Intelligent connectivity critical to boost competitive vitality, organisational adaptability

What do more than five billion global internet users need every day? The answer can be summed up in one word: ‘connectivity’. In a world marked by extreme disruptions and growing fragmentation, the need for intelligent connectivity has never been more critical.

So says Jaap Scholten, COO at eNetworks, an internet service provider (ISP), network specialist and a Datacentrix company, and Head of Group Hybrid ICT Strategy at Datacentrix, who notes that connectivity is no longer a standalone, isolated item.

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The role of data centres in facilitating connectivity

Scholten outlines the importance of network peering to significantly improve the user experience, namely the interconnecting of two or more networks at a mutual point to exchange internet traffic directly; content delivery networks (CDNs), which are geographically distributed networks of proxy servers located in multiple centres, with the goal of providing high content

availability and speed; and the role of data centres in concentrating ultra-low latency interconnectivity.

“We can’t put enough fibre in the ground quickly enough to keep up with our customers’ demands for speed and bandwidth,” he explains. “And so, in response, when we design networks today, we advise our clients to place their previous on-premises infrastructure within a data centre. Here, we find very short fibres that are super-fast, with multi-gigabyte speeds and ultra-low latency, and which are highly reliable – everything inside a data centre is highly controlled.

“The ecosystem inside a data centre provides access to cloud services, CDNs, financial services, ERP and AI as a service – to name but a few options available. We are then able to configure all our clients’ branches, including the head office, to act like a remote site – as long as they have connectivity to a data centre that is constantly available. This means that if the head office, which previously would have hosted all the organisation’s IT services on its premises, goes down, the branches are not affected by the head office outage and are still able to carry on with business as usual.”

The importance of peering

Scholten notes that during the previous dial-up era of connectivity, internet traffic in South Africa between Cape Town and Johannesburg went via London and was expensive and latent. With the building of the first internet exchange in Johannesburg in 1996, named JINX (Johannesburg Internet Exchange), access to content via this multi-provider peering point meant that the local user experience was vastly improved.

“The peering traffic inside the data centre is important,” he says. “Today, we estimate that between 70% and 75% of local traffic is handled between local peering networks, and access to peering is multi-gigabyte, which means that the user experience is vastly improved. CDNs hand off content, that is web traffic, at the closest point to where it’s being consumed. For example, most popular YouTube content is served out of Johannesburg, and if your ISP is significant, it will carry a local copy of this content.

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“When we look at the statistics of some of the e-commerce sites that eNetworks hosts and facilitates, 90% of their traffic is transferred on CDNs hosted in KwaZulu-Natal, the Western Cape and Gauteng. Apart from enhancing the user experience, this also means that the root server is generating only 10% of this content, which presents a significantly smaller attack surface from a security perspective. Thus, CDNs, data centres and peering traffic play a significant role in improved local connectivity.”

With regards to sovereignty, Scholten believes the South African market is now mature enough for organisations to host data and consume cloud and security services within the borders of this country.

“Today, we can move data around, back it up and send to customers without needing to leave the borders of South Africa,” he clarifies. “In addition, into the SADC region and beyond, we have partners to provide us with access routes up the east and west coasts of Africa.”

Concludes Scholten: “Your connectivity determines your user experience, yet every link in the chain has to be optimised and just right, otherwise the user experience suffers. Maximising new components of connectivity will boost competitive vitality and organisational adaptability.”

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