

PDX Inc. Creates Next-Generation Healthcare Insights as a Service for Pharmacies



CUSTOMER PDX

PARTNERS Looker + Snowflake



CASE STUDY

PDX, Inc., provides healthcare technology to pharmacies and pharmacy chains across the United States. Its products and services—including those from its affiliates Rx.com and NHIN—enable pharmacies to process prescriptions, manage reconciliation and adjudication, store and provide access to healthcare records, offer store-based mail order, improve patient outcomes, and help pharmacies remain competitive and compliant with industry needs and standards.

THE CHALLENGE

Delivering Insights from Pharmacy Data, Securely

10,000 or more pharmacies use one of two main PDX® pharmacy systems: the PDX Classic System or the Enterprise Pharmacy System (EPS). As part of a major growth initiative, PDX wanted to monetize and deliver value added analytics from these two systems to its pharmacy customers, thus providing them with a better picture of the patients they serve.

The challenge was to build a scalable and flexible analytics service, using data from various systems, that could be easily delivered to pharmacies across the country. PDX processes 5 million new or changed healthcare records in any given day.

PDX had an existing data warehouse based on legacy database vendor and Hadoop. But this existing environment posed a number of data processing and analytics challenges for PDX in relation to its new initiative, including:

- PDX had no way to analyze data across multiple pharmacies or across an entire pharmacy chain.
- As a healthcare company, PDX needed to comply with strict HIPAA requirements for patient data security and privacy - without sacrificing performance and ability to meet SLAs, not possible in current setup.
- The existing infrastructure lacked the performance to process large amounts of data. The only way to speed the performance of the legacy database system would be to purchase additional, very expensive, server equipment. For example, PDX might have to wait a week for 3 billion records to process.

PDX needed a better way to not only process its huge volume of data securely, but also enable the data to be analyzed to extract meaningful business intelligence.

WHY SNOWFLAKE + LOOKER

PDX set up a proof-of-concept (POC) competitions to find a new data warehouse and analytics platform. Snowflake was going up against legacy on-premises database platform, a Hadoop based solution and other cloud based data warehouse. Within a week of starting the POC, the Snowflake team was ingesting data into the cloud-native data warehouse and analyzing it. Meanwhile, the Hadoop and other data warehouse teams spent at least three weeks trying to stand up the environments, let alone analyzing the data. At the end of the POC, the clear winner was the Snowflake platform.

For BI side of the POC, PDX compared Looker to other popular visualization tools. Looker was able to achieve the desired query performance while needing only half the size of the Snowflake warehouse compared to other BI tools, due to writing efficient SQL and avoiding unnecessary joins. The PDX team also liked that Looker has an in-database application layer. This meant that as their data grew they would simply increase their Snowflake warehouse, without needing to scale the BI side separately.

Why PDX Chose Snowflake + Looker



EASE OF USE. A single interface with one portal page to log into your accounts, create new databases, and warehouses, manage permissions with a reporting tool that is easy to connect and can produce reports quickly.



SCALABILITY. Snowflake allows PDX to match user growth with the scalability and elasticity of a cloud data warehouse.



SECURITY. Snowflake provides security up to the application layer, with a HIPAA compliant environment. Data is encrypted the entire time - giving PDX complete control its data encryption and decryption.



ANALYTICS. Snowflake's native integration with Looker allows BI users to intelligently push down query processing to Snowflake in ways that take advantage of easy exploration and analytics of structured and semi-structured data (e.g. JSON, Avro, XML, etc).



SAAS APPROACH. The Snowflake SaaS approach eliminates the distractions of managing infrastructure, tuning knobs, managing indexes, or struggling to scale systems.



PERFORMANCE. Snowflake performed astonishingly better than the competition, right out of the box. Looker analytics could run alongside data loading without contention or performance impact, while requiring a 2x smaller warehouse for the same performance as the competition.

ACTION	LEGACY DATABASE + HADOOP (existing)	CLOUD DATA WAREHOUSE + HADOOP	SNOWFLAKE + LOOKER
Initial stage load	1800 mins	Incomplete	12 mins
Process large file	60 mins	18 mins	8 mins
ETL process	86 mins	Incomplete	12 mins
EDW processing	780 mins	Incomplete	7 mins

Overall, the Snowflake Elastic Data Warehouse enables PDX to analyze its data securely, faster, more easily, and with greater

agility leveraging its new data-driven capabilities to add revenue streams from new business models.

“We feel very confident that whatever we run into, we will be able to scale the Snowflake solution to meet the performance requirements of our pharmacy customers.”

— John Foss, Director of Business Intelligence and Manufacturer Reporting at PDX

HOW PDX USES SNOWFLAKE + LOOKER TO BUILD ANOTHER DATA-DRIVEN REVENUE STREAM

Implementing Snowflake and Looker has delivered a number of business benefits to PDX

