

# The ShopAdvisor Solution

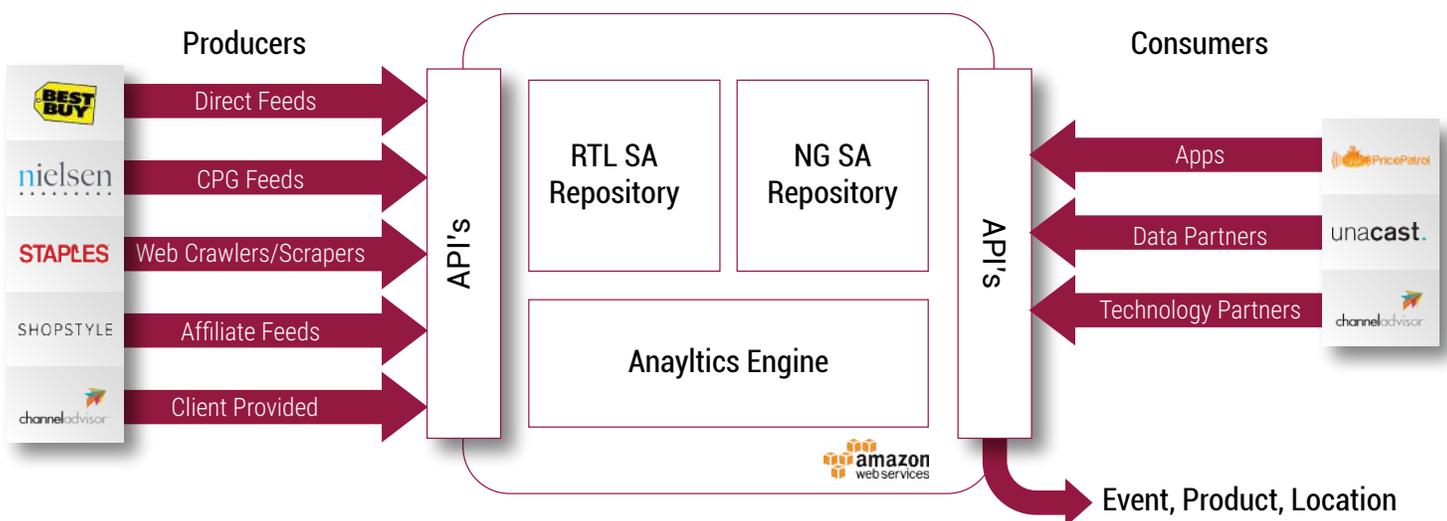
## INTRODUCTION

ShopAdvisor provides a rich repository of product availability, location and consumer behavior data that we harvest from direct data feeds, Nielsen (product availability and sales data), affiliate channels, web crawling, and customers. From this repository, we enable our customers to build drive to location proximity marketing campaigns, measure the impact of those campaigns and then use this information to inform future campaigns. Simply stated we enable proximity marketing by providing the insights digital agencies, CPG companies, restaurants, retailers and App partners need based on extensive multi-source data with analytics.

Customers use ShopAdvisor to build applications which range from using ShopAdvisor data to power store locators and product finders, that enable consumers to find specific products or a type of product (i.e. men's shirts), and the locations that have those products in stock and available for purchase.

## ShopAdvisor ARCHITECTURE

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We ingest our data into the platform from retailers, App providers, third parties (e.g., Nielsen, Gravy, etc.) as well as web crawlers. The ShopAdvisor solution employs a "serverless architecture" that utilizes Amazon's API Gateway and Lambda service to do a majority of the API processing. The API architecture consists of three components: The User API, Pre-Caching and Deployment.

## USER API

The User API is the front-end interface to the solution. Requests from the Internet are routed through this portion of the infrastructure. User requests are sent to the hostname and routed to the API Gateway using "Custom Domain Names." The API Gateway routes the API requests to the corresponding Lambda functions. The Lambda function processes the request and accesses the ElastiCache cluster and optionally the Cassandra ring and Elastic search cluster to satisfy the request. For a small set of retailers, a real-time query of their website is made to insure the product availability information is up-to-date. The request is formatted and returned to the API Gateway.

## PRE-CATCHING COMPONENT

In order for the API to handle requests quickly and efficiently, relatively static data is pre-cached into ElastiCache. There are currently eight types of pre-cached data:

**Subscribers:** api keys and subscriber information

**Retailers:** retailer information

**Locations:** retailer location information

**Geospatial Index:** geocoded retailer location data

**Product Mappings:** product data mapped by barcode, sku, and external id

**Postal Data:** US and Canadian postal code data

**Groups:** preconfigured group data

**Global Locations:** geocoded location and postal data for reverse geocoding

## DEPLOYMENT

The software life cycle management of Lambda functions and their associated resources requires the use of a framework. Serverless was chosen as the framework to manage the development, testing, and deployment of the ShopAdvisor API. Serverless manages the optimization, packaging, and deployment of your Lambda functions and associated resources. Serverless utilizes CloudFormation, allowing it to create and associate any resources needed for your project. Serverless allows developers to test the code locally as well as deploy the code to AWS for additional testing. The ShopAdvisor API deployment structure has been divided into three stages: Development (dev), Staging (staging) and Production (prod).

# PROCESS IMPLEMENTATION & MEASUREMENT

ShopAdvisor is connected to 50+ ad networks and exchanges for maximum digital media reach (display, video, social) across various audiences including demographic, psychographic, contextual, shopping habits, and brand category buyers. This insures we are reaching the right audience at the right time in guiding and measuring your next customer to nearby brick-and-mortar stores (or restaurants). Additional targeting options includes inventory availability, dynamic promotions, and high viewability. Custom rich media creative ad units provide a customized marketing message to each shopper by displaying relevant nearby store or restaurant information (including map to and click to call functionalities), weather messaging, local event promotion, video, social and a slew of other KPIs.

1.  **50+ AD NETWORKS**
2.  **PRE-CAMPAIGN ASSESSMENT**
3.  **RICH MEDIA CREATIVES**
4.  **POST-CAMPAIGN ANALYSIS**

## Rich Media Creative Examples



## Rich Media Interaction

## Breakout by:

				
Total Clicks	Total Impressions	Age Group	Gender	Income Level
				
CTR	Avg. Dwell Time	Day of Week	Hour of Day	Creative by Name
				
CPC	Bttn. Engagements	Device/Brand	City/Region	Education Level
	All Metrics Can Be Broken Down by Individual Retailer			
Foot Traffic				

Valuable insights into post campaigns reporting extends beyond impressions, clicks/CTR and include engagements such as foot traffic lift analysis, sales lift measurement, detailed audience insights, time of day, day of week, redemptions, conversions, geographical information, custom rich media creative engagements per KPI and more.



## CASE STUDY

During the fall of 2017, ShopAdvisor worked with an international CPG beverage brand to drive shoppers to purchase brand products at Publix Super Markets and to engage with influencer content. Post-campaign, ShopAdvisor provided geo-based sales lift and media performance analysis to determine its impact and success.



**4.8 million total impressions**



**0.33% Average CTR**



**11.13% sales lift in revenue** on targeted categories for assorted beverage products with a **12.92% units sales lift** in test regions compared to the control region.



Sales lift calculated comparing test, control, and all stores (test + control + unlabeled stores) YoY:  $((t/a)-(c/a)/(t/a))$

## SUMMARY

The ShopAdvisor solution provides a unique set of a scalable, cloud based architectural components available in real time for analytical efforts or direct application queries. This proprietary combination of software, architecture and process allows our customers to determine location of products, usage and ultimately availability. Our unique market insights and overlays provide the ability to optimize the placement of products and advertising decisions. This technology is designed to scale as needed, provide multiple analytical engines and ever varying as well as increasing sources of information we can maintain recent through our refresh processes. Overall the technology implementation provides a secure, real-time, unique repository for mining insights in an increasingly competitive retail market place.

For more information email [contact@shopadvisor.com](mailto:contact@shopadvisor.com)

