Connecting West and Central Africa to the Global Research and Education Network

Africa Regional Internet Development Dialogue - Internet Society

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What are, and Why NRENs?

- REN: Research and Education Network
- Closed user groups with specific needs
    - e.g. huge bandwidth requirements during specific periods
- Platform for collaboration and local, regional and global level
- Dedicated to research and education
- Infrastructure either owned or leased from telecom and cable operators
- Different from commodity (commercial) Internet, but use same technologies
    - But RENs generally also provide commodity Internet to their members
- RENs are platforms for innovation with various organisational and funding models
    - Resources from members only, from government only or hybrid funding models

The African REN ecosystem

- **UbuntuNet Alliance - Incorporated in 2005**
  - Regional REN for Eastern and Southern Africa
  - 16 Members
- **ASREN – Incorporated in 2010**
  - Arab States Research and Education Network
  - 6 shareholders, including CNRST (Morocco), SudREN (Sudan), CCK (Tunisia) and EUN (Egypt) and CERIST (Algeria)
- **WACREN – Incorporated in 2010**
  - Regional REN for West and Central Africa
  - 13 Members

WACREN (1)

- Incorporated in 2010 as a not for profit organisation
- Currently 11 NREN members

• FasoREN – Burkina Faso • Cameroon – RIC • RITER – Côte d'Ivoire • GARNET – Ghana • Gn-REN – Guinée • MaliREN – Mali	• Niger-REN – Niger • NgREN – Nigeria • SLREN – Sierra Leone • TchadREN – Tchad • TogoRER – Togo

- Initiatives: RerBenin (Benin), GabonREN (Gabon), snRER (Senegal)
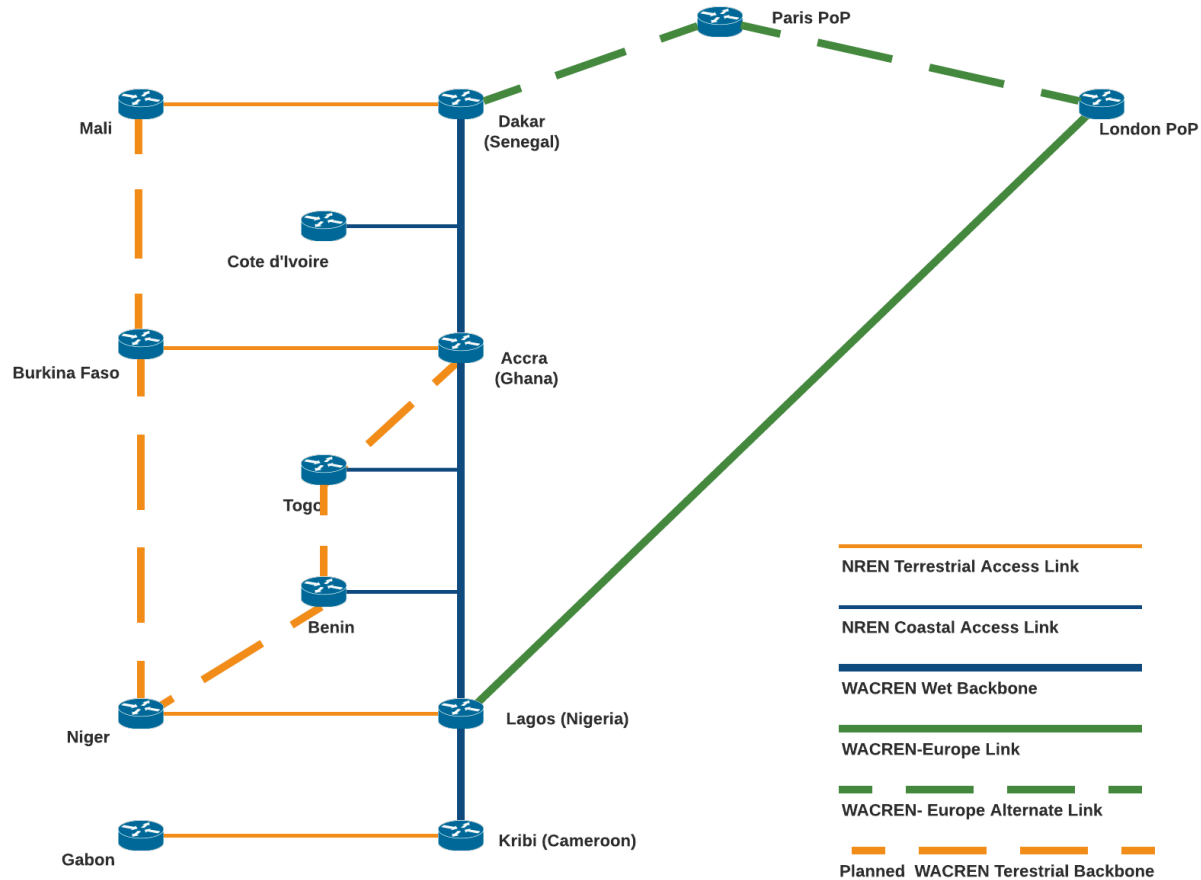- Associate members: RENATER (FR), Eko-Konnect (NG)

WACREN (2)

WEST AND CENTRAL AFRICA

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations

Proposed WACREN network topology (1)

- Core + Access
  - 10G+ Core
  - 1G+ Access
- 3-4 main hubs: Cameroon, Côte d'Ivoire, Ghana, Nigeria, Senegal
  - Final decision on hubs dependent of variety of connection options, readiness of NREN and cost
- Redundant links from hubs to NRENs
- At least 2 intl. links: to London and Paris or Marseille
- Multiple Submarine Cable Access
- Peering at Open Internet Exchange Points

Proposed WACREN network topology (2)

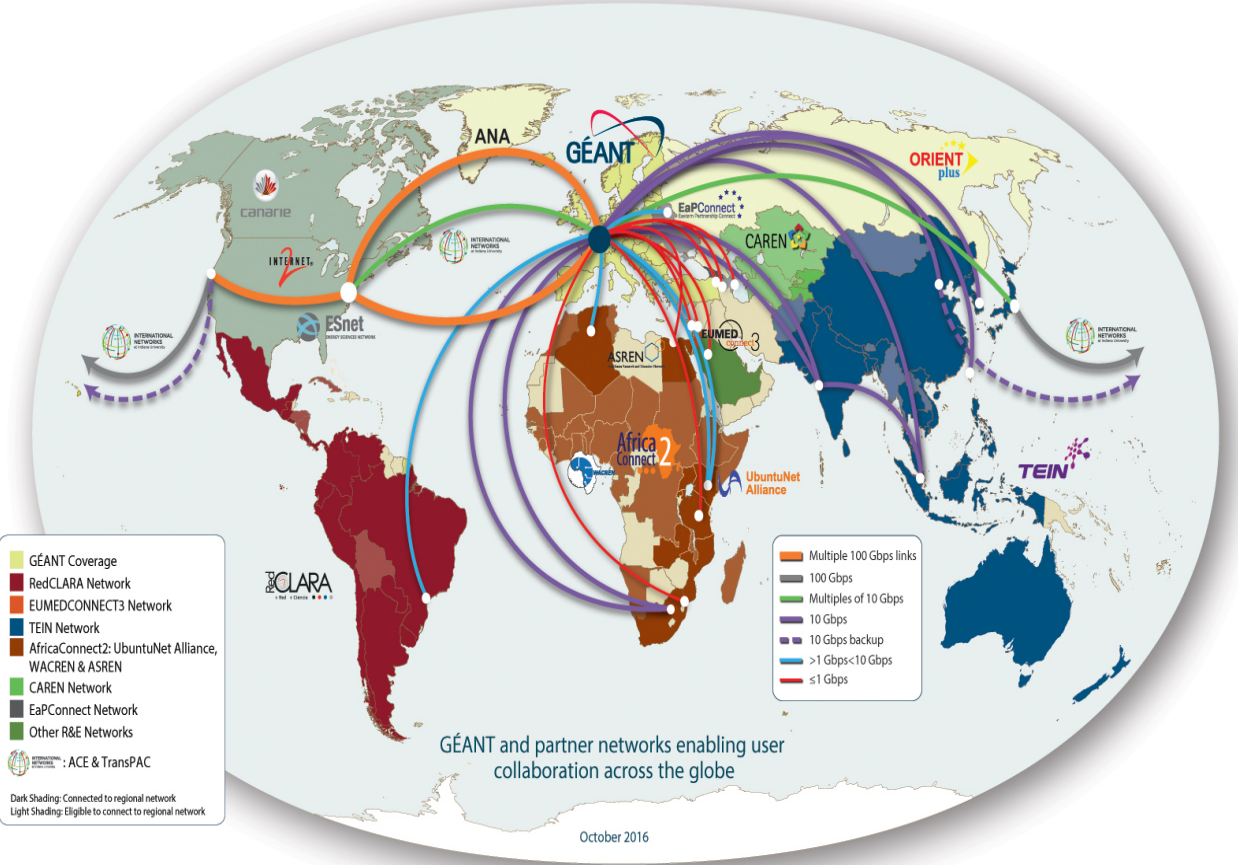# Current focus: AfricaConnect 2

- Second phase of the AfricaConnect Project
- EC Funding (26.6 M€)
- Project duration: 2015 - 2018
- Objective: Support RENs in Africa and interconnect with GEANT and the global REN
- Three clusters
    - Cluster 1: UbuntuNet Alliance
    - Cluster 2: WACREN
    - Cluster 3: ASREN
- 80:20% funding scheme

AC2 implementation in Cluster 2 (WACREN)

- Project started in June 2015
- Guiding principle: inclusiveness
- 10 countries expected to participate
- Sign-ups so far:
    - TogoRER (TG), MaliREN (ML), RITER (CI), FasoREN (BF)
    - Expected to join soon: NgREN (NG), GARNET (GH)
- Procurement process:
    - Procurement for connectivity started in June 2016
        - Best and final offers for first phase (wet backbone) received
        - Dialogue with operators for terrestrial links ongoing
        - Contract(s) to be signed soon
    - Equipment tender closed
        - Meeting with bidders mid' May 2017
- Objective: network live in Q3/Q4 2017

Getting W&C Africa in the global REN map…

GÉANT — At the Heart of Global Research and Education Networking

GÉANT and partner networks enabling user collaboration across the globe

October 2016

Legend:
- GÉANT Coverage
- RedCLARA Network
- EUMEDCONNECT3 Network
- TEIN Network
- AfricaConnect2: UbuntuNet Alliance, WACREN & ASREN
- CAREN Network
- EaPConnect Network
- Other R&E Networks
- : ACE & TransPAC

Dark Shading: Connected to regional network
Light Shading: Eligible to connect to regional network

- Multiple 100 Gbps links
- 100 Gbps
- Multiples of 10 Gbps
- 10 Gbps
- 10 Gbps backup
- >1 Gbps<10 Gbps
- ≤1 Gbps

GÉANT
Networks · Services · People
www.geant.org

Funded by the European Union

Contacting WACREN ...

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THANK YOU

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