored them in Amazon Simple Storage Service (Amazon S3), thus enabling nightly data backup. The snapshots attach to instances for file retrieval or for rollback purposes.
- Hess used multiple versions of Microsoft SQL Server in the environment. To create backups for the SQL Server databases and for its Oracle databases, Hess IT used native database backup tools to store data in Amazon S3 and then into Amazon Glacier for long-term archiving.
- Amazon CloudWatch monitored cloud resources and the applications. The company's on-premises infrastructure included Citrix NetScaler devices for load balancing and F5 for application firewall management. Hess used the AWS Marketplace to virtualize the on-premises devices on the cloud. Figure 1 demonstrates the infrastructure on AWS.



Flexibility to Build Environments Quickly

The IT environment for energy marketing uses a ratio of about 50 percent off-the-shelf software and 50 percent custom applications. Almost all of the custom applications were developed using the Microsoft .NET framework. Most of the applications (both custom and off-the-shelf) use SQL Server databases or Oracle as necessary. About 70 percent of the applications are web-based, with the balance being “thick client” (i.e., the types of applications that run on computers connected to a network).

Hess took advantage of the AWS platform to create quickly, build out the environment and fail fast.

“If something didn’t work, we could tear it down and build it up in hours or days,” says McDonald. “The flexibility to build out dozens of servers rapidly was huge for us.”

Hess built half of the servers it needed for its production environment and then cloned the rest using code. Using this approach, EPS Cloud was able to build out a hundred servers in one day.

By running on the AWS Cloud, Hess was able to install Microsoft Windows and SQL Server and build virtual appliances easily, without a lengthy procurement and licensing process.

Expected Business Benefits and Results

Hess wanted to transition the infrastructure to a new owner as seamlessly as possible without a lengthy support agreement. The company started using AWS as its production environment for energy marketing in January 2014 and transitioned the environment to the buyer in February. To minimize security risk and access to the environment, Hess used a MFA device for authentication. The buyer set up an AWS account and after transferring credentials, Hess handed over the device. The benefits of migrating the entire IT suite to the cloud included:

- **Speed to market** – The migration to AWS was completed in six months, half the time that it would have taken using physical servers.
- **Seamless transition of infrastructure to the new owner** – Hess started using AWS as its production environment for energy marketing in January 2014 and was able to transition the environment to the buyer the following month.
- **Minimized security risk and access to the environment** – This was achieved by using an AWS Multi-Factor Authentication device for authentication.
- **Raised visibility for what is possible with AWS Cloud** – Thanks to the success of the acquisition, Hess will look to build cloud solutions as alternatives to their on-premise capabilities.

Technology Used

- Amazon Virtual Private Cloud
- Amazon Web Services (AWS) Direct Connect
- Amazon Elastic Block Store
- Amazon Elastic Compute Cloud
- Amazon Simple Storage Service (S3)
- Amazon Glacier
- Amazon CloudWatch
- AWS Marketplace

About Equinix Professional Services for Cloud

Equinix Professional Services for Cloud (EPS Cloud) helps enterprises quickly and easily design, implement and optimize IT services to meet ever-changing cloud needs. All services and recommendations are carrier, service provider and technology neutral, ensuring every solution best meets each enterprise’s unique business demands.

Learn more at
Equinix.com/epscloud

EPS Cloud

Main: +1.212.202.5800

Email: epssales@equinix.com