



Empowering Africa Via Fibre Networks

A background image showing a dense array of fibre optic cables in a server rack. The cables are illuminated from below, creating a series of bright, glowing points and lines that recede into the distance, giving a sense of depth and connectivity. The overall color palette is dominated by cool blues and whites.

The Rise of Interconnection Ecosystems in Africa

Prepared by

Rack Centre

info@rack-centre.com

Introduction

Africa is currently the least connected continent, with just over a quarter of its 1.3 billion people connected to the internet, according to stats released by RTI International, an independent non-profit research institute, in conjunction with Facebook in 2020.

For years, Africa's Internet traffic was mainly exchanged in Europe and North America, combined with limited or expensive cross-border terrestrial connections or undersea fibre transit. The net result was not only reduced performance, but barriers to growth were created, innovation was stifled, and operational efficiency was limited. The increasing spread of interconnection locations across the continent has improved the situation. This is set to improve even further with Facebook's recent investment in 2Africa, a sub-sea cable project, which will interconnect 23 countries in Africa, the Middle East, and Europe. Other notable projects connecting Africa are Google's Equiano and Djoliba by Orange (covering eight countries in West Africa); Liquid Telecom's Cape to Cairo cable and the ongoing East-West cable from Addis Ababa to Lagos.

These high-capacity fibre-optics undersea and terrestrial cables connect countries throughout Africa and the rest of the world. It has not only shortened communication routes but contributed to keeping traffic local.

Why Africa Needs More Interconnection to Improve its Network Quality and Coverage and Drive Economic Growth

This timing is critical as digital transformation continues to sweep across the globe, creating a newer playing field and placing significant pressure on businesses to adapt or die. To truly enable a business to embrace digital transformation, interconnection is needed. According to Gartner, digital businesses are enabled and enhanced through high-speed, secure, low-latency communication among enterprise assets, cloud resources, and an ecosystem of service providers and peers. Architects and IT leaders will need to consider carrier-neutral data centre interconnection as a must-have digital business enabler.

We see ecosystems as a next generation hub where enterprise, content, cloud, media, and telecoms companies interconnect. Businesses are starting to discover the advantages that come from colocation-based interconnectivity. Those who do are now able to deliver to clients, where before, it seemed daunting, expensive, and potentially impossible.

Research by the International Telecommunications Union (ITU) shows that 10% increase in broadband penetration results in 1.8% or 2.0% increase in GDP in middle income or low income countries respectively.

Dr Ayotunde Coker, Managing Director of Rack Centre, says that digital enablement can most efficiently be achieved via carrier neutral and efficient interconnections. “Developing ecosystems within carrier neutral data centres are vital to digital enablement and connectivity overall: “Customers can save up to 30% or more on connectivity costs from access to the carrier neutral ecosystem of carriers, ISPs and Content Delivery Networks”, says Coker.

Creating and Connecting the World’s Largest Free Trade Market

The World Bank states that sub-Saharan Africa is creating the world’s largest free trade area and, subsequently, a potential market of 1.2 billion people. In doing so, it is creating an entirely new development path, harnessing the potential of its resources and people. However, the question remains: Will the various subsea cable and other projects connecting Africa meet the continents’ requirements?

RTI International completed a series of studies, in partnership with Facebook, analysing the economic impact of sub-sea cables and the improvement in connectivity they delivered on six countries in Sub-Saharan Africa.

According to its report for Nigeria, subsea cable landings completed since 2010 resulted in a 7.8% increase in employment likelihood (in areas connected to fibre). This means that for every 1 million people living in areas connected to terrestrial fibre, 78,000 additional people will become employed.

The Importance of Carrier Neutral Data Centre Interconnection

An often-asked question is what happens to the data once it’s transported in-country? This is where the importance of the carrier neutral data centre hosting an IXP comes into the equation. Carrier neutral data centres are critical pieces of infrastructure that enable the convergence of all the players in digital infrastructure eliminating all barriers to interconnection. Telecom, cloud providers, OTT, CDNs, enterprises are now able to interconnect a lot more seamlessly than ever

before and are therefore delivering better quality services to their users and customers within their relevant ecosystems.

Alan Mauldin, a Research Director at TeleGeography, a telecommunications market research and consulting firm, states that there is still plenty of unlit capacity on major undersea cable routes. In 2019 the unlit capacity into sub-Saharan Africa was over 80%.

The Internet is becoming more accessible to Africans! If we look at these statistics and the fact that the internet is becoming more accessible to Africans, then the importance of data centres are coming to the forefront. The data centre enables reliable internet connectivity, which is a critical element for telecoms and cloud providers. This is especially relevant these days with remote work and online communication vital elements for their customers to operate efficiently.”

Operating within a vendor-neutral interconnected data centre enables enterprises to not only house their infrastructure but, more importantly, seamlessly interconnect and exchange traffic. Peering within the data centre is another benefit, enabling enterprises to share traffic within this ecosystem and only going through an ISP/carrier where necessary, improving connectivity and reducing costs.

The Growing Role of Internet Exchange in Interconnection

In Europe, many Internet Exchange Points (IXPs) have celebrated over two decades of success. In West Africa, peering with route servers and other member networks through the physical connection into the Internet Exchange Point of Nigeria (IXPN) hosted at Rack Centre has created scale and a sense of community within growing ecosystems.

In a 2020 [Internet Society \(ISOC\)](#) study of the growth of IXPs in Africa, with Kenya’s KIXP and Nigeria’s IXPN as reference points, revealed that approximately 70% of traffic is localised. In 2013, the localised traffic was at 30%, a growth of 133% in 8 years. The increase in localisation of traffic is a clear indication of a thriving interconnection ecosystem.

Today, IXPN’s traffic has hit 220Gbps, a tremendous growth compared to 300Mbps peak traffic in 2012. When compared to the peak traffic of the biggest internet exchanges in the world like IX.br, DE-CIX, AMS-IX, LINX, the growth potential is staggering. And this is driven by the power of interconnection.

Expansion of the Ecosystem

A fundamental shift in approach is visible, according to Gartner. When combining interconnection with high-speed enterprise access to the multi-tenant data centre and include enterprise assets such as compute, storage and, in particular, networking, located in the multi-tenant data centre, it brings the enterprise and its applications to the network, as opposed to the outdated model of bringing the network to the enterprise.

What is exciting is the expansion of the ecosystem and all the new entrants due to the growth of the cloud. These exchanges and cloud providers will need access points at the edge of the network: carrier/vendor neutral data centres are strategic platforms for all participants within the interconnected ecosystem. With an open, flexible approach and design, data centres make it fast, easy, and cost effective for clients to interconnect and procure digital services. In playing this crucial role, data centres support local communities, eliminate, or minimise latency impacts, and enable businesses to become part of tomorrow's digitally enabled ecosystem. The efficient ecosystem brings global Cloud platforms to the customer's proximity, enhancing the customer experience with low latency.

Conclusion

Data centres empower their customers.

A data centre provides the environment that will empower customers, from both the private and public ecosystems, to host and keep their data and core systems working in an optimal environment. The result is high-quality connectivity that gives people a voice, creates opportunities, and strengthens local and global economies.