

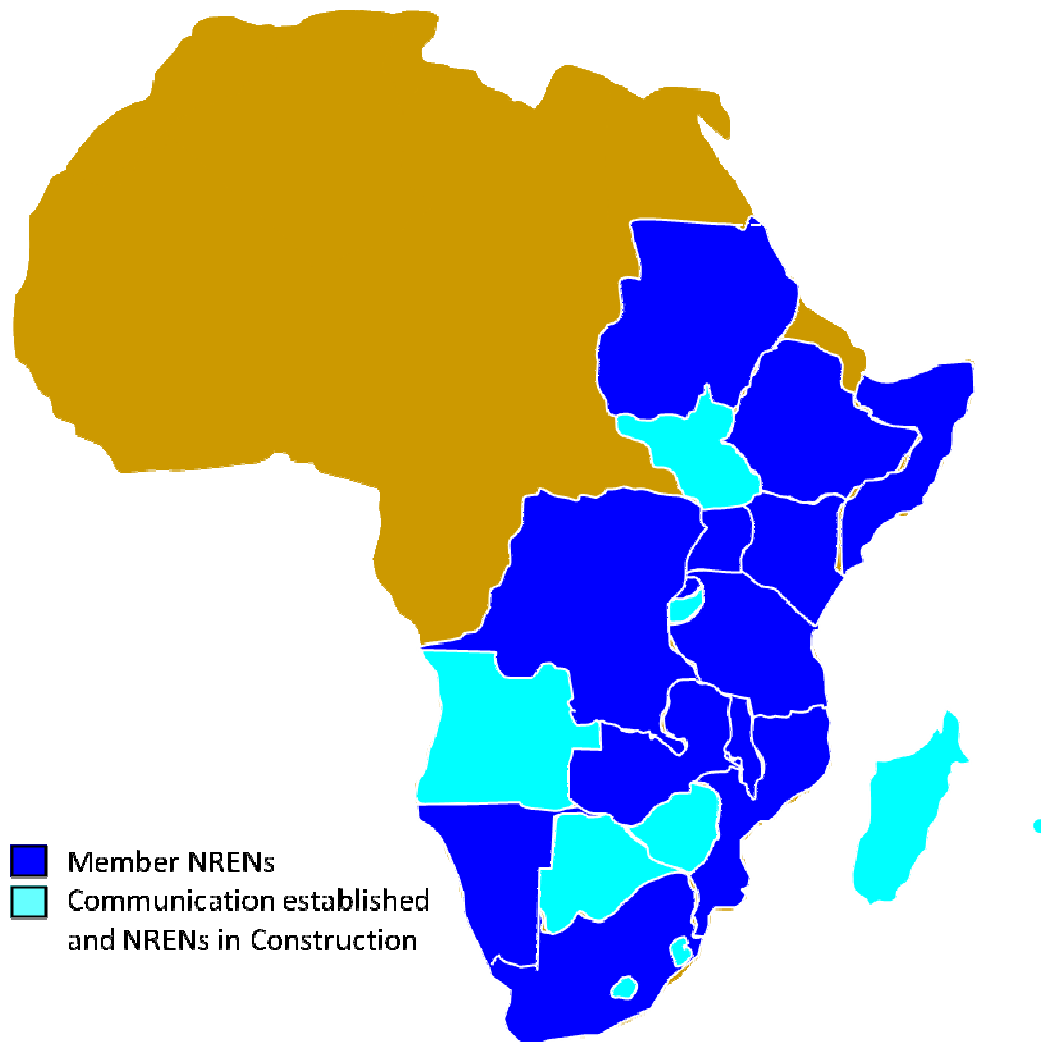
*UbuntuNet Connect 2012*  
*15 – 16 November 2012, Cairo*

# Using NREN capacities to extend and enhance UbuntuNet

Duncan Martin,  
Non-Executive Director: UbuntuNet Alliance  
Director and CEO: TENET

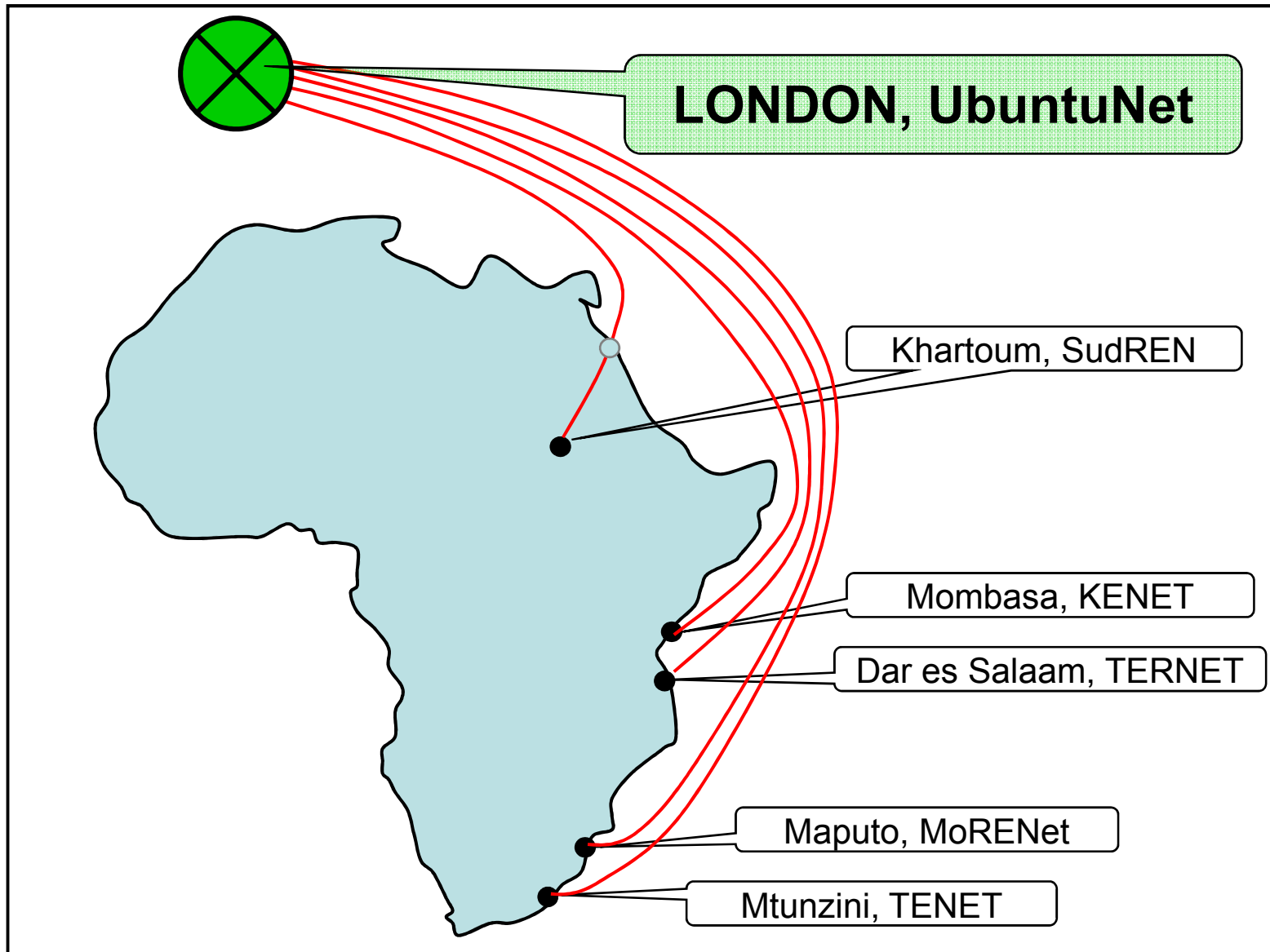


# 13 Member NRENs



Eb@le, DRC  
EthERNet, Ethiopia  
KENET, Kenya  
MAREN, Malawi  
MoRENet, Mozambique  
XNet, Namibia  
RwEdNet, Rwanda  
SomaliREN, Somalia  
SudREN, Sudan  
TENET, South Africa  
TERNET, Tanzania  
RENU, Uganda  
ZAMREN, Zambia

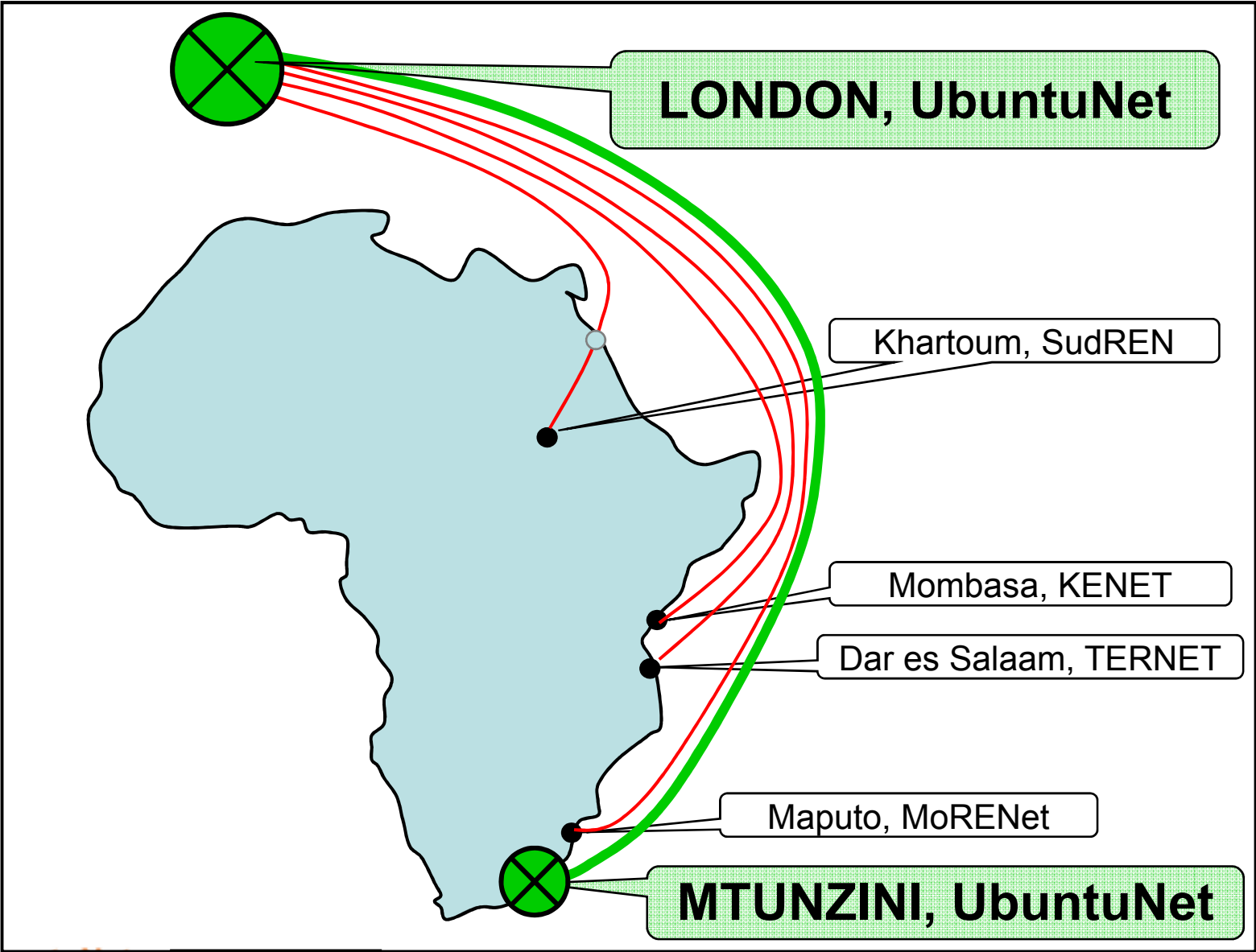
# UbuntuNet starts in London



# What happens in London?

- UbuntuNet provides Global Transit in London
  - REN transit thanks to Géant and DANTE
  - Commodity peering at LINX
  - Commodity transit purchased from Tier1 provider
- Five maritime NRENs use this service
  - Each acquired its own intercontinental circuit to London
- No land-locked NREN has done it

# 2010: 1<sup>st</sup> UbuntuNet Hub in Africa



# What was the idea?

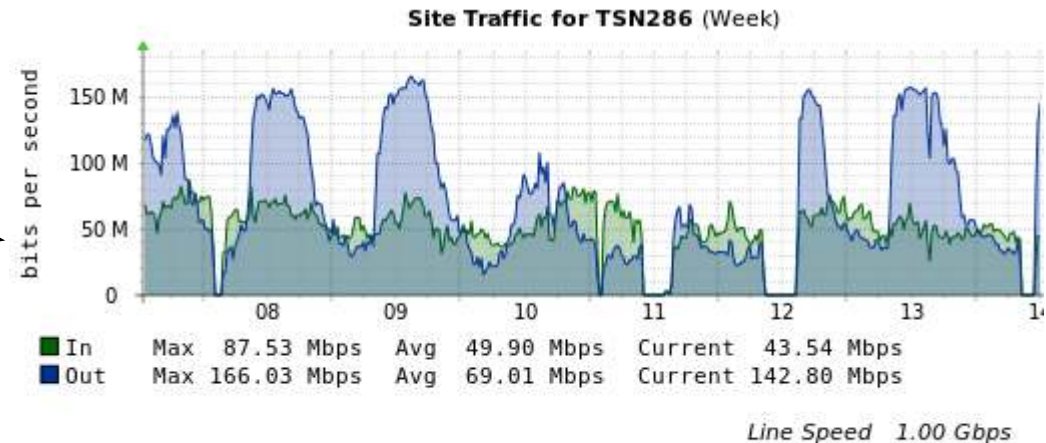
- Agreement between TENET and Alliance
- Neighbouring NRENs could
  - connect to UbuntuNet there; and
  - Via UbuntuNet, could
    - Exchange traffic with each other and TENET
    - Use TENET's intercontinental capacity at same price as TENET's institutions
- Problem: Awful costs of cross-border connections
  - No takers for a long time

# 2012: ZAMREN decides to do it!

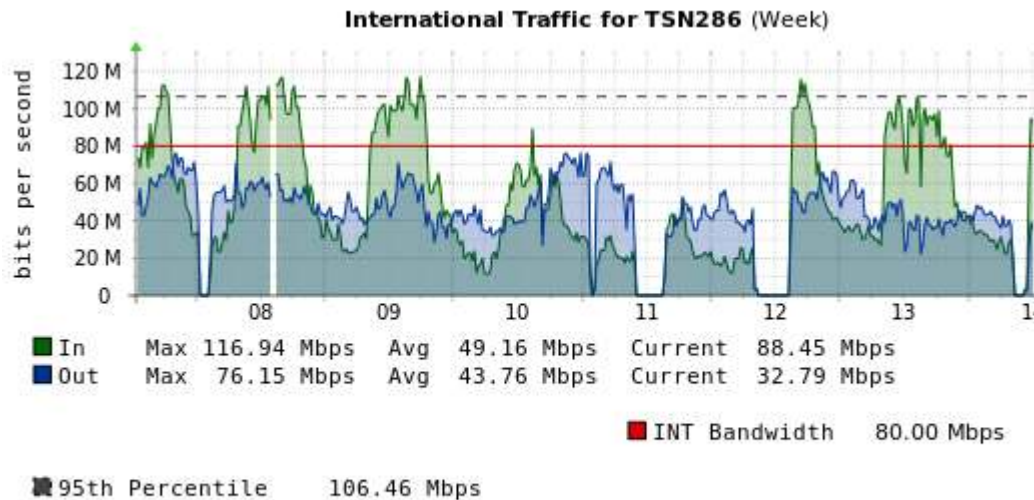
- ZAMREN rents an STM-1 from Liquid Telecom
  - from Lusaka, heading south
  - right through Zimbabwe
  - to TENET's node in a Johannesburg INX
- TENET extends the circuit
  - within the SANReN infrastructure
  - to UbuntuNet's Mtunzini Hub
- **First border-crossing REN link in Africa**
  - Two border-crossings!

# It's working!

Johannesburg => Lusaka  
7 -13 Nov  
Peak inbound: 166 Mb/s  
Peak outbound: 88 Mb/s



[ Wed Nov 7 13:00:00 2012 - Wed Nov 14 12:30:00 2012 ]  
(c) Threefive Systems (PTY) Ltd



[ Wed Nov 7 13:00:00 2012 - Wed Nov 14 12:30:00 2012 ]  
(c) Threefive Systems (PTY) Ltd

Intercontinental => Lusaka  
7 -13 Nov  
Peak inbound: 117 Mb/s  
Peak outbound: 76 Mb/s

## But needs an alternative route!



How can established NRENs  
help new NREN's connect to  
UbuntuNet?



**TENET**

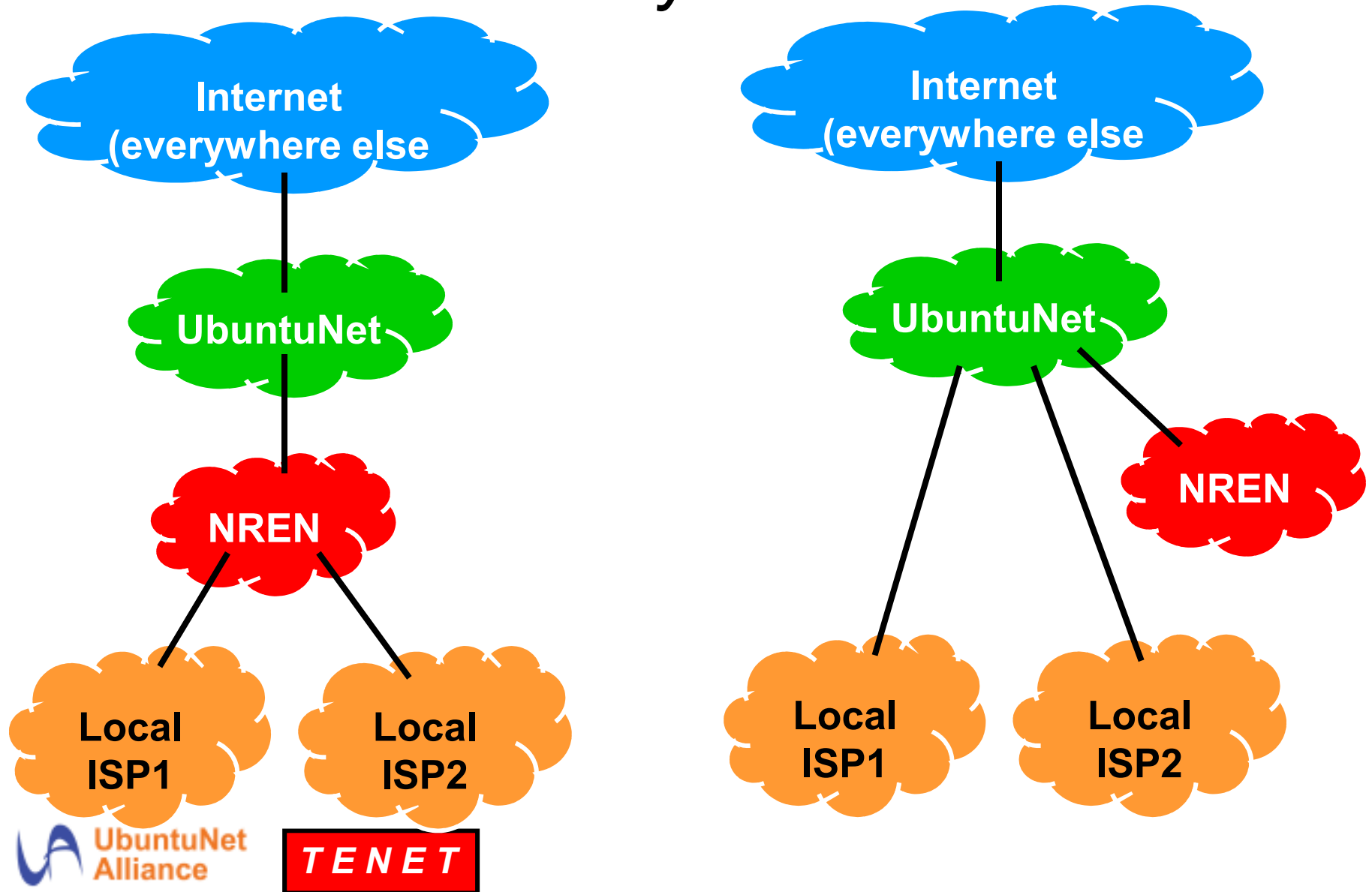
*ZAMREN's case illustrates that  
UbuntuNet can use NRENs'  
capacities...*

- p2p capacity within an NREN's backbone network
- Capacity to Europe within an NREN's intercontinental circuit(s)
- Serviced rack space for U-HUB(s) within NREN's facilities

# NREN becomes a service provider to the Alliance

- Parties execute a proper service agreement
- The Alliance can be charged
  - for marginal costs incurred by the NREN; or
  - At NREN's standard charge for the service
- The Alliance and TENET have signed such a service agreement covering
  - capacities used to support services to ZAMREN;
  - hosting the U-HUB at Mtunzini
  - operating the UbuntuNet network

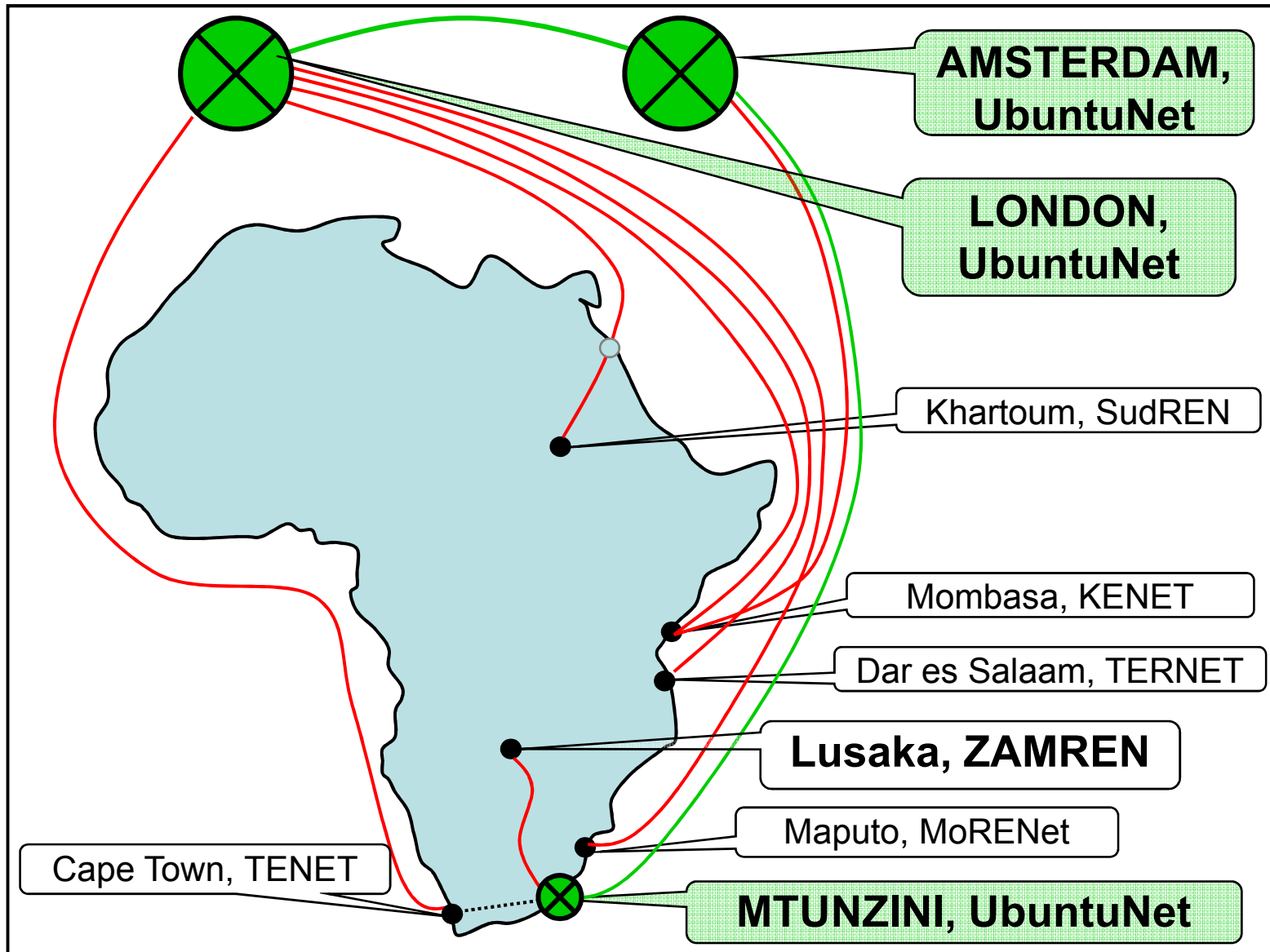
# Another way of assisting the Alliance: *Local Commodity Interconnections*



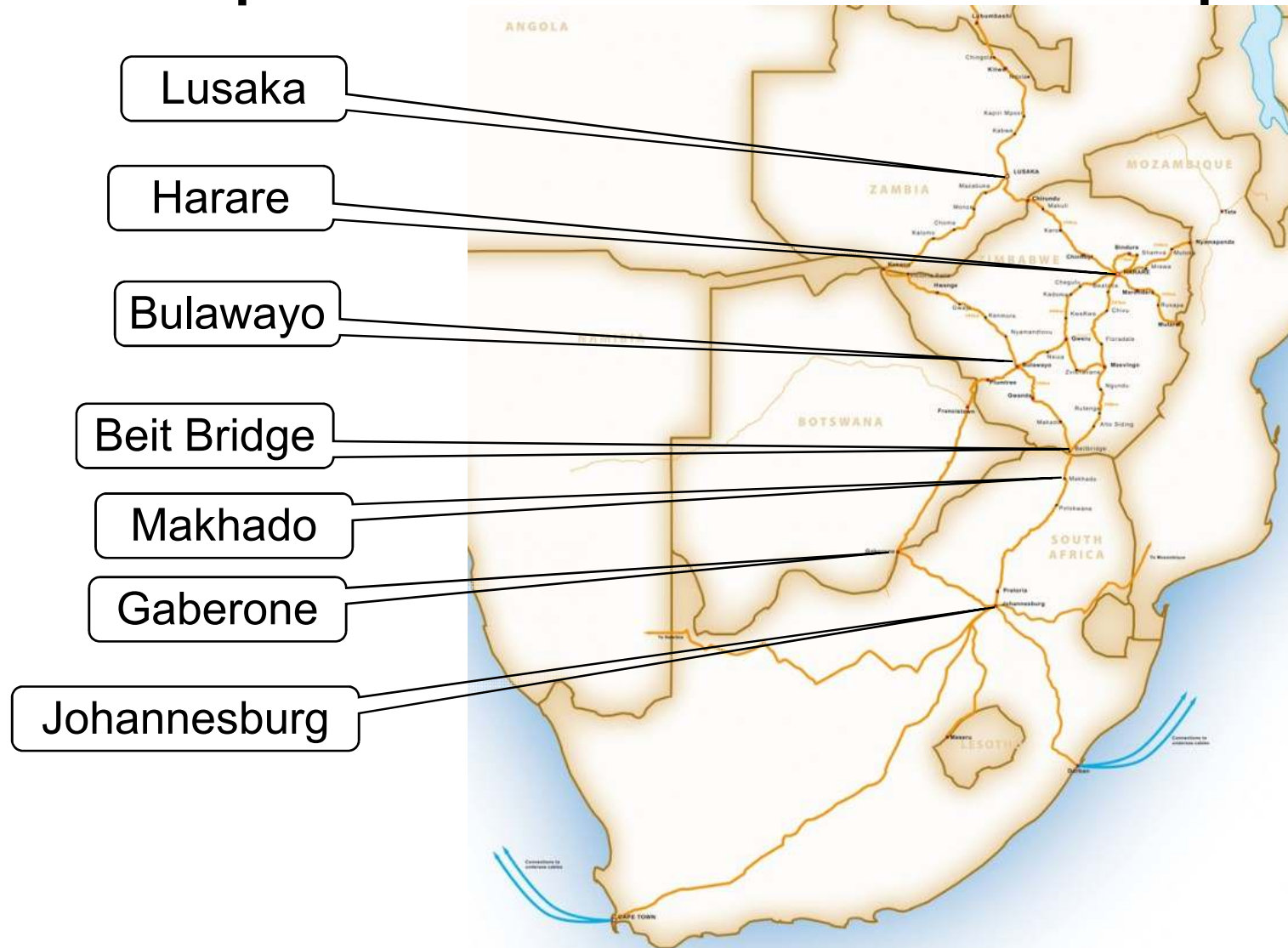
Last two slides...



# Today: U-HUBs in Amsterdam, London, Mtunzini



# Liquid Telecom's Fibre Map



Thanks for listening!

