Paying it forward with connected smart meters—and beyond

N.V. Elmar sparks efficient innovation
with IBM Cloud Pak for Integration

by Kristin Fern Johnson

5-minute read

A ruba. The very name evokes images of pristine beaches, turquoise waters and perpetual sunshine. What may not come to mind as readily are the richly diverse cultures and lives of the Dutch Caribbean island's 120,000 permanent residents.

N.V. Elmar has been the sole distributor of electricity to that citizenry since 1923. The company serves 50,000 customers on the island, in partnership with the local water and energy supplier. Innovation has long been part of the company's ethos, as was evidenced in 2017, when N.V. Elmar conducted a pilot of smart meters for a small group of customers. Gradually that pilot expanded into a full-blown implementation.

"When the number of smart meters started to grow, we needed a way to manage them," says Ivan Ng, IT Project Manager at N.V. Elmar. "The smart meter program relied on multiple systems— our billing system, our customer relationship management system—and we needed a way to manage the data

coming in from those smart meters and to enable those underlying applications to communicate."

The integration between the smart meters and the company's billing system was the first priority. Customers prepay for electricity. When an account runs out of funds, the company needs quick notification so it can stop service and then start it again as soon as payment is made.

Previously, N.V. Elmar performed ad hoc integrations between its internal applications and systems using homegrown methods, which could cost up to USD 50,000 per integration. The company needed a faster, more efficient, more cost-effective way to create those integrations.

Processing capacity for smart meter updates increases from 15 per minute to

50

per second

Ease of use enables existing staff to save the cost of

2

additional full-time engineers

Fast track to easier integrations

Initially, N.V. Elmar assumed IBM was too big, and most probably too expensive, to cater to the needs of a relatively small organization. But an IBM representative who was visiting Aruba heard about the company's situation and set out to change that mindset. In fact, he explained, IBM had the perfect solution: IBM Cloud Pak® for Integration, which is optimized for deployment on Red Hat® OpenShift® on any cloud or IT environment.

During a week-long workshop, the IBM Cloud Integration Expert Labs team showcased two scenarios of the solution highlighting how its application

integration and API management capabilities could help N.V. Elmar: one connecting electricity usage data from smart meters to the company's billing system—the original use case—and another connecting the N.V. Elmar website's customer portal with

the company's enterprise resource planning system, which houses customer data and other pertinent information.

In addition, an IBM Cloud Pak for Integration client in Curaçao conducted

a live demonstration of the solution, showing the benefits of its application integration and API management capabilities.

The demonstrations convinced N.V. Elmar that not only could the IBM solution fulfill its needs, but that IBM was the right partner to do so. "We wanted the application integration capability to act as our enterprise service bus," says Ng. "And we wanted the API management capability to handle incoming requests when we service outside calls in the future.

Visibility was really key in that area, providing a platform for our third-party partners to integrate with us."

The implementation of the application went smoothly, thanks to great teamwork. "We had two consultants assigned to us," says Ng. "They were onsite with us, building and installing the servers. We created three environments: development, test and production." The IBM and N.V. Elmar teams started implementing the solution in late November of 2018 and were done by March of the following year.

Almost immediately, N.V. Elmar was able to use the application integration capability to create integrations on its own, thanks to user-friendly features in the solution. "We don't have a full-blown internal development department," says Ng, "so it was important to us to have a platform that didn't require a development background to implement. And the graphical interface allows us to drag and drop and see the workflows graphically. It made it much easier for people to pick up."

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Ivan Ng, IT Project Manager, N.V. Elmar

A look to the future

Today, N.V. Elmar has significantly increased its ability to handle status updates from its smart meters with IBM Cloud Pak for Integration. Previously, smart meters were programmed to send messages one time per day, totaling 15 messages per minute for the entire system. Now, updates are sent every 15 minutes per meter, for a total of approximately 50 messages per second. Within the next three years, the company plans to fully deploy smart meters to all 50,000 of its customers—nearly tripling the current load.

"That is a lot of data we're gathering with the IBM platform, and the application integration capability sits at the heart of all our processes," says Ng. "We now are able to integrate any

endpoint into the IBM Cloud Pak for Integration platform. We really trust its stability—its processing and expansion capabilities. It works very well for us."

The company also continues to consult with IBM on an as-needed basis. "We purchased a few additional weeks

of professional services just to help us speed up our implementations," says Ng. "We've had great IBM colleagues assigned to our projects. And it's worked out extremely well for us. Every quarter we are putting something new into production."

Next up for N.V. Elmar is to use IBM Cloud Pak for Integration to integrate its 11,000 smart streetlights to understand usage and gain visibility for troubleshooting purposes if something goes wrong. It's also planning to integrate its smart charging stations for electric vehicles.

And within the next year, the company will begin using the API management capability of the solution, the rollout of which was postponed due to COVID-19. "Hopefully in the future,

we can move everything from the Elmar API for our smart meter program into the application integration and the API management components of IBM Cloud Pak for Integration. At least, that's the roadmap that we're looking into," says Ng.

Farther down the road, the company is looking into incorporating AI into the solution through a chatbot. By connecting to the application integration layer, the chatbot could access information from company

back-end systems related to such things as billing inquiries, service requests and status updates.

The company continues to enjoy the ability of the solution to drive innovation through self-service—and keep down costs in the process. "We really wanted to be able to implement it ourselves," says Ng. "And the ability to rapidly innovate was key for us. From a cost perspective, it's saved us from having to pay and train two additional developers."

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About N.V. Elmar Aruba

Founded in 1923, N.V. Elmar (external link) is the sole distributor of electricity for the island of Aruba. The company serves 50,000 customers from its headquarters in Oranjestad, Aruba. Its parent holding company, Utilities Aruba N.V., also owns W.E.B. Aruba N.V., which produces the island's electricity and produces and distributes its water supply.

Solution component

- IBM Cloud Pak® for Integration