

CASE STUDY

# Delivery Solutions



## Key Facts



## Project Dates

March 2020 →  
November 2020

Delivery Solutions provides retailers with out-of-the-box solutions to power Click & Collect, Curbside, Same-Day Delivery, Shipping & Post Purchase. They are trusted with some of the biggest names in multiple verticals of retail like Michael's, Office Depot, GameStop, Total Wine, Sally Beauty, Belk, Loblaw, Vineyard Vines, etc.

Delivery Solution's SAAS-based solution is highly flexible and interacts seamlessly with E-commerce properties, OMS, WMS, and POS systems for a highly scalable experience and a delighted customer base. They are out of the box connected to the biggest names in same day delivery like Uber, DoorDash, Postmates, Shipt, etc, with shipping providers like FedEx, UPS, USPS, and many more.

## Aim

To design a secure, highly scalable, efficient and powerful infrastructure to handle the large amounts of traffic that could fluctuate dramatically in a short period of time and to securely and reliably provide a seamless experience to end-users.

## Challenge

With the spike in shipping volumes brought on by the COVID-19 pandemic, Delivery Solutions helped many major retail chains deliver goods to their customers. Delivery Solutions required a secure and highly scalable infrastructure to handle the increased volume.

As part of a competitive market, Delivery Solutions needed an infrastructure that could reliably provide a seamless experience to end-point users. Slowdowns and downtime could quickly alienate their customers.

Most importantly, Delivery solutions needed to ensure customer data was always secure and handled in a fashion compliant with regulatory laws like PCI DSS and SOC 2 and passes all the attestation and infosec requirements of various retailers.

Ibexlabs was engaged by Delivery Solutions to help address the challenges with serving customers at scale while keeping security at the forefront.

## Why AWS?

There were two main areas of consideration that made Amazon Web Services the best choice for Delivery Solutions' hosting infrastructure. First, Delivery Solutions needed an efficient and powerful infrastructure that could handle the large amounts of traffic that could fluctuate dramatically in a short period of time. With its automated load balancing and pay-as-you-go structure, hosting through AWS assured that Delivery Solutions would have the tools they needed to work at scale, without costing them any more than what they needed to pay for.

Secondly, and most importantly, Delivery Solutions required a hosting infrastructure that their customers could trust to handle their private data securely. Even a single compromise in this area could lead to an irreparable loss of customer confidence. With its suite of security management, optimization and analytics tools, along with the scores of eCommerce companies that have already implemented its services, AWS brought Delivery Solutions and its customers peace of mind.

## Solution

Ibexlabs completed an overall assessment of Delivery Solutions infrastructure using AWS Well Architected Framework. As part of Well-Architected review, Ibexlabs focused on areas of Well Architected Review such as Security, Reliability which are part of the five pillars of AWS Well Architected Review. This analysis gave valuable insight into where there was room for improvement, especially in regards to security, reliability, performance and cost optimization.

Ibexlabs proposed a remediation plan to address some of the findings of the Well Architected Review and proposed migrating to AWS NIST Accelerator framework to ensure a segregated multi account access model, while setting up VPCs to ensure proper network segregation and data protections were in place. During this process, RBAC was set up to adhere to principles of least privilege, while still leaving a system that was secure and accessible to developers and did not reduce the ability of teams to respond to new challenges and opportunities.



"Ibexlabs has been a great partner for us in helping us with our cloud architecture and provide ongoing managed services support. They offer top notch service, and are highly responsive, and utilize industry best practices and solutions. I would highly recommend Ibexlabs to anyone looking for expertise in these areas."

Manil Uppal

## Delivery Solutions



"Ibexlabs has been a great partner in our growth journey. Their thought leadership around infrastructure security and reliability has helped support our exponential scale. Engaging with Ibexlabs has allowed our internal team to have access to an unbiased domain expert's perspective and accelerated accomplishing core infrastructure priorities."

Arshaad Mirza

## Delivery Solutions

## AWS Service Catalog:

AWS Service Catalog served as the cornerstone of Delivery Solutions' hosting infrastructure. With its preconfigured application stacks, AWS Service Catalog saved the development team immeasurable time and resources that would have otherwise been spent building everything from scratch. In the areas of security and compliance, AWS Service Catalog provided a centralized place for developers to manage the security status of their applications and assure continued compliance into the future.

Using AWS Catalog products, Ibexlabs established a multi-account target state VPC architecture, meeting the standards established by CIS, SOC 2 and other regulations. Through [AWS Transit Gateway](#), applications were able to share information securely, creating an efficient system that could be managed in a centralized fashion.

Ibexlabs also made available hardened infrastructure stacks using AWS Service Catalog which gave a repeatable and secure way to deploy infrastructure as new services are onboarded to Delivery Solutions. Also a tagging model was implemented in conjunction with [AWS Config](#) to properly tag and classify the inventory of servers.

## Security:

As stated before, Delivery Solutions could not begin utilizing their hosting infrastructure without every element of security and compliance in place. To that end, Ibexlabs leveraged a number of AWS security services to assure Delivery Solutions' compliance now and into the future.

To address the potential for cyberattacks, Ibexlabs established a web application firewall through [AWS WAF](#), which configures rules that allow, block, and monitor web requests based on certain predefined conditions. This served as the first line of defense against a number of potential cyberattacks, including DDoS and DoS attacks.

Proper data segregation and role management are central aspects to proper regulatory compliance. To this end, Ibexlabs implemented the [AWS Key Management System](#) to provide centralized control over encryption and decryption of data using Key Based Permission policies. This made it easy to create, delete, store and control encryption keys used to protect data stored across the infrastructure.

With the implementation of [AWS Guard Duty](#) and [AWS SecurityHub](#), Delivery Solutions was given the tools to understand the status of their security posture and their regulatory compliance. AWS GuardDuty continuously searches for threats through analyzing and processing data sources like VPC Flow Logs, AWS CloudTrail event logs, and DNS logs. And through AWS SecurityHub, Delivery Solutions had all of its relevant security information all in one easy-to-understand dashboard.

With these services implemented, Delivery Solutions' infrastructure met the both the standards and best practices necessary to do business in the eCommerce space, and assure the continued fidelity of its users' data.

## DevOps:

Once Delivery Solutions' security concerns were taken care of, Ibexlabs turned its attention to implementing services that could handle large amounts of data and respond to new events in an agile way.

To facilitate the resource management necessary to work at scale, Ibexlabs implemented the AWS Systems Manager. This allowed developers to see how EC2 instances, S3 buckets and other resources were handling incoming traffic, and quickly resolve any functional issues. These features, along with software patch management and parameter storage, made AWS Systems Manager an essential part of Delivery Solutions' hosting infrastructure.

To make sure Delivery Solutions could roll out new features and updates, without causing service disruptions, Ibexlabs implemented a number of services to assure a fluid CI/CD pipeline. Containerization through Amazon ECS eliminated dependency conflicts between services, and allowed developers to test new features and updates in controlled environments without affecting the larger infrastructure.

These services prepared Delivery Solutions to handle large volumes of user traffic without experiencing downtime. This placed Delivery Solutions among the most competitive businesses in its market, and made sure that it could continue to provide quality service as it continued to expand.

### AWS Services Used



Amazon Cloudwatch



AWS (IAM)



Amazon Certificate Manager



AWS WAF



AWS KMS



Cloudtrail



Security Hub



Amazon Inspector



Config



Amazon GuardDuty



AWS Systems Manager

### Third-Party Services



Jenkins



OpenVPN



CloudCheckr

## Results

In terms of security, Ibexlabs left Delivery Solutions with an infrastructure that not only met every one of their security requirements, but was optimized for continuous compliance into the future. With AWS SecurityHub and Guard Duty, Delivery Solutions now have a broad, detailed understanding of their security posture, and where new threats may arise.

As well as increasing Delivery Solutions security stance, Ibexlabs helped Delivery Solutions provide their service more efficiently and at a lower cost and with improved automation capabilities. With Amazon Web Services, Delivery Solutions has everything they need to grow their business into one of the most exciting in their industry.

## About Ibexlabs

Ibexlabs LLC is a DevOps & Managed Services provider and an AWS consulting partner. Our AWS certified AWS experts evaluate your infrastructure requirements and make recommendations based on your individual business or personal needs.

Ibexlabs believes in open communication, quality service, and custom solutions to the technical challenges of our clients. On Clutch.co, all our clients have the opportunity to detail our business relationship and report on Ibexlabs's successes and shortcomings. As of May 2020, Ibexlabs is proud to boast an overall rating of 5/5.

**Visit us on [Clutch.co](https://clutch.co)** to see all our client reviews.



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