Retailers need architecture and redundancies tailored to local conditions to avoid downtime and lost sales

By Niel Coetzee   11 Apr 2024

South Africa felt the full impact of internet disruption when four of the nine undersea cables providing connectivity to these shores went down at the same time in the middle of March. The disruption was widespread and affected businesses across industries.

Niel Coetzee, head of engineering at redPanda Software. Image supplied

However, while some industries can afford to defer services due to internet downtime to a degree, retail, especially FMCG, starts losing money the moment stores cannot complete transactions.

This is especially true for small and medium-sized retailers who may have access to tier-one solutions but not the architecture and redundancies required for local conditions. The solutions they use are often fully online, which provides superb functionality 99% of the time.

Usually, when the primary internet connection drops, the retailer can switch to SIM-based functionality, but when that's not available or when international connectivity is down, they have no other backup.

This does not mean that large, or enterprise retailers are necessarily exempt from disruption when there are connectivity disruptions, however, many of South Africa's large retailers host their cloud services internationally.

Hyperscalers are opening local operations in South Africa, and this is to be applauded, but some currently do not offer their full suite of offerings locally, necessitating the need to look abroad. However, this becomes a problem when the whole of Southern Africa's international connectivity goes down or is severely affected.

Retailers and specifically FMCG merchants have time-sensitive transactions and unlike some other industries, will lose the sale if the customer cannot complete the sale at that moment.

Understand the dynamics of retail in SA

Retailers should seek out partners who have a deep understanding of the dynamics of retail in South Africa and on the continent. They need to have peace of mind that their partners possess the requisite experience to adequately consult on their solutions, knowing which services need to be available offline and which need to be backed up in the form of edge server capabilities for example.

To the backdrop of needing 100% uptime, tailoring a solution within a modern environment with redundancies in place is a challenge, precisely because international products are not designed with the types of events that are par for the course in South Africa – such as prolonged and regular power cuts, areas with low connectivity or international connectivity failures and their potential effects on operations.

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The right partner will be able to introduce a retailer to best-of-breed solutions that do have redundancies built into their products, as well as advise on what needs to be done during implementation from a redundancy and infrastructure perspective. While these conversations may be more common in enterprise settings, they're just not front of mind in midsized and smaller environments.

While there may have been concerns about the cost of building in redundancies before, the advent of dockerised and componentised deployments has made it far more affordable. It has enabled retailers to only deploy services they require, without the need for large form factor, expensive in-store solutions.

Setting up proper redundancies should not be seen as a grudge purchase; on the contrary, it is the prudent thing to do to manage risks in our unique context. This scenario with four cables going down simultaneously is not a common occurrence, but breaks will occur again, and the question remains: What will retailers do to mitigate and safeguard against these kind of loss-generating scenarios?

A good starting point is to work with a retail specialist partner that can take a retailer through the optimum setup of its architecture by knowing which questions to ask. It is crucial this specialist retail partner has proven capability to consult on large deployments and effectively find the right solution for the retailer to mitigate these risks.

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