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Edge changes everything

Centralise, decentralise, centralise again.

By **TAMSIN OXFORD**

Supplied

According to Forrester's Predictions 2021, edge computing has finally graduated from science project to a solution that offers real value – value that's being driven by the evolutions in AI and 5G. Deloitte believes that the intelligent edge offers the business improved efficiencies with faster response time, improved automation and greater network visibility.

"While the intelligent edge is a philosophy that seeks to solve problems to improve technical efficiency, at its core, it's seeking to solve systematic efficiency," says Kyle Hauptfleisch, MD at Basalt Technology. "This catch-all term is given to pushing processing right to the front line, data analysis done as close to the source as possible. This not only reduces latency and operational costs, although the initial outlay is more significant, it also reduces the risk of a breach."

There's hefty research by leading firms and analysts that points to the myriad benefits of the intelligent edge, but the business does have to consider how this influences cloud infrastructure and architecture. The edge consists of operational technology edges, Internet of Things (IoT) edges and IT edges, and each has its own limitations, requirements and applications. As the industry recognises the value of the technology, it will continue to move towards more decentralised compute environments, complementing existing cloud infrastructure.

"The biggest impact is usually on the network," says Varsha Ramesar, managing executive of data and analytics at iOCO. "As companies move their applications closer to customers, latency becomes more important. Cloud, in general, is built to support low latencies, but when we start catching content at the edge, the network has to support extremely low latencies. Some service providers, like AWS, have made provision for this in some areas, but at the moment, there's no AWS edge infrastructure in Africa."

Benefits of edge

This means that, arguably, an effective move to the edge is dependent on where a company is based geographically. This can be managed by using smaller compute platforms outside a centralised environment to reduce a datacentre footprint while not necessarily affecting cloud costs. Organisations will also have to deploy edge nodes and have cloud-native apps that ensure that the edge is capable of delivering on its promises, as well as on a serverless infrastructure. In short, it's one cost swapped for another. Organisations will have to spend money to move to the edge and this includes the development needed to ensure that applications function properly, that the right infrastructure is in place and that there's investment into data ecosystems that are designed to get the benefits that the edge promises.

"The intelligent edge is all about data and analytics, about getting the right information to do the right things and make the right decisions," says Ramesar. "Having the infrastructure in place means nothing if the devices at the edge aren't informing the business in real-time."

As with any new technology, the intelligent edge is going to ask the business to fork out in order to get

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back. However, the benefits of this investment are not vague hype and wishy-washy promises wrapped in statistics. There are measurable and tangible results to be found hanging on that edge.

Darren de Vries, SADC channel partner manager at Seidor Africa, says: "A return on investment in the intelligent edge can be realised sooner due to the cost savings on reduced infrastructure and datacentre requirements. The key feature of this edge is its ability to analyse and act on data in real-time, which translates into tangible business benefits such as reduced network latency and improved speed and productivity."

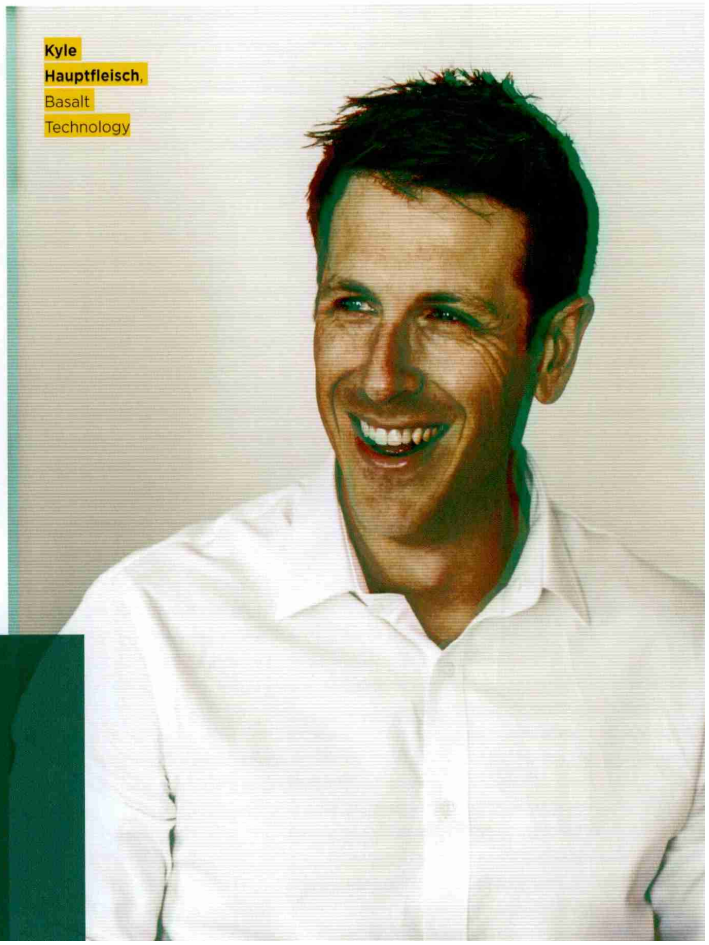
There is relevance in this investment. After all, the value of the data generated by all those connected devices can only be found if it's processed, analysed and used properly. If this is done centrally, there are delays. Ultimately, cloud is about providing OPEX-powered, consumption-driven solutions, but it isn't designed to hover expectantly on the edge. It's still useful and relevant, but the push to the edge allows for valuable improvements to security, latency and real-time decision-making.

Opportunity

The edge is currently proving its worth across multiple sectors, but perhaps the most prominent is manufacturing. Already this sector is leveraging the capabilities of IoT to conduct predictive maintenance and speed up operations leveraging speed of insight to catch problems before they become expensive. In healthcare, this is not as advanced, but already the slow move of data to the edge is rapidly shifting diagnostic possibilities.

"We're seeing an increase in independent solutions that work cohesively together to deliver high-performance, high-delivery data storage, together with validated virtualisation design, along with security information and event management (SIEM) for real-time security monitoring, threat detection, forensics, and incident management," says Hayden Sadler, country manager for South Africa at Infinidat. "This is enabling companies to reduce risk, contain storage costs and meet governance and compliance mandates."

The edge will ask you to address your cloud infrastructure and revise your architecture. It will ask you to sign on a few more dotted lines and to revisit your datacentre, compute and connectivity. But as Keith Matthews, country manager for South Africa and sales director of Sub-Saharan Africa at Orange Business Services says: "It allows businesses to be more productive and remain cost-efficient. It's an imperative to which any company can relate. How to do more with less is driving most corporate strategies in fast-paced and competitive environments. And the leaders of the pack are turning that constraint into opportunity."



Kyle Hauptfleisch, Basalt Technology