Pabis Retail

Leading retails transform sales data into actionable insights to boost revenues with the OpenText™ VerticaPy.

Who Is Pabis Retail?

Founded in 2008 in Mexico City, Pabis Retail provides an online analytics platform that helps retailers to improve their sales performance. More than 130 of the leading consumer goods companies in Latin America use the cloud-based platform to collate sales and inventory data, analyze consumer purchasing trends, and inform smarter operational decisions.

Challenge

To maximize sales, retailers need to distribute the right volumes of stock to the right locations to satisfy consumer demand. This represents

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PAULO RIOS
IT Manager
Pabis Retail

a hugely complex challenge. Often flawed inventory management processes lead companies to overstock some stores with products that subsequently go unsold, while other locations run out of supplies, missing out on potential sales.

This is where Pabis Retail aims to make a difference. The platform enables companies to capture and monitor sales and inventory transactions and use sophisticated analytics to determine the ideal stock levels for stores to optimize profitability. Launched over 15 years ago, Pabis Retail initially supported the platform with a traditional relational database architecture. However, as client numbers increased, challenges soon emerged.

Carlos Urguelles, managing director at Pabis Retail, explained, "Transaction volumes were rising rapidly, and response times were growing longer, especially in peak periods when hundreds of clients ran queries simultaneously. Data was difficult to consolidate and analyze, while maintaining the environment was a time-consuming task. To scale our business and continue to deliver high-quality services, we needed to change our approach."

Solution

Pabis Retail selected Vertica to support thousands of users running complex queries. Vertica

At a Glance

- **Industry**
  Technology

- **Location**
  Mexico City

- **Challenge**
  Manage increasing transaction volumes while continuing to deliver high-quality services

- **Products and Services**
  Vertica Eon Mode
  VerticaPy

- **Success Highlights**
  + Improved response times drastically
  + Supported sustainable client transaction growth
  + Empowered clients with true data-driven decision-making

in Eon Mode provided scalability to meet clients' changing requirements, while VerticaPy facilitated an AI-driven effective price simulator.

Optimizing Scalability and Performance

Realizing that it needed much greater query performance than a traditional row-based database could offer, Pabis Retail searched for an advanced columnar storage solution. Impressed by a customer reference for Vertica, the company selected the Vertica Analytics Platform as its new data warehouse.

Paulo Rios, IT manager at Pabis Retail, commented, "Of the data warehouse solutions we reviewed, Vertica stood out for its exceptional performance and parallel processing capabilities, which would enable upwards of 1,000 users to run complex queries concurrently. Also, we noted the Vertica platform would require minimal maintenance, saving us valuable time."

Deploying Vertica in Eon Mode running on Amazon Web Services is ideal with Pabis Retail's high transaction volumes. It provides the highest levels of scalability to tackle the most demanding client workloads. The architecture combines a central data repository with separate storage nodes, making it quicker and easier to add extra processing resources when demand grows, as Rios confirmed, "Eon Mode has been a gamechanger. Several major clients run massive queries at the same time each month, and the elastic scalability of Vertica in Eon Mode ensures we have the resources to meet their requirements."

Introducing an AI-driven Effective Price Simulator

As the team familiarized themselves with the AI-driven opportunities presented by Vertica, more use cases emerged to support Pabis Retail clients. Many clients want to understand how price changes can affect sales and overall revenue. To receive detailed insight, they would need to create interactive what-if dashboards where price changes are plotted against demand with a fine level of detailed elasticity analysis. However, to analyze this effectively for each product in each store, a two-year history of daily sales and price data needs to be searched. This is represented by millions of local data models that must be aggregated by week, filtered for extreme values, and pre-processed.

With the data volumes involved, even Vertica struggled to meet the requirements associated with creating a price simulator based on elastic demand. The data was batch-processed and published into Vertica, but the team found the execution times to be prohibitively long.

Putting Machine Learning to Work with VerticaPy

VerticaPy is the perfect blend of the scalability of Vertica and the flexibility of Python, bringing a unique and indispensable set of data science tools. It contains a Python library that is used for machine learning and data science tasks in conjunction with the Vertica database. It provides a Pythonic interface to interact with and leverage the power of Vertica for analytical and predictive modelling tasks.

Leveraging VerticaPy, the team could effortlessly build models to perform the complex calculations. These are optimized for efficiency and performance using many of the InDatabase scalable machine learning algorithms. Python scripts call SQL queries, and the results are directly published in Vertica.

Carenne Ludeña, director data science for Pabis Retail, commented, "We started using VerticaPy to solve our massive elasticity model generation for retail pricing, a process that previously took hours to complete. Using VerticaPy, powered by machine learning and AI-driven, we now receive results in almost real-time without any delay. We are very excited about the results and the huge possibilities Vertica provides."

Results

Vertica, leveraging Eon Mode and VerticaPy, boosted customer satisfaction with dramatically improved query response performance, enabling clients to adopt true data-driven decision-making. Pabis Retail can now support sustained company growth.

Improved Response Times Drastically to Boost Customer Satisfaction

By embracing the Vertica Analytics Platform, Pabis Retail has significantly improved its client services. Currently, more than 2,000 users run as many as 15,000 daily queries and enjoy much faster response times. With rapid access to information and analytics, clients can identify emerging trends sooner, and make more effective data-driven decisions about their sales, inventory, and distribution strategies.

Urguelles recalled, "Previously, we received inquiries from major clients about why queries were queued or took up to 40 seconds. With Vertica in Eon Mode, we have achieved a quantum leap in performance and dramatically reduced query response times. Our clients are much happier and have the critical data at their fingertips needed to optimize their sales revenues."

Supported Sustainable Growth with Billions of Client Transactions

With the ultra-scalable and robust Vertica solution underpinning its analytics platform, Pabis

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Retail has been able to grow its client base without facing performance issues. In total, the platform stores seven billion client transactions, with more than 20 million new records added daily.

Rios added, "The COVID-19 pandemic has radically changed consumer buying habits, and we have seen a huge demand from retailers looking to adapt by building smarter, data-driven strategies. Thanks to the Vertica platform, and the power of VerticaPy, we have accommodated their requests and achieved sustainable growth."

He concluded, "The Vertica solution has removed the technical headaches we faced, and whenever we need support, Vertica provides a swift and effective response. Our latest project with VerticaPy demonstrates the innovative AI-driven functionality Vertica is developing. Going from a query response time of hours to mere seconds makes an incredible and tangible difference to our clients. It gives us the confidence that the next stage of our collaboration with Vertica will be just as successful."

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