

State of the Tanzanian Internet



Frank Habicht

Agenda



- Overview
- History
- Status
- Environment
- Observations
 - The gap



Tanzania



- 37 live provider ASNs seen
- With 63 members the 6th biggest AfriNIC
- 4th most ASNs (77)
- Area 947k km²
- Population 50m (2016)
- USD 1,006 GDP p.c (2016)

<https://bit.ly/2OLZOmm>

<https://bit.ly/2znBz8J>



History



- Until 2009 all on VSAT
- Several providers, bidirectional services, including to enterprise
- Many islands, connected to Europe (eg Norway)
 - When connecting (peering) some ISPs we still have many sites unconnected
- National backhaul

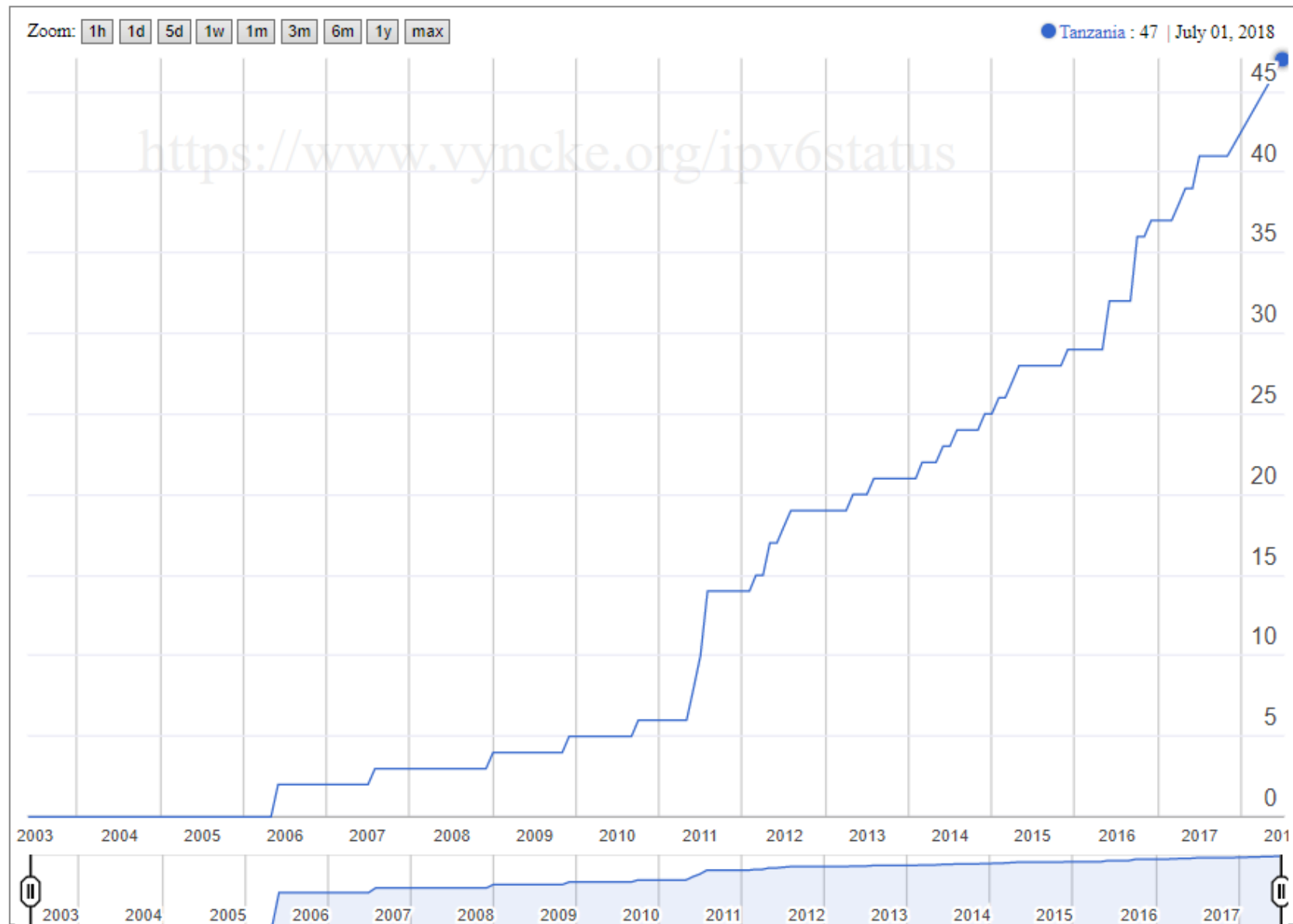


History - 2

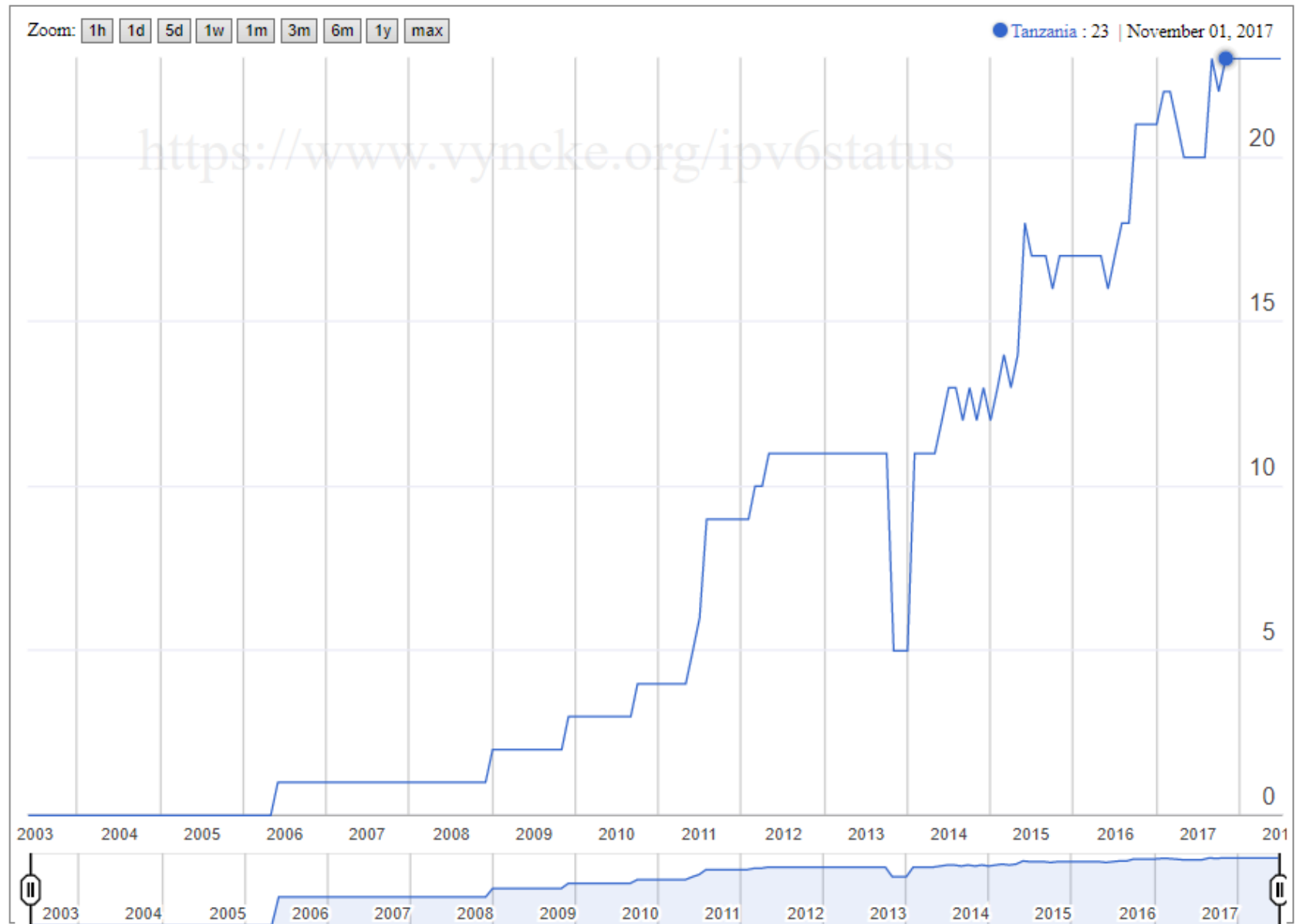


- Seacom July 2009
- Eassy 1 year later
- NICTBB to backhaul submarine capacity upcountry
 - Better than VSAT, replacing them
- Subscriptions went from kbps to Mbps
- Backhaul networks had to be upgraded
- More traffic passing through Dar es Salaam

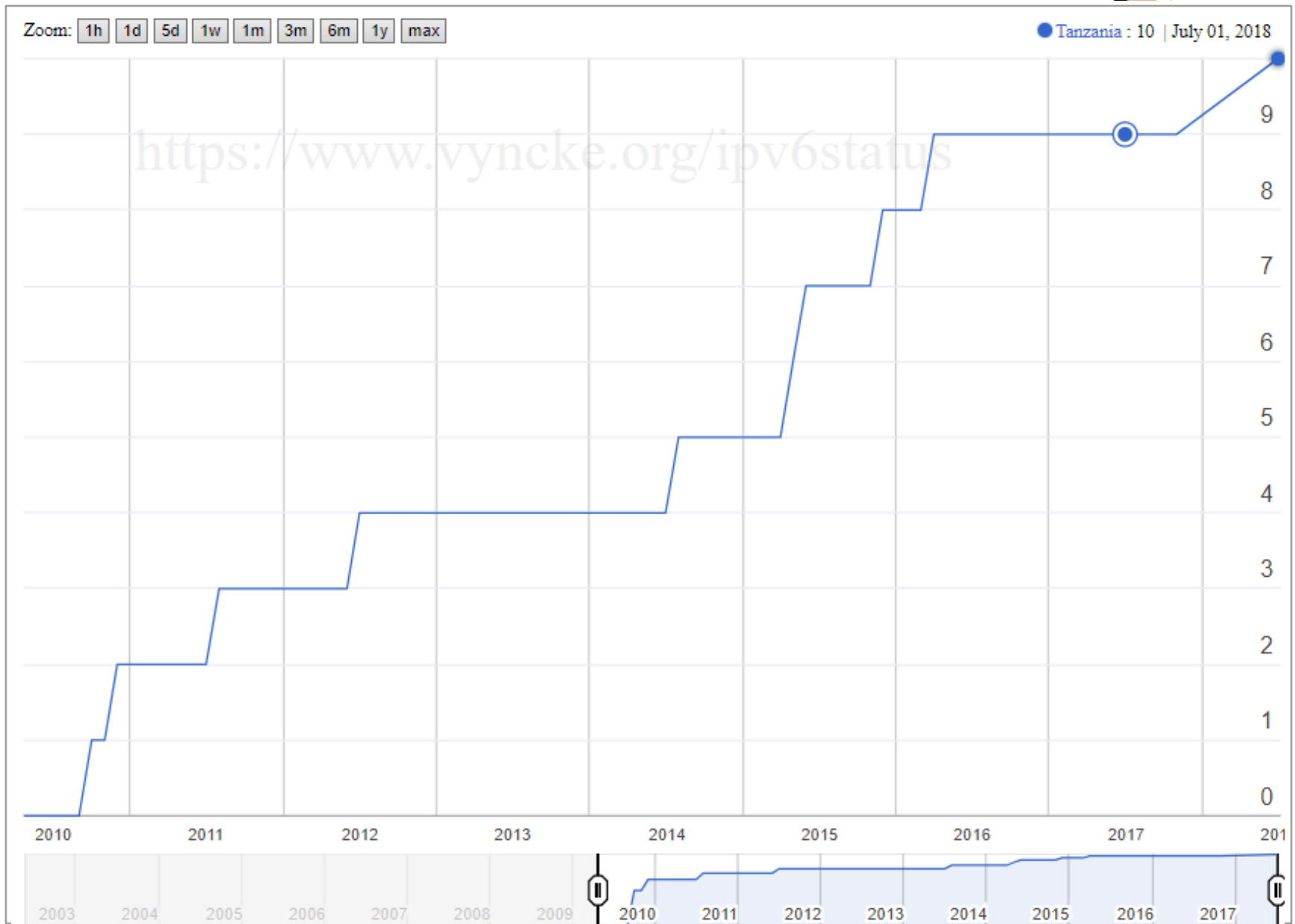
IPv6 - allocated/assigned



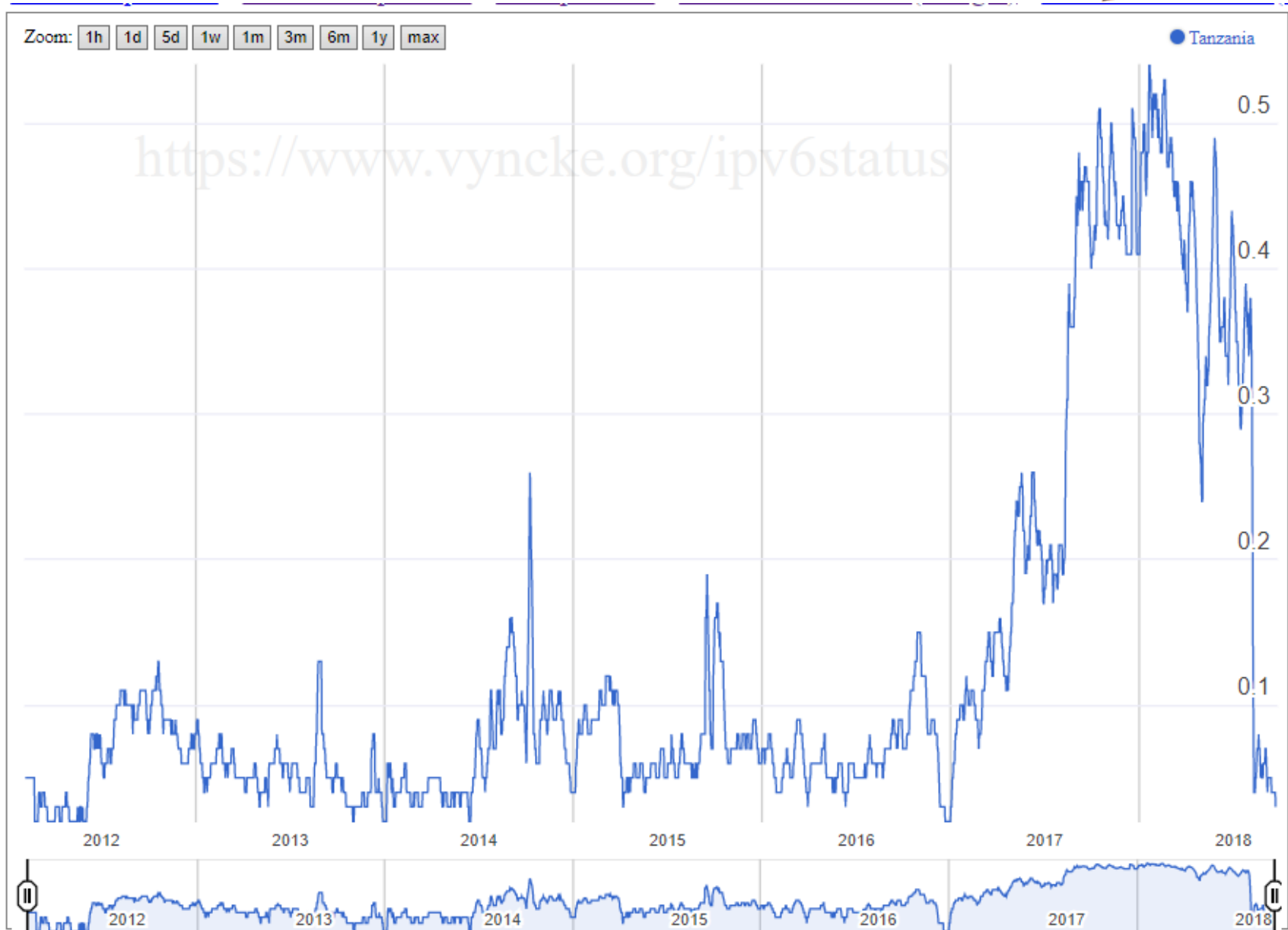
IPv6 - announced



IPv6 - alive



IPv6 – traffic (Google)



Infrastructure



- Data Center
 - NIDC
 - TIGO
 - Vodacom
 - NMB Bank
- Metro fiber
 - 4-5 companies
- National fiber
 - NICTBB
 - Consortium (Airtel, Tigo, Zantel)
 - Vodacom



Infrastructure -2



- Submarine Cables
 - SEACOM
 - Eassy
 - SEAS



Interconnection



- TIX, Dar, since 2004, 35 peers
- AIXP, Arusha, since 2006, 14 peers
- MIXP, Mwanza, since 2016, 10 peers
- ZIXP, Zanzibar, May 2018
- DIXP, Dodoma, June 2018



Environment - 1



- Increase of taxation.
 - Excise duty
 - Are communications services a luxury?



Environment - 2



- NICTBB
 - Managed by TTCL
 - Pricing elsewhere is cheaper



Environment - 3



- All (licensees) to connect to IXPs

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THE ELECTRONIC AND POSTAL COMMUNICATIONS ACT
(CAP.306)

REGULATIONS

(Made under section 165)

THE ELECTRONIC AND POSTAL COMMUNICATIONS (ACCESS, CO-LOCATION AND
INFRASTRUCTURE SHARING) REGULATIONS, 2018

Co-location to
Internet Exchange
Points (IXPs)

11 Any licensee who hosts content for electronic accessibility or transmits or carries internet traffic shall make available within the nearest located Internet Exchange Point premises, an interface, equipment or facility that shall enable connectivity with the Internet Exchange Point.

<https://bit.ly/2xGDHXb>

Environment - 4



- IXPs to be interconnected

Connectivity
between Internet
Exchange Points
(IXPs)

12.-(1) All Internet Exchange Points deployed in the United Republic shall be directly connected to one another.

Future



- What could be better?



The GAP



Dar – Mombasa

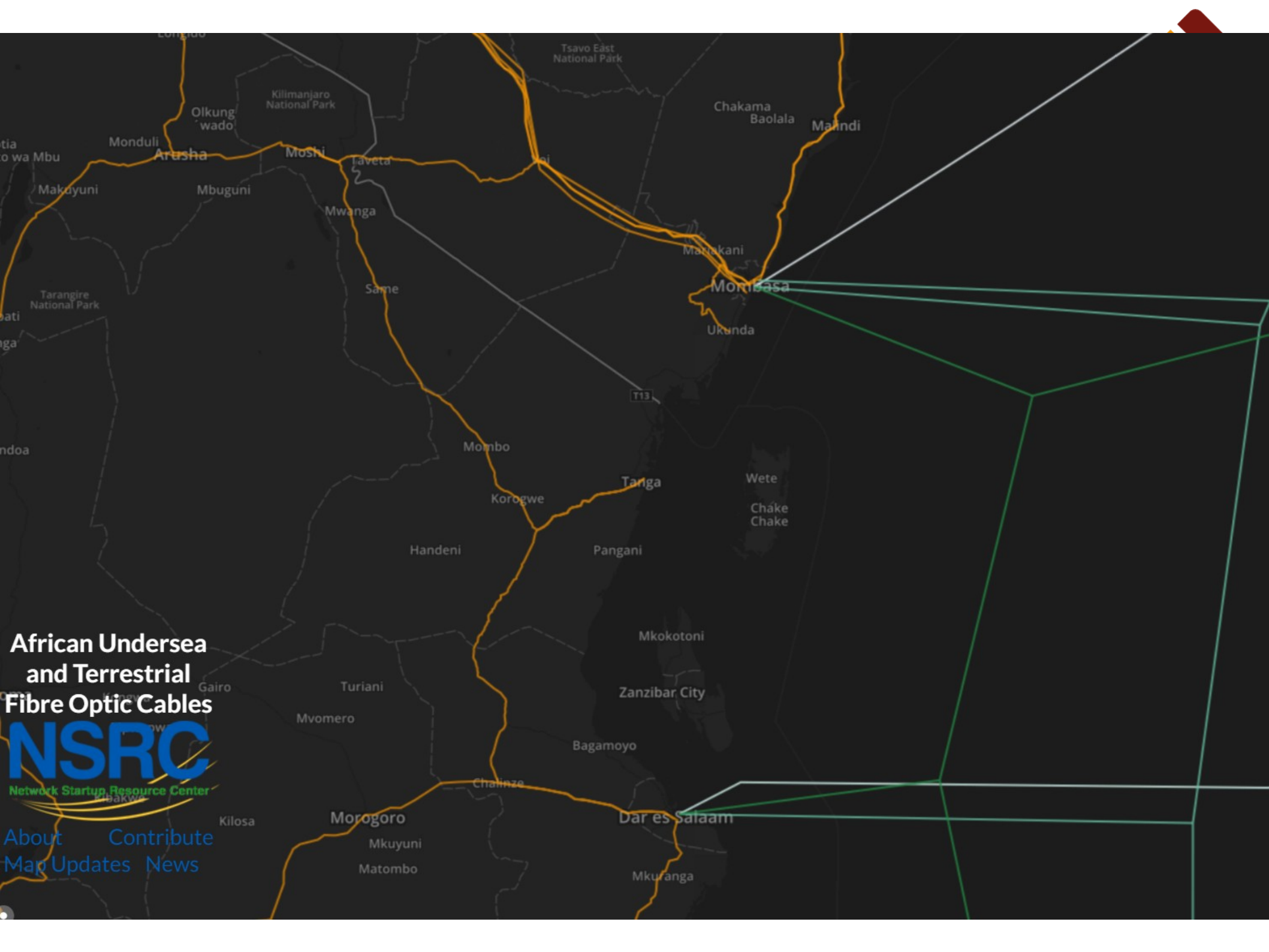
- Big content is coming to Mombasa
 - Cloudflare, Google, soon Facebook
- Currently packets get wet (through the water)
 - Or via Nairobi (...)
- There should be a better, shorter way
 - And it should not be SDH...



**African Undersea
and Terrestrial
Fibre Optic Cables**

NSRC
Network Startup Resource Center

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The end



Questions?

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