PETROSOFT
The power of knowledge

FUELING SAFER, MORE EFFICIENT PETROLEUM RETAIL OPERATIONS
with the Internet of Things

Gas stations are getting smarter - and Petrosoft is helping fuel this transformation. The company is harnessing Internet of Things (IoT) technology and embedded IBM® Informix® databases to give clients ultra-fast, up-to-date insight into all aspects of their fuel and retail operations, helping to boost safety, efficiency and profitability.

ABOUT THE CASE

BUSINESS CHALLENGE

Petrosoft had a vision to develop a new generation of IoT devices, designed to help fuel retailers gain faster, deeper insight into their operations. How could it bring the idea to life?

TRANSFORMATION

By embedding IBM Informix databases in its devices, Petrosoft enables clients to harness IoT data at the edge of the network and gain a clear view of information from a host of front-end systems.

RESULTS

Ultra-fast
insight helps clients run safer and more efficient businesses

100,000+
devices will be connected to Petrosoft's platform within the next year

Simple
scalability enables Petrosoft to add new clients from around the world

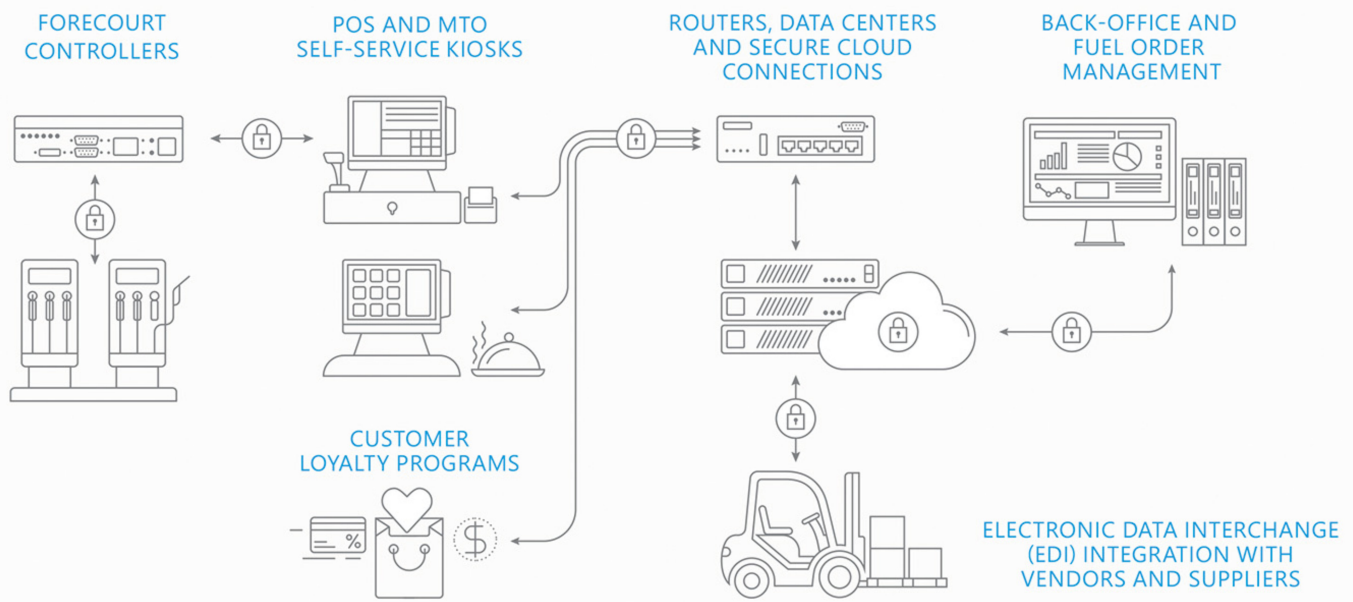# BUSINESS CHALLENGE STORY

TRANSFORMING FUEL RETAIL

When you stop at a gas station to fuel up or grab some snacks for the road, you probably get in and out without a second thought. However, for the retail operators running things behind the scenes, it takes a great deal of work to keep these everyday services flowing smoothly.

"We have big ambitions to expand the business to all corners of the globe, and support from strategic partners like IBM is key to reaching our goals."

- Sergei Gorloff, CEO, Petrosoft

Petrosoft was founded to help fuel retailers better manage their forecourt, in-store and back-office operations. Its founder and CEO, Sergei Gorloff, has first-hand experience of the challenges faced by retail operators: "I came to the United States in 1991 and worked my way up to running a network of gas stations and convenience stores. There's a lot that goes into operating this kind of business - you have to keep track of fuel, food and merchandise sales, maintenance, inventory turns, suppliers, and a whole host of other elements. At the time, I couldn't find any solution on the market that could help me manage all of it. So, I decided to develop one myself, and that's how Petrosoft was born."

FORECOURT CONTROLLERS

POS AND MTO SELF-SERVICE KIOSKS

ROUTERS, DATA CENTERS AND SECURE CLOUD CONNECTIONS

BACK-OFFICE AND FUEL ORDER MANAGEMENT

CUSTOMER LOYALTY PROGRAMS

ELECTRONIC DATA INTERCHANGE (EDI) INTEGRATION WITH VENDORS AND SUPPLIERS

Founded in 2002, today Petrosoft offers a range of cloud-based software, hardware and services, covering everything from point-of-sale (POS) systems, foodservice and fuel management to back-office operations and analytics.

One of the cornerstones of Petrosoft's software portfolio is its Direct Connect networking solutions, which provide retailers with a fast and secure way to keep pricing, sales, inventory, and loss prevention information up-to-date.

Sergei Gorloff elaborates: "Data is the lifeblood of our clients' operations; it delivers the insight they need to plan day-to-day activities effectively.

Our Direct Connect devices play a vital role in serving up this data - they sit on the edge of the IoT, interfacing with video, POS, foodservice, and automatic tank gauging systems. They then capture the data and store it in the cloud, before transferring it to back-office applications."

Petrosoft will soon be launching the next generation of Direct Connect, rolling out more sophisticated edge devices to process data from a growing number of connected systems.

Sergei Gorloff comments: "We're taking Direct Connect to the next level, packing more processing power and new capabilities into an incredibly lightweight device".

"The new devices will be managing a greater volume and variety of data than ever before, and to enable them to process this information rapidly and reliably, we needed an extremely powerful database.

Previously, we used open-source databases running on backend servers to process data from the Direct Connect devices. To achieve the higher levels of performance we were after, we wanted to embed databases on our edge devices, bringing processing closer to the data to reduce latency and cut response times."

"We were looking for an enterprise-class database that was truly tailored for use in an IoT environment, and IBM Informix fit the bill perfectly."

- Vladimir Peregoncev, CTO, Petrosoft

TRANSFORMATION STORY

EMBEDDED DATABASE ON THE EDGE OF THE IOT

Petrosoft selected IBM Informix Enterprise Edition as the strategic database platform for powering its next-generation IoT devices.


Vladimir Peregoncev, CTO of Petrosoft, recalls: "We were looking for an enterprise-class database that was truly tailored for use in an IoT environment, and IBM Informix fit the bill perfectly. With Informix, we get excellent scalability and strong security, and can manage both structured and unstructured data effectively. What's more, the platform has a very small footprint, making it ideal as an embedded database."

Sergei Gorloff adds: "Choosing an enterprise solution from a company like IBM means that we get a mature, proven platform that is backed by professional support. We know we can rely on IBM and that peace of mind is a great bonus."

Petrosoft took advantage of a flexible payment solution from IBM Global Financing to help finance the new Informix software and related support services. Sergei Gorloff says: "We found working with IBM Global Financing to be very easy. We were able to negotiate a flexible payment plan that allows us to conserve capital to meet other strategic needs - a big plus for a mid-sized company." numerous devices and systems used in clients' forecourts and convenience stores.
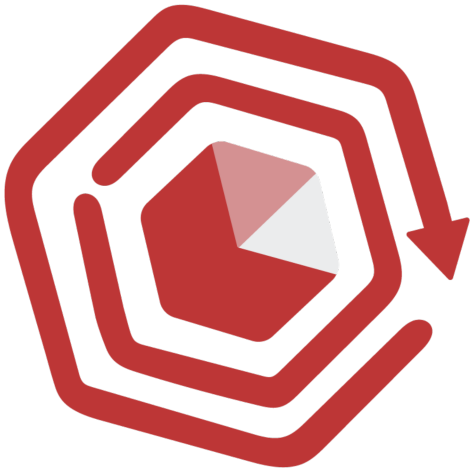
Petrosoft will also replicate that data to IBM Informix Advanced Enterprise Edition databases on its back-end cloud platform. Here, Informix provides enterprise class hybrid data management capabilities across various data types - structured, unstructured, time-series, spatial and more - and consolidates these disparate sources of information into a single source of intelligence.

Clients can then load the data into analytics and enterprise reporting systems to support better-informed decisions and optimize their operations.

To drive even shorter time-to-insight, Petrosoft will make use of Informix Warehouse Accelerator - a feature of Informix Advanced Enterprise Edition - to boost the performance of data warehouse queries. By using the same proven enterprise technology on both its cloud platform and embedded devices, Petrosoft will gain a truly end-to-end analytics foundation - helping it deliver rapid and reliable fuel information services to clients.

In addition, to ensure that clients have round-the-clock access to the latest data from their front-end systems, Petrosoft will use Informix High Availability Data Replication (HDR) to continuously replicate data from the primary Informix database to a secondary data server. This means that clients will be able to continue capturing and working with data even in the event of network downtime or a hardware failure.

Crucially, IBM Informix offers very fine-grained security - both for data in motion and at rest in the database. Sergei Gorloff explains: "Security is a prime concern for our clients, as they are trusting us with their operational data. Informix provides very strong encryption and data governance features, so we can rest assured that all data will be in safe hands."

RESULTS STORY

PUMPING UP PERFORMANCE

With its new generation of Direct Connect devices offering data management both in the cloud and at the edge of the network, Petrosoft can offer clients a much more powerful, reliable and efficient way to capture and aggregate data from connected devices and business systems.

Vladimir Peregoncev states: "By embedding databases on the Direct Connect devices, we can minimize the impact of factors such as bandwidth and latency on database performance. So, while the platform will remain connected to back-end systems via the cloud, it will be much less dependent on those connections, helping clients enjoy steady performance - a key benefit for clients in countries where internet connections are not very reliable."

Sergei Gorloff adds: "With Informix, we can manage a huge volume and variety of data in a very flexible way - and all on a single database platform. This allows us to serve up information to clients through their Direct Connect device faster than ever. With more rapid insight into operations, clients can make quicker, better-informed decisions about everything - from forecasting the quantity of fuel they should order for the coming week to planning what merchandise they stock in different convenience stores. Having this kind of control helps our clients to keep operations running smoothly, safely and profitably."

The straightforward scalability of the solution will support Petrosoft's ambitious plans to expand its operations. Currently, Petrosoft serves clients in 13 countries worldwide; it is planning to increase this to 27 countries in the next 18 months - adding thousands of new client locations and an even greater number of connected devices and systems.

"Right now, our Direct Connect devices interact with thousands of devices at clients' facilities, but we expect that number to grow to more than 100,000 connected devices by the end of 2018," notes Sergei Gorloff.

"Having an enterprise-class database like Informix at the heart of our solution will make it possible for us to scale up to support this huge growth in client numbers and data volumes without missing a beat."

He concludes: "Petrosoft has been growing steadily over the past decade, and we have no intention of slowing down. We have big ambitions to expand the business to all corners of the globe, and support from strategic partners like IBM is key to reaching our goals. With leading technology like IBM Informix powering Petrosoft solutions, we are opening up new insights for our clients that help them fuel innovation and run more efficiently."

ABOUT PETROSOFT

Petrosoft offers end-to-end technology solutions for the retail petroleum marketplace, helping clients to manage their in-store and back-office operations more efficiently. From its headquarters in Pittsburgh, Pennsylvania, Petrosoft supports its point-of-sale, foodservice, fuel management, and back-office product lines, as well as its integration with industry-leading technology partners.

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