

## **GAIA WG Notes IETF104**

Prague, March 29, 2019

Agenda and Slides: <https://datatracker.ietf.org/meeting/104/session/gaia>. A summary of the presentations:

### **Introduction (co-chairs)**

Jane Coffin (onsite), Leandro Navarro (remote)

### **Developing Peering and Interconnection Through Partnerships in Africa - Michuki Mwangi**

Interconnection and traffic exchanges

Partnerships and collaborations

Interest on IXPs, first study in 2008, majority of traffic in South Africa

Several gaps identified

Partners and collaborators

Training workshops, technical assistance, IXP meetings, African Interconnection Forum

African IXP association, supporting more than 20 IXPs, policy makers, studies

Positive evolution: African Union AXIS project

AfPIF

Goal 2020: 80% local traffic + 20% international

Now: 44 IXP, from 150 to 800 networks

Several details about growth of IXP and effects

Still challenges (e.g. sustainable business models, volunteers, governance), work still continues:

support IXPs with equipment, capacity building, support, measurements, policy issues (cross border interconnect, capacity)

New partnership with FB: training and community mobilization, equipment for upgrades, help with peering ecosys evolution

Deployment of caches in IXPs challenging

### **RIPE NCC Data and Tools - Mirjam Kuhne**

RIR around the world

RIPE Atlas: active network measurements, public data available (atlas.ripe.net)

User-to-user measurements (other than client-server measurements): p2p and serverless connections

Ring representation of network

Geolocation IPmap

Routing Information Service (data from BGP collectors)

RIS Live stream

RIPEstat: stat.ripe.net (graphical interface)

Many datasets

Widget and data API

labs.ripe.net among other useful tools! and a blog

### **Fibre Network Deployment Paradigms - Xavi Poza Sureda**

TICAE-Guifi, Fibre operator in the guifi.net ecosystem

1. Feasibility of the project:

CAPEX, civil works, transport (Fibre or Radio) + Forecast OPEX

2. Technical feasibility: where do we pass the cable? (front/facade deployment)

conduits, poles, movistar geo database (competition authority forces Movistar to rent conduits), cost of replanning (more capacity))

deployment of fiber over water or sewer, location of data center

3. Legal aspects: submit deployment plan to public adm, project for municipality, owners permissions (including wayleave), MARCo (permissions from Movistar)

4. Network design (GPON network), consider power loss of all elements along the path, Fiberfy for fibre planning in guifi.net
5. Cable deployment: the hard work outdoors for a tough work, cables and connectors, many tools needed to help in deployment, loops as a buffer, GPON electronics on the operator side and the home.
7. Maintenance: reflectometer (OTDR)

### **Best Current Practice on Alternative Operators**

The plans for a new document on mostly community fibre. Anyone has contacts to learn about cases?

Cooperative Fibre Providers

BCP: ideas and call for contributions

Paired to RFC 7962: Alternative Network Deployments: Taxonomy, Characterization, Technologies, and Architectures

“new generation” access

Understand mechanisms and environmental factors for/against alternative networks → replication

Survey about initiatives, with geo, financing, legal, economic, development, influence of universal service funds

Contributions welcome: structure of the doc, cases to contribute, etc. -> send to leandro

### **Colnodo - Cellular Networks/Community Internet as a Social Program**

Julian Casasbuenas, Colnodo-APC, Community Networks in Colombia

Community cellular network

Expensive to connect fibre optics across the country, deployed by the government

Each community has its own cell phone network and Internet connection, and manages all aspects.

Tech: BTS and control station OSMOCOM and OpenBSC

The community operator: one person that administers, supports and performs maintenance.

Pilot goal: feasibility of community cellular service

Uses expected from the community, defined by its members

Involvement in deployment as well, need solar panels to power the installation

Areas formerly controlled by FARC.

Negotiation with ICT ministry and national agency of spectrum to implement this pilot (get permission to run the pilot)

2 years of negotiation already

Continued participation of the community, expecting model that is sustainable in economic and also social terms.

very nice video about Colnodo here: [https://www.youtube.com/watch?v=6BP\\_omDqWGw](https://www.youtube.com/watch?v=6BP_omDqWGw)

### **LOCNET - APC - Research Action Project - Supporting Community Networks**

Nico Pace, APC-Alternmundi-Libremesh, LOCNET and Global Community Network Development

APC.org work on community networks so far

2019: support CN (12 identified) in Asia, Africa and Latin America

Helping CN to support each other: peer exchanges, produce materials, build a syllabus, awareness raising and movement building

Pathfinder grants: tech, policies, innovations, creating legal fw favorable to CN

### **Next steps for GAIARG**

The next gathering will be in IETF105 in Montréal in the last week of July. Tell us about your plans if you'd like to share anything.