Protect.

Connect.

Grow.

Building a case for interconnection and peering in Africa

by Michele McCann - Teraco

TERACO
DATA ENVIRONMENTS

African Rumours Reviled

Mobile Wars

MTN Advert

Cell C Response

Innovation at it's best - Fibre Art

Optic fibre 2010/2011 incidents

- Lightning 25 1%
- Damage 610 24%
- Break 919 36%
- Theft & Sabotage 979 39%
- Failure 2 0%
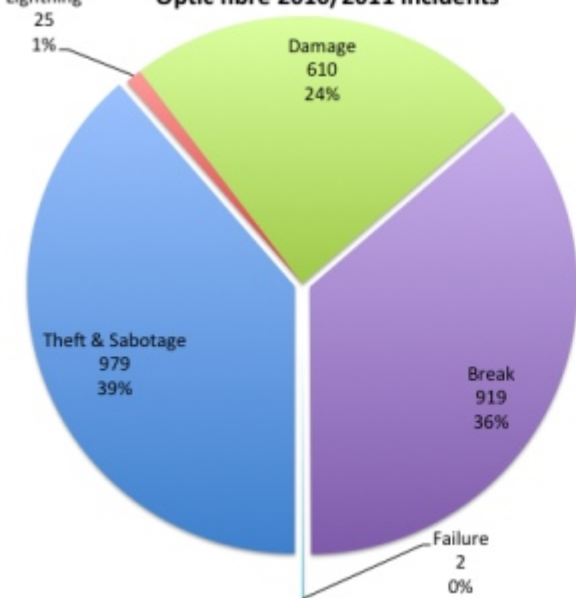
Optic fibre 2011/12 incidents as at January 2012

- Lightning 10 1%
- Damage 205 23%
- Break 313 35%
- Theft & Sabotage 371 41%
- Failure 4 0%
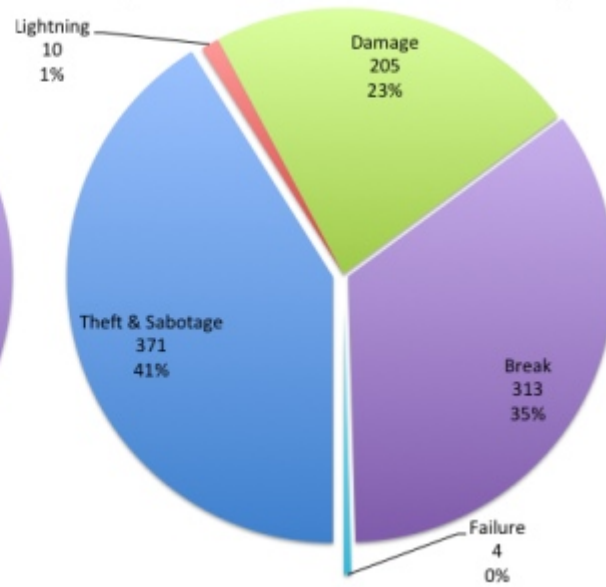
Copper cable 2010/11 incidents

- Lightning 4738 21%
- Damage 3609 16%
- Break 2660 12%
- Theft & Sabotage 9700 43%
- Failure 1717 8%
- Clip on Fraud 48 0%
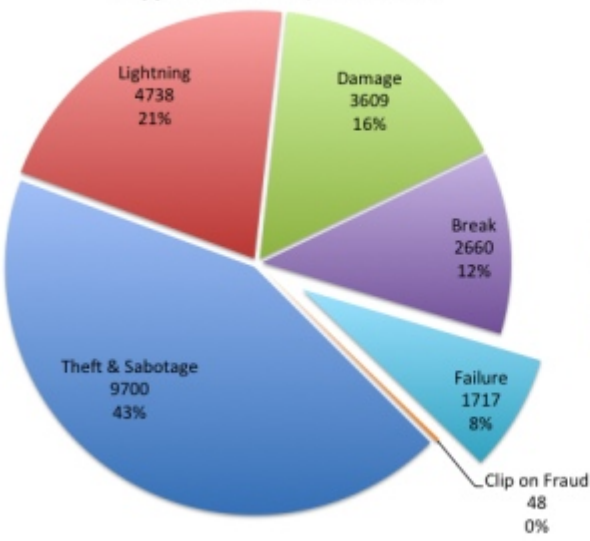
Copper cable 2011/12 incidents as at January 2012

- Damage 1160 14%
- Lightning 1239 15%
- Break 1507 19%
- Theft & Sabotage 3608 45%
- Failure 583 7%
- Clip on Fraud 10 0%

A view of Africa

Projected International Bandwidth Demand Growth by Region
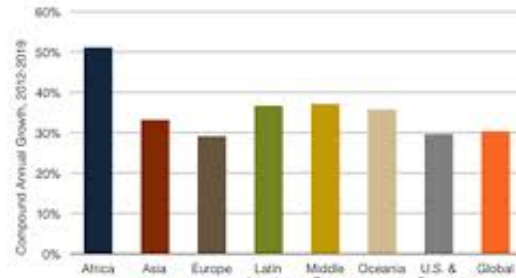
Source: TeleGeography

© 2013 PriMetrica, Inc.

The true size of Africa
Kai Krause

The forgotten continent
GDP growth, unweighted annual average, %

Asian countries

African countries

1970s 1980s 1990s 2000s 2011–15*
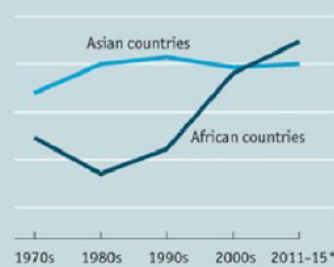
Sources: *The Economist*; IMF   *Forecast

There are more middle income households in Africa than there are in India. (*KPMG)
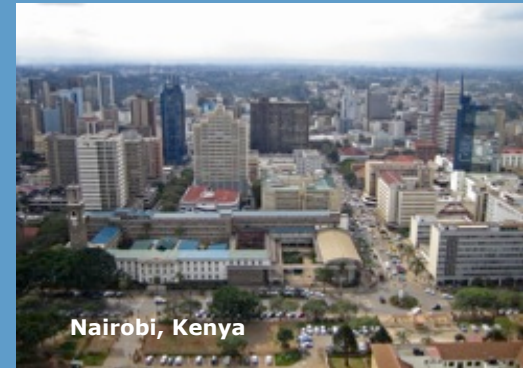
Nairobi, Kenya

Lagos, Nigeria

Johannesburg, SA

Cairo, Egypt

Myriad business opportunities

Estimated size of ICT enterprise services market in 2013 – c. $9b

KEY DRIVERS FOR GROWTH:

- Demand for connectivity and data

- Continued growth in mobile sector

- Mobile money

- Content (media, broadcasting)

- Mobile advertising set to grow

Mobile Payments in Africa

11% WORLDWIDE MOBILE PAYMENT AVERAGE

Tunisia 3%

Egypt 6%

Kenya **68%**

Uganda **50%**

South Africa **29%**

Ghana **11%**

Senegal **24%**

Nigeria **13%**
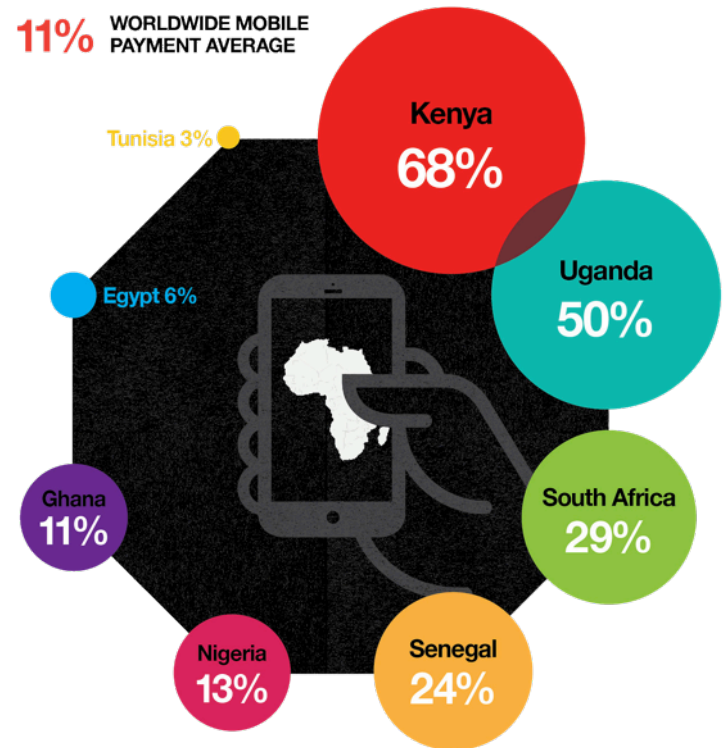
Source
Pew Research Center, 2013

Capacity is here
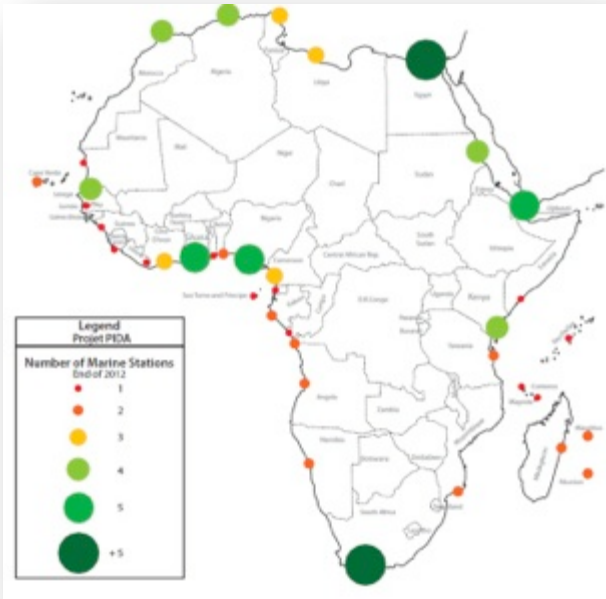
South Africa

15th
largest telecoms market in the World (2012)
http://www.youtube.com/watch?v=HZcHwQ6tL2k

50.5m / 59.4m
people / mobile phones
http://www.guardian.co.uk/world/interactive/2012/o
ct/30/africa-technology-broadband-statistics

8.5m
Internet users (2012)
http://www.internetworldstats.com/stats1.htm
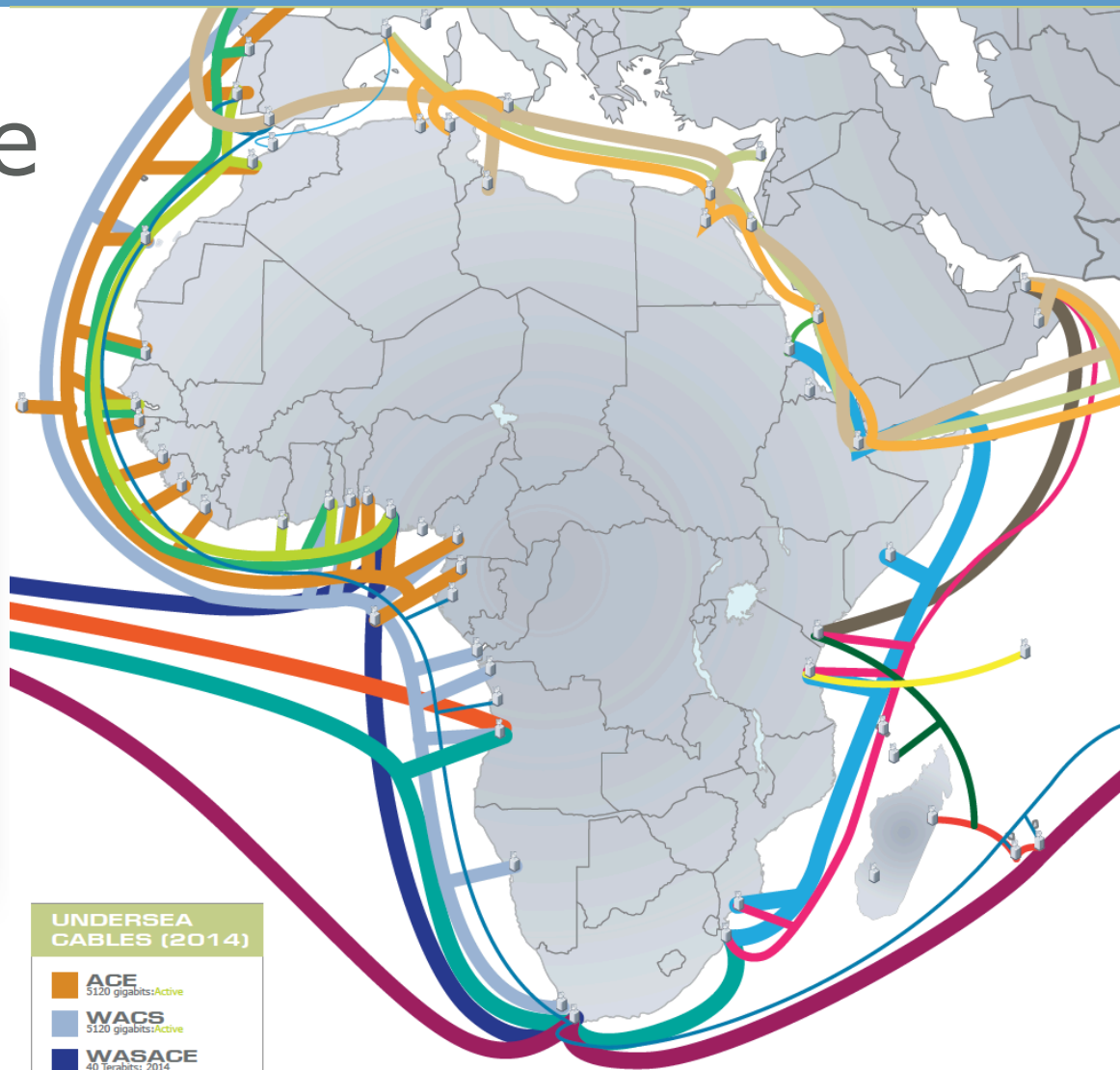
UNDERSEA CABLES (2014)

- **ACE** 5120 gigabits:Active
- **WACS** 5120 gigabits:Active
- **WASACE** 40 Terabits: 2014
- **SAex** 12.8 terabits:2014
- **SAT3/SAFE** 340 gigabits:Active
- **BRICS** 12.8 terabits:2014
- **SEACOM** 340 gigabits:Active
- **EASSy** 4720 gigabits:Active

Africa's international bandwidth jumps to 1,479 Tbps in Dec 2012

Terrestrial Fibre

- Increased investments by Governments and Private sector

- July 2012, Africa's total inventory of terrestrial transmission networks reached 732,662km

- Fibre now reaches 40% of the African population

- 313m people were within reach of a fibre node

- Expected to reach 50% of population with completion of planned projects

Scale

1 centimeter equals 133.587416 kilometers

0   500   1,000   2,000   3,000   4,000

Kilometers
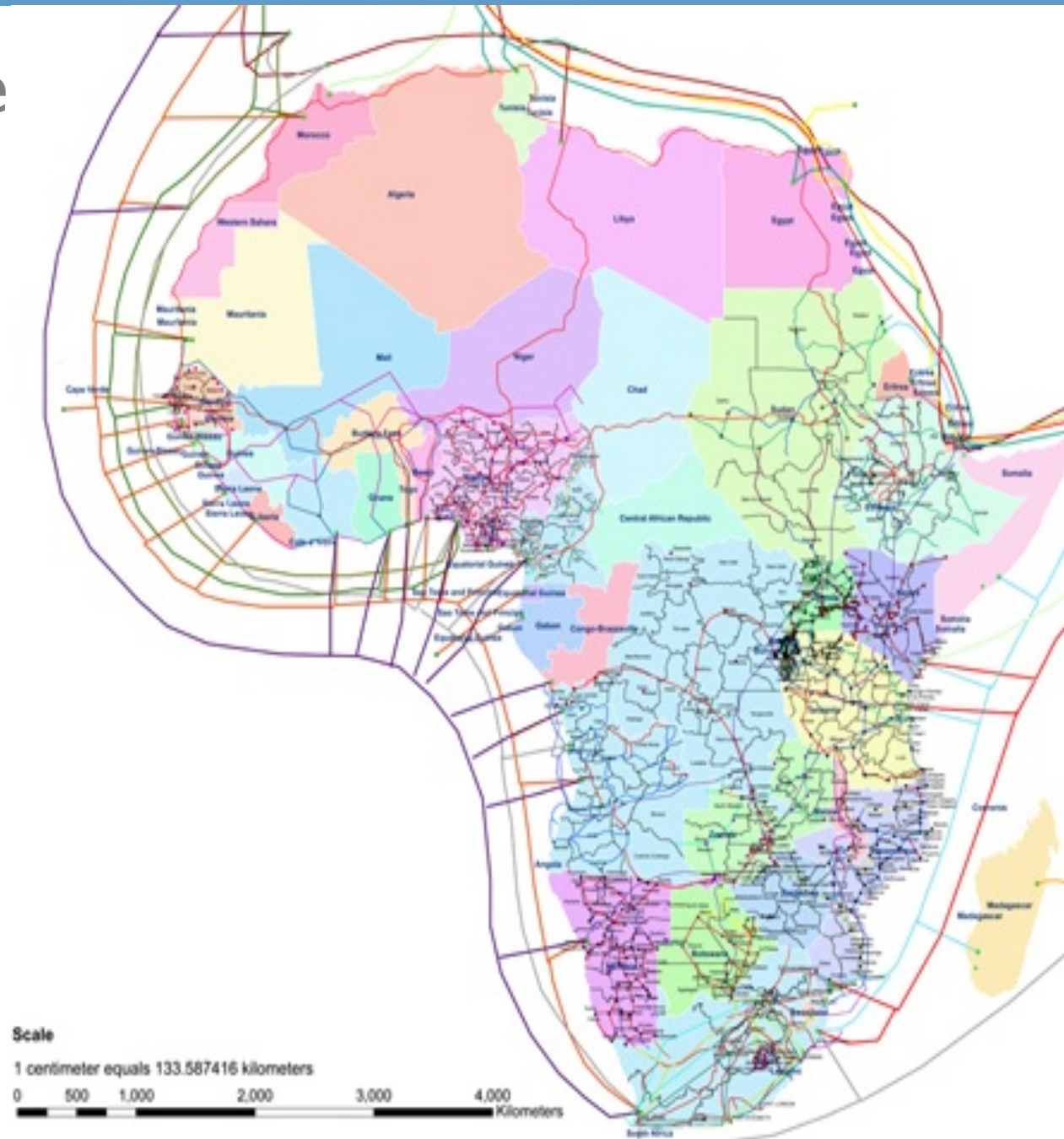
A growing ICT sector rapidly getting into shape

Estimated size of the ICT enterprise services market 2013 – c.$9b

2013-14

Large African markets with comparatively high ARPU or high subs growth are likely to remain Africa's key telecoms growth drivers

<$75m

$75m-$200m

>$200m

Net mobile market revenue potential ($m)

< 100

100-200

> 200

Ecosystem Growth
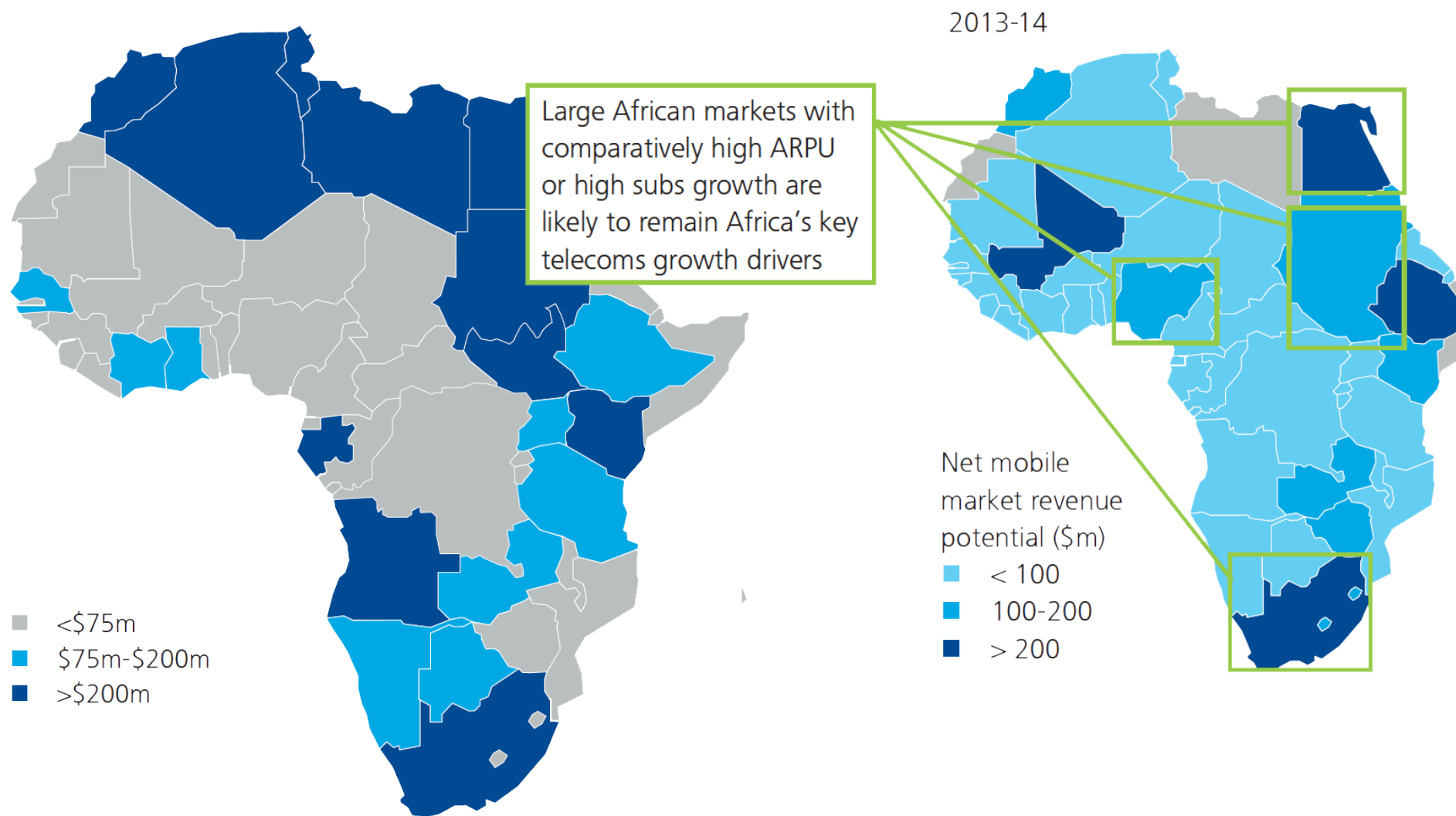
INTERCONNECT GROWTH
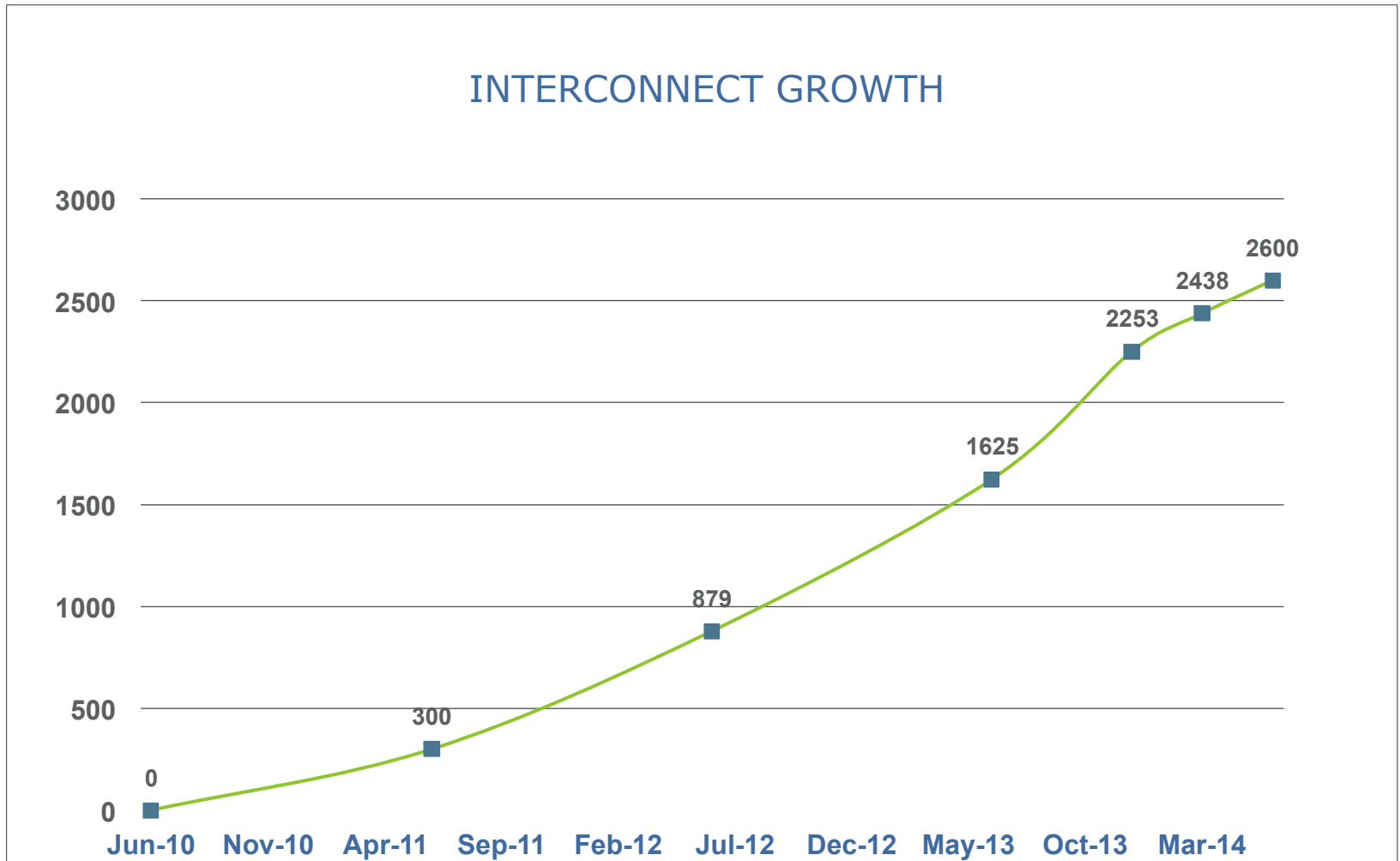
African Transit Landscape

$120.00 - FIBRE CROSS CONNECT

$120.00 - FIBRE CROSS CONNECT

PROVIDER A

EXCHANGE POINT

PROVIDER B

$70.00 PER 1MPBS

$70.00 PER 1MPBS

PROVIDER C
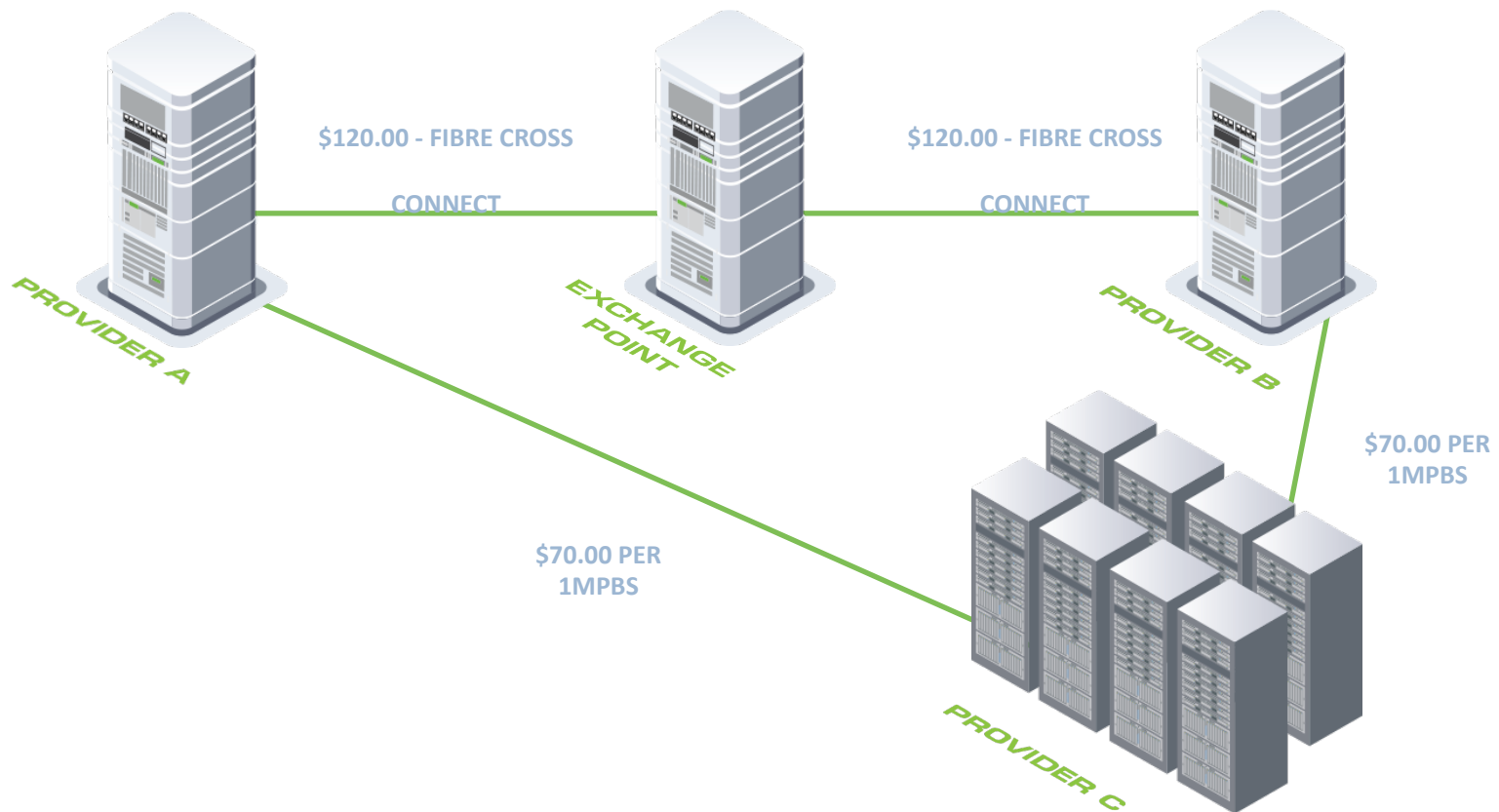
African IXP Effect: Neutral Facilities Needed

$0.00 PER CONNECTION

$0.00 PER CONNECTION

OPEN PEERING EXCHANGE POINT

PROVIDER A

PROVIDER B

$00.00 PER CONNECTION

$20.00 PER Fibre cross connect

$20.00 PER Fibre cross connect

PROVIDER C
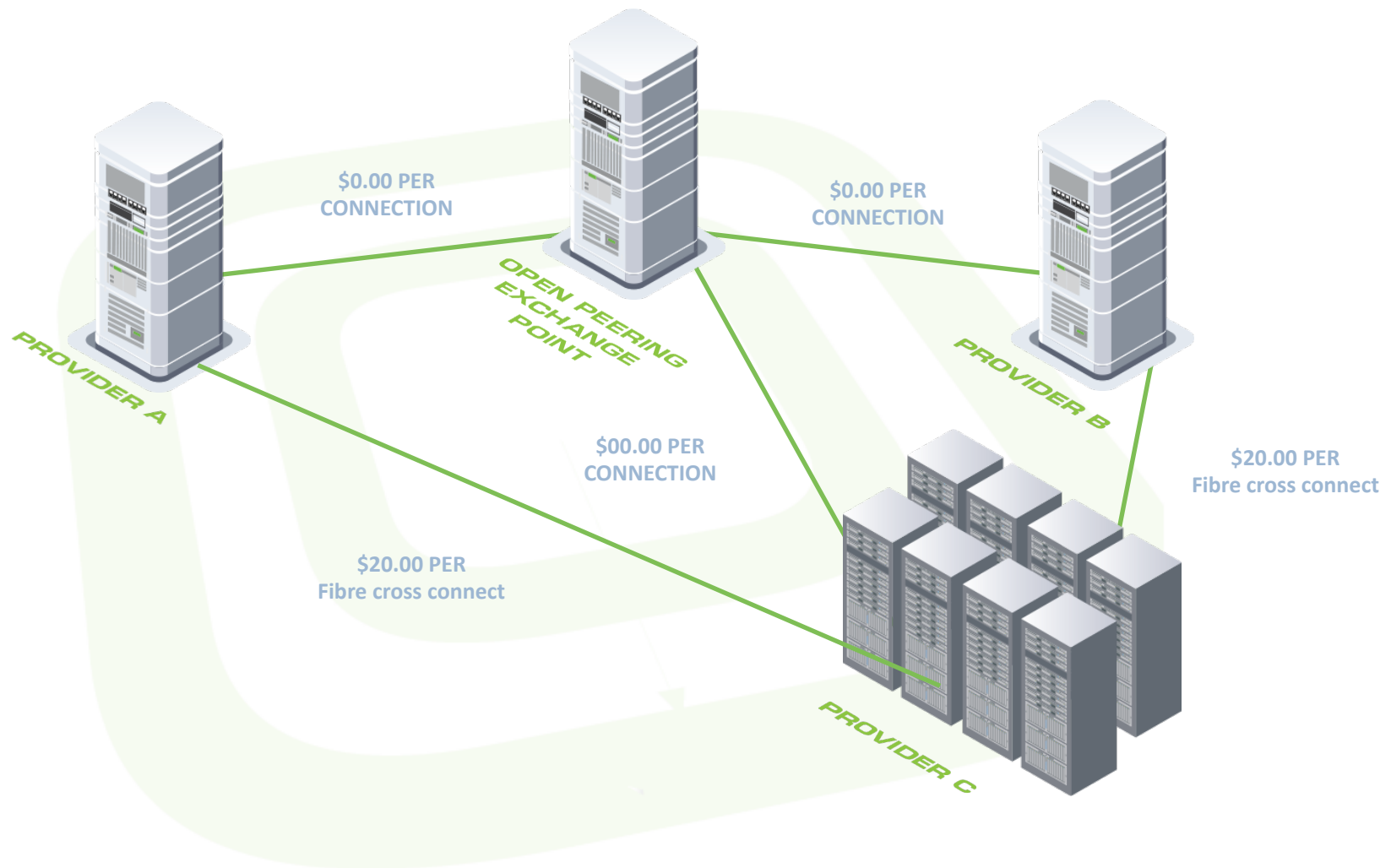
NAPAfrica: Member Case Study
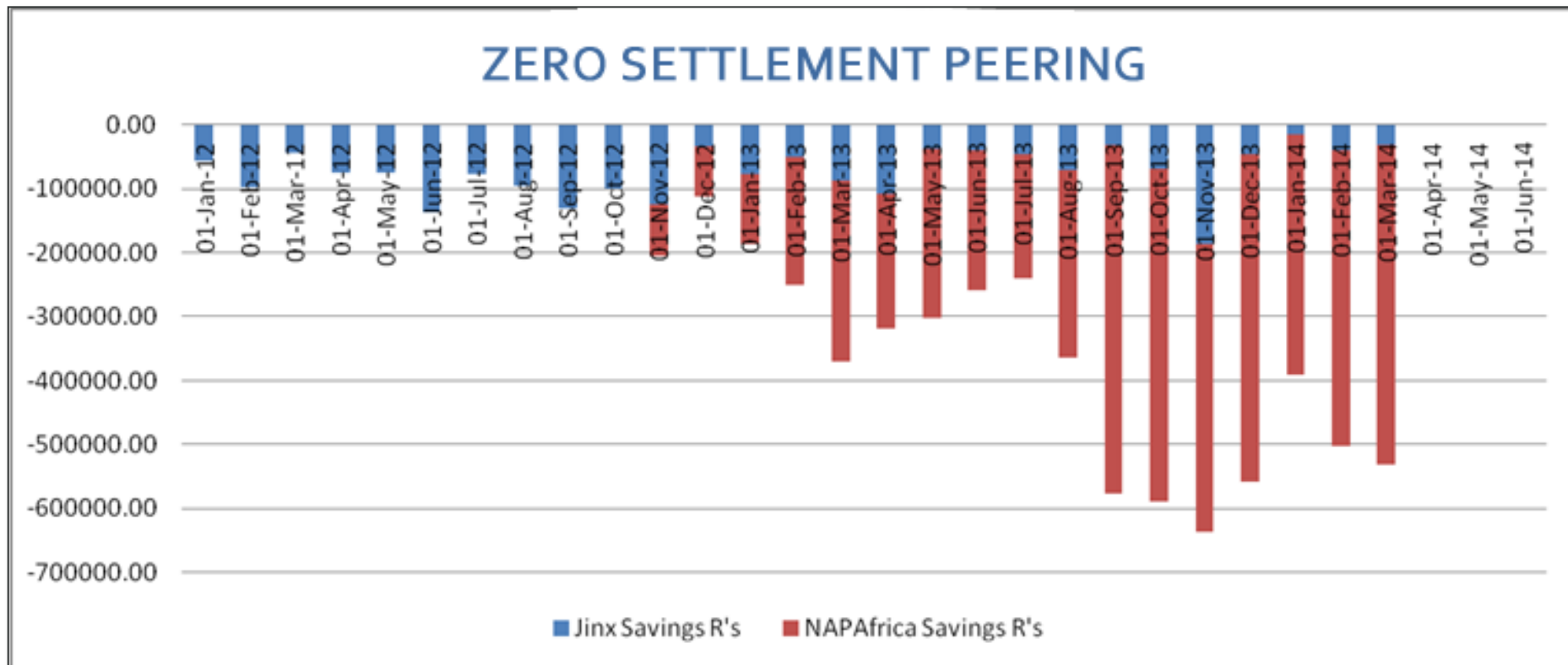
De-regulation is Key = True Innovation

2005
VoIP liberalised

2009
Seacom lands
Neotel launches

1996
Telecommunications Act

2008
Altech ruling
introduces 300+
potential networks

2010 - 2011
Mobile interconnect rates slashed
10 new network operators launch
EASSY and WACS land
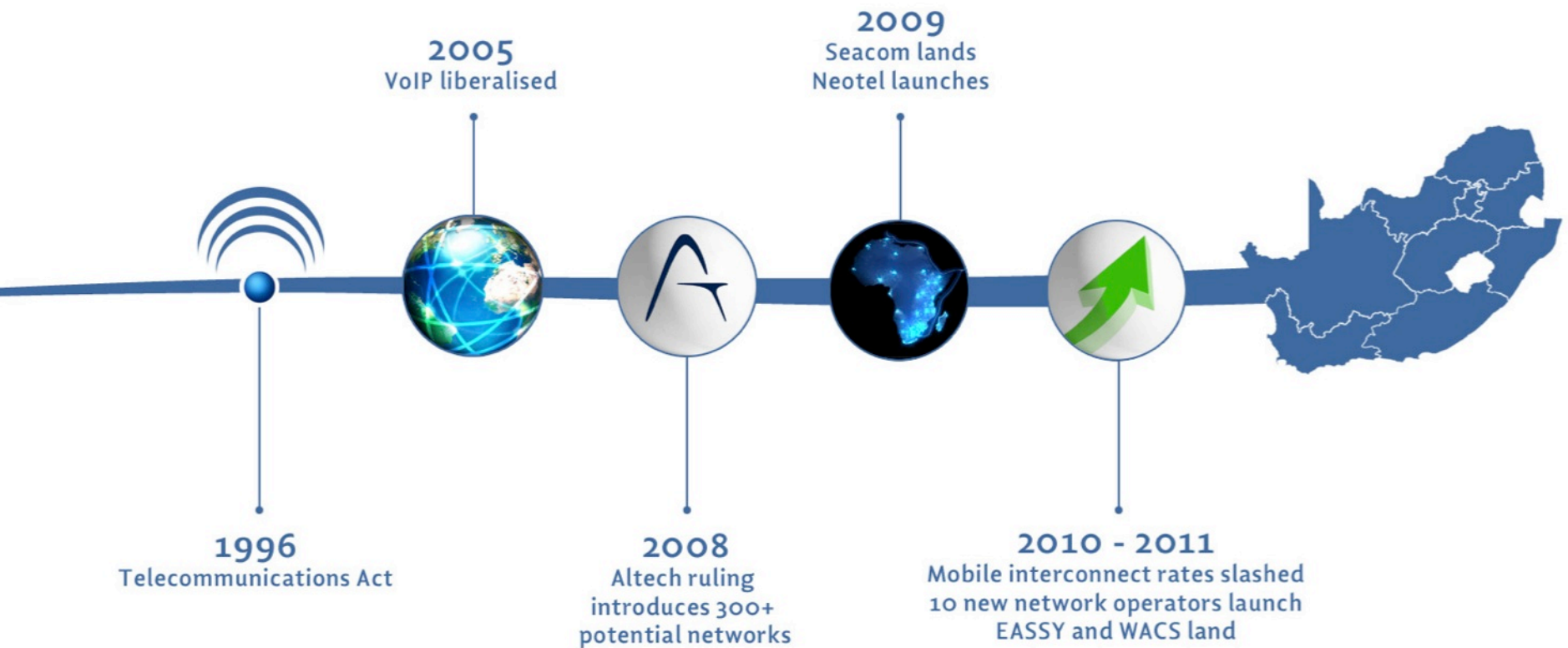
African Interconnection Challenge

- Limited amount of active IXP's in Africa both – only 26 IXP's of which 18 IXP's are active (AU – AXIS Project)
- Cost of Bandwidth at $50.00 per 1Mbps reduces opportunity for global new entrants
- **Majority of "eye balls" do not have technical skills or assets therefore still heavily reliant on transit**
- Majority of countries still operate within a monopoly managed by governments
- Limited marketplace to obtain members – new members generally need to be convinced to let go of existing transit arrangements
- Existing ASN application process very slow and expensive for new entrants
- **Larger networks hanging onto legacy transit revenues therefore generally do not join the exchange and if join polices are very selective**
- **Interconnection costs very high in non neutral data centres**
- Interconnection costs between facilities very high ave. of $18000.00 1Gbps fibre non redundant
- Lack of collaboration between African IXP's – all exchange points compete for content and members: AF-IX Key
- Technical peering skills required;
- **Routing anomalies caused due to political issues, cross border costs still high and concerns on IXP stability.**
- **Content scramble on service provider networks has a negative impact**

African Requirements

- Standard, open and unrestricted interconnection policies - Everybody plays by the same rules.

- Always-on, reliable, open hosting facility and infrastructure - Nobody wants content that is not always available.

- Reliable, high quality structured cabling systems and procedures - Physical interconnection in the same facility should take hours, not weeks.

- Multiple peers and unrestricted market-place – Carriers, ISPs, CDNs, Banks, Enterprises – An exchange cannot grow without peering members.

- Scalable space and infrastructure for content growth. Moving a successful exchange is a complex, and costly exercise. Always plan for growth.

- No government involvement on regional exchanges – Let the market decide!
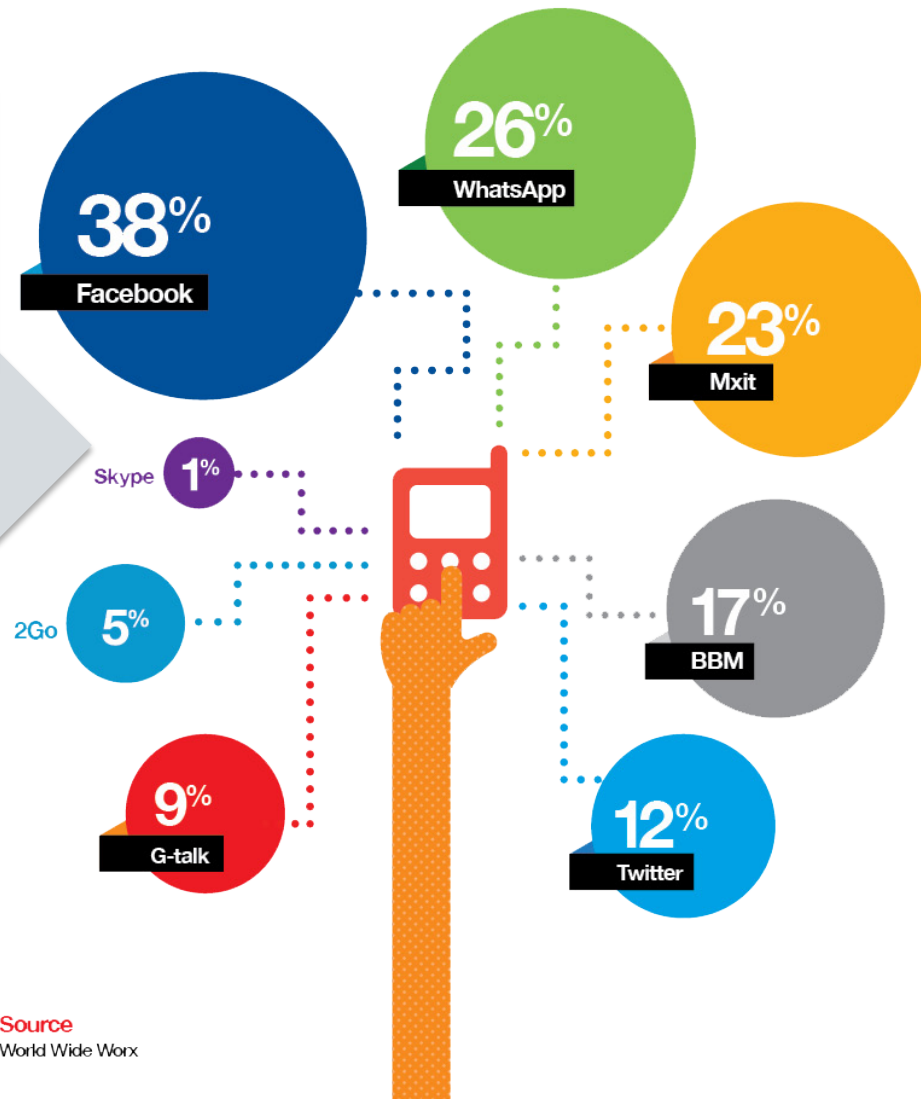
Peering & Interconnection is Key
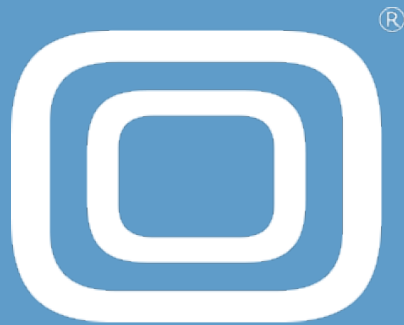
Neutral Facilities and IXP's

Key Content Drivers – Education, Broadcasting, Financial, E-government growth required

Improved Product Offerings

Reduced IP transit fees – innovation required

38% Facebook

26% WhatsApp

23% Mxit

17% BBM

12% Twitter

9% G-talk

5% 2Go

1% Skype

Source
World Wide Worx

Thank you

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