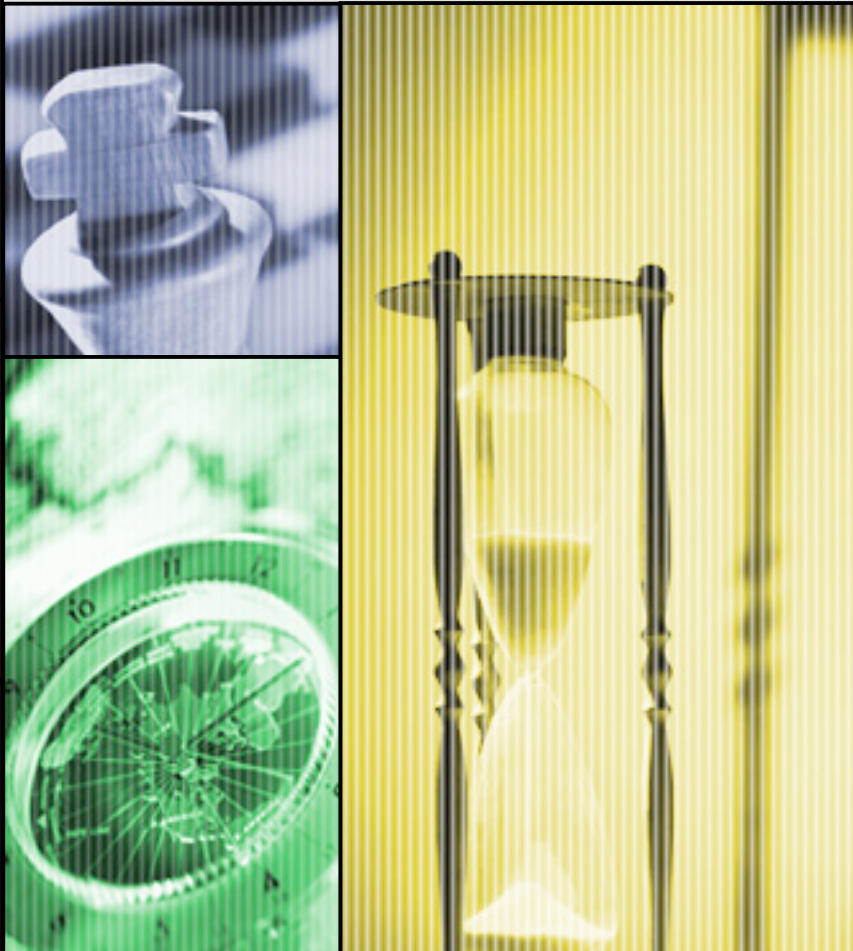


African Internet Infrastructure - Opportunities and Challenges of Reducing Bandwidth Cost on SAT3 and EASSy



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<http://www.afrispa.org>

AfrISPA?

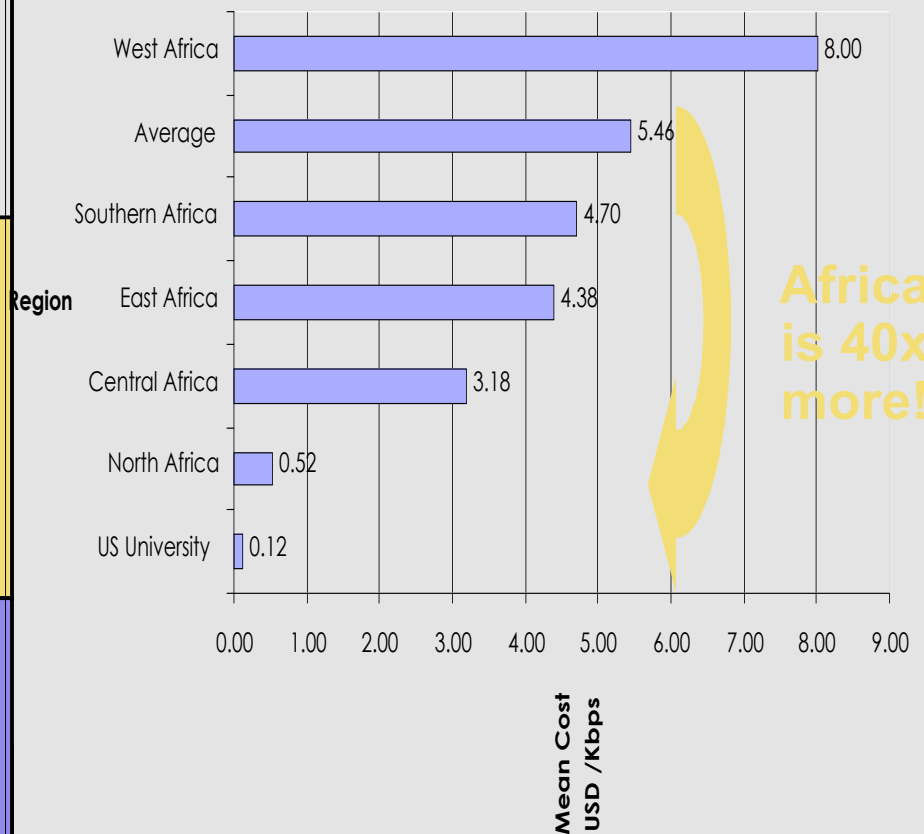
- **African Internet Service Providers Association incorporated in Mauritius in 2001 with focus of building African Internet Infrastructure**
- **Executive Management; William Stucke – Chairman, Eric Osiakwan - Executive Secretary, Brian Longwe - GM, Viv Padayatchy – Treasurer, Didier Kasole – Francophone Rep. and Kamal Patel - Director**
- **Current members are**

– ISPA	South Africa
– TESPOK	Kenya
– UISPA	Uganda
– GISPA	Ghana
– ISPAN	Nigeria
– FAIR	Mauritius
– TISPA	Tanzania
– BISPA	Botswana
– AFIM	Mali
– MISPA	Malawi
– AFAIB	Benin
– ISPA-DRC	Democratic Republic of the Congo



Internet Access cost in Africa

Average Bandwidth Costs (USD per Kbps) by Region



Africa is 40x more!

- Bandwidth demand rose by 19% in the 2001, 28% in 2002 and 37% in 2003
- In the case of one of the poorest countries in Africa, its incumbent telco spends US\$3.2 million on satellite transmission, of which US\$2.4 million is spent on routing calls within the country and the balance is spent on international calls.
- Global bandwidth average is between 10 and 12% but a recent report by Balancing Act Africa predicts a 24% growth for the next 3 years to 2008
- Against the backdrop of routing local traffic internationally costing the continent about \$400 million a year - this represents capital flight out of Africa

Sources: Balancing Act Africa - www.balancingact-africa.com, ITU - www.itu.int and Fibre for Africa - www.fibreforafrica.net

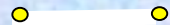
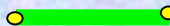




Source: ATICS, 2004, World Bank, www.atics.info

The African Loop - Fiber links



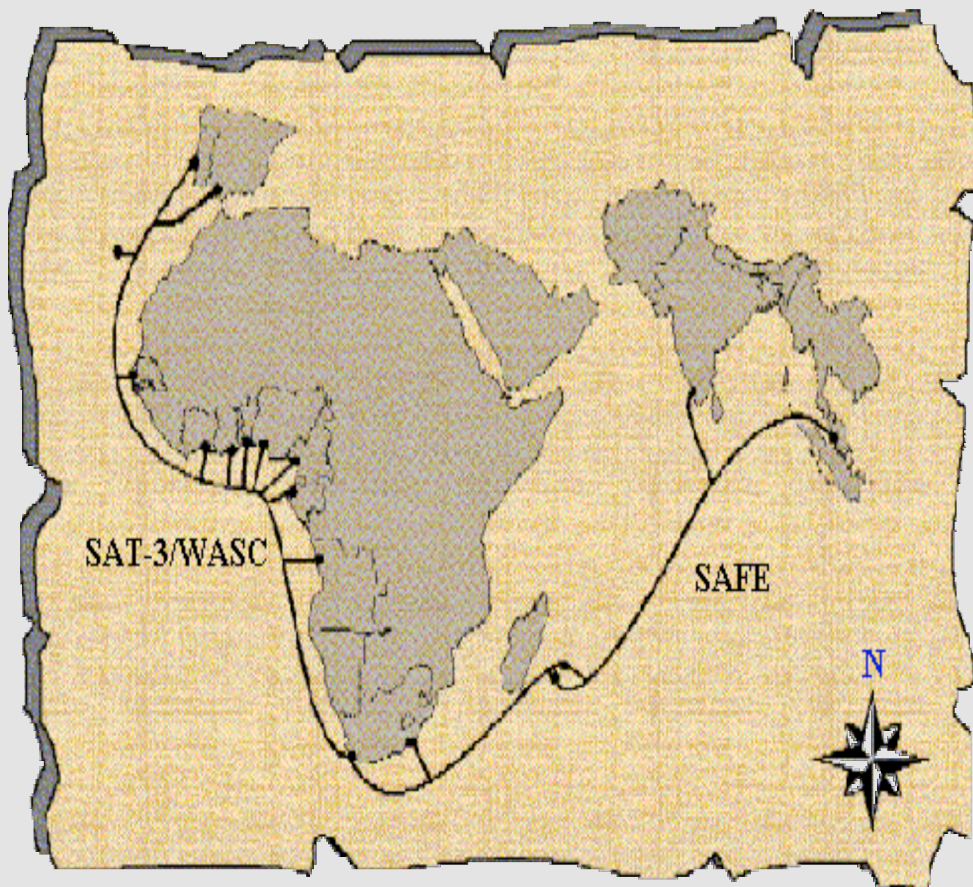
LINKS:

-  Existing
-  Planned / Funded
-  Required
-  Proposed Submarine cables

Southern & Eastern Links

- 
- 

Closed Access SAT3



After 6 years of deployment, SAT 3 has less than 5% usage because “closed club deal” approach to building - incumbent PPTs on Monopoly

- it is more expensive than satellite - excessive profit
- cumbersome and bureaucratic processes that restrict access - “elite”
- incumbent monopolistic and cartel activities - “control ALL”
- political ownership and protectionism - “no volume business”



Reducing SAT3 Cost

The Ghana and Nigeria Case Study - "Push back"

- 1. Use the retail market activities of the incumbent to demand wholesale action**
- 2. Developed a reverse calculation formula for retail to determine wholesale**
- 3. Government and incumbent accepted formula**
- 4. Open negotiation with an association but used a small group approach**
- 5. First negotiate for a general framework agreement that covers members**
- 6. Agree on a long term negotiation process so there can be compromises when there is a standoff at the current stage of negotiation**
- 7. Recognise landmarks of negotiation and push back when necessary**
- 8. GISPA and ISPAN members pay \$2500 for a half-circuit e1 to Sesimbra**

The Mauritius Case Study - "Essential facility"

- **Due to public funding of SAT3 members**
- **Declare SAT3 an "essential facility"**
- **Incumbent or a neutral party takes management oversight**
- **Capacity priced at cost with margin to run the cable**
- **Volumes are considered as the long term profit mechanism**

South Africa, Ghana, Nigeria, Senegal governments are considering this approach especially as the exclusivity of the SAT3 to incumbent PTTs approaches for review

Infinity Cable, Intelecon II, WAFS - "Competition is the ultimate solution"

http://www.balancingact-africa.com/news/back/balancing-act_233.html - http://www.balancingact-africa.com/news/back/balancing-act_234.html
http://www.balancingact-africa.com/news/back/balancing-act_282.html - http://www.balancingact-africa.com/news/back/balancing-act_276.html
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http://www.balancingact-africa.com/news/back/balancing-act_268.html - http://www.balancingact-africa.com/news/back/balancing-act_302.html



UNEASY EASSy

Closing the optical fibre ring around Africa



SEA-ME-WE-4

EASSy
CLOSING THE
FINAL LINK

AfrISPA



Open Access EASSy, UNEASY

EASSy needs to be different from SAT3 because of impact

- 1. Open Access study commissioned by Infodev into Open Access as an alternative**
- 2. Debate started at the WorldBank and DfID and continued among donors**
- 3. WorldBank public announcement of Open Access approach to EASSy**
- 4. Member countries and incumbent PTTs join the debate**
- 5. EASSy government acknowledge it as an “essential facility” - also serve the public interest**
- 6. OSIWA SAT3/EASSy meeting led to Mombasa EASSy rediscovering meeting**
- 7. <http://www.fibreforafrica.net/>**
- 8. EASSy Ministers issue Open Access approach under a Special Purpose Vehicle (SPV)**
- 9. KDN issues a cheaper price offering than EASSy on FLAG and inland fiber - competition**
- 10. EASSy Protocol signed by seven (7) governments in Kigali on the 29th - Process forestalled due to differences**
- 11. Majority signing would pave way for formation of the Inter-Governmental Assembly which would develop the regulatory policy issues that it would veto on the board**
- 12. Shareholders assembled for shareholders meeting to elect or nominate the board of Directors**
- 13. Board of Directors meeting to elect chairman and then appoint the financial advisor**
- 14. Business Plan is developed and management put in place**
- 15. EASSy Hybrid SPV is established to run the cable**
- 16. EASSy cable is built**
- 17. Majority ownership must be African**



http://www.balancingact-africa.com/news/back/balancing-act_317.html
http://www.balancingact-africa.com/news/back/balancing-act_311.html

Expanding ICT Infrastructure – The Open Access Opportunity



Salient Features

Core network estimate (shown):
70,000 km

Regional Fiber Spurs (to reach
other major areas not in yellow
and to connect Wireless Hubs):
30,000 km

~ 400 population
centers are connected,
including all capitals
and larger cities.

The links shown are
largely along major
roads, which thus
cover many
population centers.
Preliminary GIS
modeling indicates
good penetration of
this fiber/wireless
hybrid design.

Fiber (including laying) is roughly half the capital costs – implies most expenditure can have a long amortization horizon.

New Public & Private Models

Public interest driven by ICT Infrastructure as other infrastructure like road, water, electricity for growth of economy and social responsibility. Government and or Regulators must inject “seed funding” and “fair regulation”

International Donor community also represent “public interest” to ensure that there is “restructuring of the telecom and communication system” by also injecting some “seed funding”.

Private interest driven by doing business – providing service in return for profit. Injecting capital into Infrastructure and services – investor of choice

Balance of Interest, Power and Money among governments, incumbent telcos, private sector, international donors, educational institution and civil society in the expansion of ICT Infrastructure like the EASSy undersea fiber cable

Imposing a Universal Access or Service obligation on EASSy capacity should be a consideration



Public & Private Funding Mechanism

- Market funding - support projects that demonstrate market demand and make a return for investors. This can be found through loan, debt and equity and an Open Access approach would be facilitated by access to local funds through SME loan programmes and local and regional stock exchanges.
- Market “stretch” funding - support the development of projects where market demand will support them in the medium to long term (5-10 years) and where either soft loan repayments are made or capital gains can be made through later sale of shareholding. This would also cover public-private funding partnerships.
- Social funding - is given because something needs to be supported because it has broader, non-market, development objectives where the returns looked for are social rather than financial. In communications terms, this would cover those parts of a country where service of any kind could not be provided on anything like a market basis, irrespective of future growth.
- Floating EASSy stocks on the various stock markets through a government guaranteed IPO would allow the African on the street to own a part of EASSY and that's AFRICAN OWNERSHIP



<http://www.afrispa.org>
<http://www.infodev.org>
<http://www.openaccessforafrica.org>

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