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

CUSTOMER PDX

PARTNER Snowflake

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 Huge Amounts of 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. Both PDX systems process an enormous amount of data such as transaction tables that typically contain 2.8 billion rows and 50 to 70 columns of data. In the past, PDX processed 5 million new or changed healthcare records on any given day.

PDX had an existing data warehouse based on legacy database vendor. 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 sales 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 diminishing performance and its ability to meet SLAs (service-level agreements) established contractually with its customers. This was not possible in the existing environment.

- The existing infrastructure lacked the performance juice 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

PDX set up a proof-of-concept (POC) competition to find a new data warehouse and analytics platform. One team used the Hadoop solution; another team used a cloud based Hadoop and data warehouse service; and another team used the Snowflake cloud-native Elastic Data Warehouse platform. Within a week of starting the POC, the Snowflake team was putting data into the Snowflake cloud-native data warehouse. Meanwhile, the Hadoop team spent at least three weeks trying to stand up a Hadoop infrastructure and configure it to be able to receive, handle, and process data. At the end of the POC, the clear winner was the Snowflake platform.

Why PDX Chooses Snowflake

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 analytics visualization tools 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. Analytics visualization tools could run could run alongside data loading without contention or performance impact.

ACTION	LEGACY DATABASE (existing)	HADOOP ON CLOUD	SNOWFLAKE
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
Record processing	200K / hr	Incomplete	16M / hr

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

Implementing the Snowflake data warehouse as a service has delivered a number of business benefits to PDX

Management

Eliminating the distractions of managing infrastructure, tuning knobs, or data warehouse management. All of this without hiring expensive resources.

Security

Providing a HIPAA Compliant environment where data remains encrypted throughout the entire process.

Delivering security at the application layer without diminishing performance.

Scalability

Scalability is easy today, against buying large capacity up front. Plus each time new customers are added to the service, PDX can scale the environment, and revenue from these customers is tied directly to usage.

Performance

Snowflake allows customers to run reports without taxing production systems, and managing workloads between BI users and data loading operations.
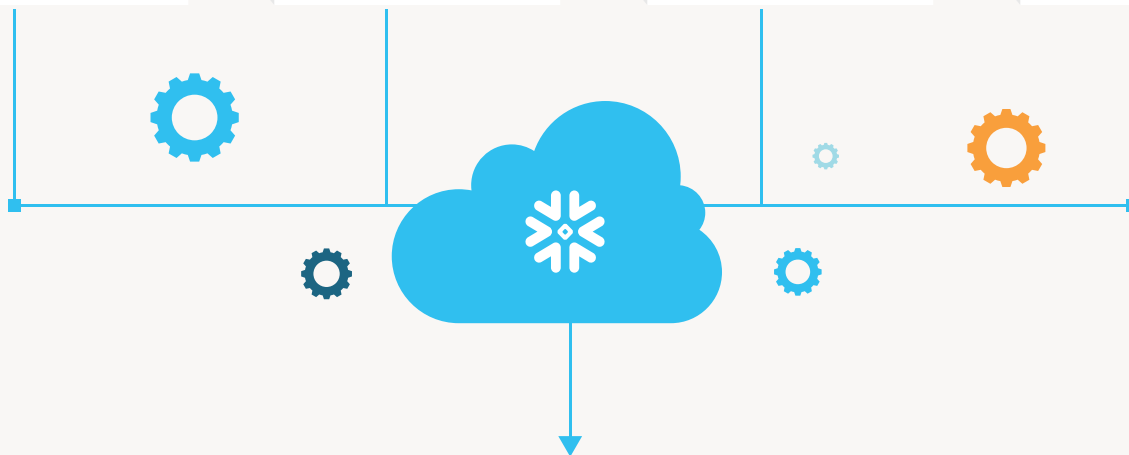
Driving Revenue

Adding an entirely new revenue stream as a data analytics solution provider for pharmacies throughout the country.