

How Nomanini built its remote POS voucher platform

The World Bank estimates that 66% of people living in Sub-Saharan Africa do not have bank accounts. Instead, they rely on cash and other methods (such as prepaid vouchers) to buy services ranging from airtime, electricity, and insurance, to goods at informal markets.



Daniel Acton, regional tech lead, Google Cloud.

Pre-paid vouchers are becoming increasingly prevalent, but managing payments from vendors who sell the vouchers, and distributing the vouchers to people who live in remote areas, present huge logistical challenges.

This is where South African-based enterprise payments platform provider Nomanini (meaning ‘anytime’ in Siswati) comes in. The company has built a handheld prepaid vending terminal that links to a cloud-based transactional platform. This creates a direct link between remote points-of-sale to service providers and prepaid distributors.

“This increases voucher availability, gives resellers a better margin and enables more people in remote areas to access these basic services at a fair price,” says Vahid Monadjem, CEO of Nomanini.

Daniel Acton, regional tech lead at Google Cloud, says: “Nomanini uses a number of Google Cloud Platform (GCP) components. Each point-of-sale terminal in the field connects to an endpoint on App Engine, which uploads transaction data and sends pertinent data such as vouchers and sales times back to the terminals. From there, the data moves into processing task queues running concurrently on App Engine. [Google Cloud Datastore](#) serves as a transactional database, running batch jobs to reconcile each day’s financial information.”

Nomanini also relies on [Google BigQuery](#) and [Google Prediction API](#) to analyse terminal data and send sales trends and predictions back to the regional distributors, which use a dashboard to access the information.

The platform averages about 20 to 30 queries per second running on 10 to 20 instances on App Engine. “It’s not huge, but it’s very consistent. For Nomanini it was all about the availability. Any time the system goes

down, it will have a huge impact on their clients,” Acton notes.

GCP supports Nomanini’s need for a high-performance platform while obviating the need for software engineers to spend time on administrative chores. “We don’t have to worry about the infrastructure, because Google does that for us,” Monadjem says.

He estimates that App Engine saves the equivalent of one full-time position in a team of six. “That gives us 15% to 20% productivity boost, because now that person can work on new features for our product,” he adds.



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Nomanini uses App Engine to deploy six to 10 continuous software updates each day, as well as a firmware update across all of Africa about once a week.

“Continuous improvement on products is huge for Nomanini, and Google Cloud Platform makes it really easy. Nomanini’s developers just set up scripts, click a button to deploy to App Engine and seconds later the changes are live,” says Acton.

The company has started using [Cloud Monitoring](#) to pinpoint possible technical issues, such as problems with connectivity. “Nomanini can instantly see it and notify the client, often before they even notice,” says Acton. This proactive approach strengthens Nomanini’s customer relationships, as does the BigQuery-based market analysis the company shares with clients. A misstep with ordering stock can cost a vendor a day’s worth of sales, an expensive mistake in such a narrow-margin marketplace.

“BigQuery gives Nomanini very rich reports that help resellers understand how much stock they need to have on hand, and how to better deploy their field workers,” says Acton.

Nomanini currently has over 1 000 active terminals in Africa – specifically in Ghana, Kenya, Mozambique, Namibia and South Africa. One million end-user transactions hit the company’s cloud platform each month with 800 to 2 000 transactions per terminal, per month. “Our target is to have one million merchants’ point o

sale terminals active by 2020,” says Monadjem.

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