Building Africa's Digital Future
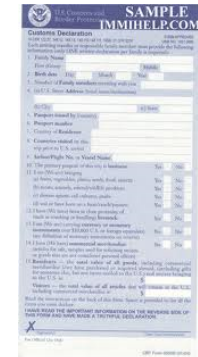
Cross Border Challenges

- Distances are vast – thousands of kilometers
- Terrain is often tough, lacking power, security, and infrastructure needed for regeneration / repeating
- The regulatory and legal compliance issues can be hard to navigate
- Some rare cases can be conflict zones or have trade restrictions

Travelling Across a Border

You need

- A valid document to be present on both sides of the document (Passport + Visa)

- A means of travel (Plane, Train, car)

- Proof of payment of that means of travel (ticket, vehicle log book)

- To declare any goods you carry across and pay appropriate taxes

- A reason to go (holiday, business etc)

You might need or useful to have

- Yellow Fever Certificate

- Local currency in the country you go to

- Local currency to spend when you get there

- Different clothes and equipment appropriate to the weather/climate and activity you are going to do

Connecting Network Across a Border

You need

- A valid licence to operate appropriate telecoms services on both sides of the border
- A means of crossing the border (road route, rail route, overhead lines, undersea cable)
- Permission to cross the land on either side (often involves various different landowners and authorities)
- Respective companies either side charge for services and pay the appropriate taxes
- A reason to cross the border (consumer demand or business case)

You might need or useful to have

- Environmental permissions
- Supply services to the authorities at the border posts who want network connectivity
- Special permissions or treaties in certain very special cases
- Services that people/operators on the other side want to buy

Technical Innovation

- Liquid has worked with vendor Ekinops to deploy very long DWDM spans with no active repeaters needing facilities and power

- Demonstrated up to 430 km using Ultra Low Loss fibre

- Deployed 310km single span on existing fibre with many other long spans planned and under construction

- Supports multiple 10 Gbps wavelengths with upgrade paths to 100G

- Decrease opex power and maintenance costs

- Remove points of failure

A World Without Borders

With the cross border challenges solved, opportunities exist

- It becomes possible to build a network within a single administrative domain under a single ASN

- The prices come down, due to lack of half circuit charges

- Finger pointing between suppliers evaporates, one supplier, one contract with SLA and a single point of contact

- Regulatory issues are not a concern for the end user or consumer with a single entity managing the services

And the Possibilities Become Realities

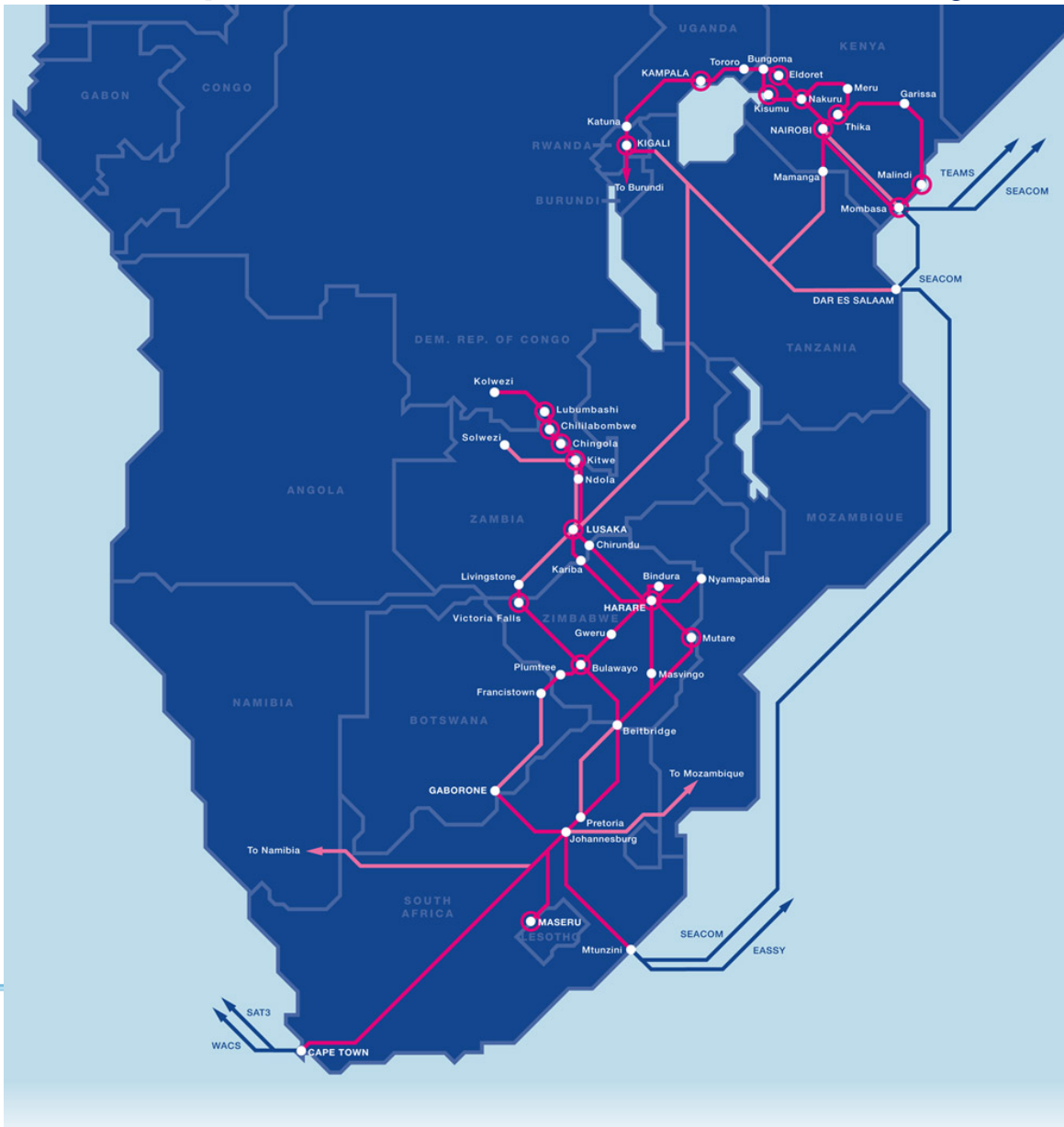Liquid Telecom African MPLS Network

What is available today

- Circuits (SDH, Ethernet) are available from between South Africa, Zimbabwe, Zambia, Tanzania, Kenya, Uganda and Rwanda, with Lambda's and new territories on the way.

- Transit of traffic between countries in Africa no longer needs flow via London – From the network here today to the Liquid network in Kenya takes just 76ms and does not leave the continent.

- Content is already being fed cross border in Africa – very high percentage of total internet content is flowing out of South Africa into East Africa without leaving the continent.

- A customer buying IP transit in one location gets access to the peering routes fed into the network from exchanges across East and Southern Africa.

- Layer 2 and Layer 3 VPN infrastructure between multiple African countries is already available.

Liquid Telecom Connectivity Map

- Active connections to 5 sub sea cables.
- Redundant routes.
- One Network.

BUILDING AFRICA'S NEXT GENERATION NETWORK

Thank you

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