

GAIA WG Notes IETF105

23/7/2019 Montréal

Slides: <https://datatracker.ietf.org/meeting/105/session/gaia>

Mirjam Kuhne - RIPE NCC Data and Tools

Several tools, Network operator groups, Who they are, what RIPE NCC can do, Community Projects Fund, Hackathons, Academic cooperation initiative (RACI), ambassadors.

Q: Question about the Community project funds

A: 3rd year doing this program.

M-Lab - Supporting Open Internet Research, Lai Yi Ohlsen, Chris Ritzo - Measurement Lab (remote, 12m)

An open repository of user contributed data about Internet Infrastructure

Mission: measure the Internet, save data, make it universally accessible.

A very diverse community

High capacity servers next to content

Many experiments, datasets in BigQuery

Data in diverse formats: raw, visual, bigquery, several applications

Publications: <https://www.measurementlab.net/publications/>

Support for researchers

Community based research: several examples

Indigenous communities and net-dev. Matt Rantanen - Southern California Tribal Chairmen's Association (SCTCA) (remote 12m)

Tribal connectivity, tribal population were moved to remote places, tribes are addressing their needs, using wireless p2p links, digging is an issue, solar power very helpful.

20 years of backbone bypass: avoid difficult places and indian reservations, connectivity deserts (no connectivity, even cellular)

Fiber deployments in these connectivity deserts, draw new lines on the map through small villages, reservations, libraries, etc. spread across the country. Example with Navajo Nation.

Tribal communities underrepresented in statistics. Wireless as a step towards fiber, although fiber may be not feasible.

Q: Connecting libraries, willing?

A: datacenter to datacenter OTT, while support for communities can be built.

An open source tool for wireless link planning and mesh network topology generation, Leonardo Maccari - U. Venice (12m)

Part of the netCommons.eu project (2016-19).

TSUT tool: tool and methodology to plan your network.

Code publicly available.

Geo dataset: LIDAR, OpenStreetMap/Castastro

A CN simulator + database of wifi p2p devices + web interface

Discussed in Wireless Battle Mesh in Paris recently.

How a network could grow, growth models and stop condition (bandwidth per node and effect on other nodes)

Attachment algorithm, goal of scalability

Tool can help model growth of a network, feasibility of a link

Q (Kurtis): where LIDAR maps comes from?

A: from public administrations

Q: Any pushback from any incumbent suppliers, conflicts

A: Diverse/many cases of conflict or collaboration

Technologies for decentralized urban community cellular networks, Kurtis Heimerl, Spencer Sevilla
– UW (12m)

Community cellular networks

UW: interaction between technology and poverty

About community networks

Many in 802.11 mesh networks

Community cellular (OpenBTS, Osmocom, AOI, Rhizomatica, Indonesia)

Focus on LTE - CoLTE: Oaxaca and Indonesia

Community cellular: appropriate for cities as well.

Why city-scale wifi is very hard: at city scale, at mobility, at spectrum coordination

Cellular is good at wide area, at mobility.

What's stopping us (CN) from building this? licensed spectrum (CBRS), price (now <2500 USD), interconnect (LTE is IP), operations (hard to use? wireless ISPs doing it, private LTE, carrier aggregation)

What is the plan: Federated LTE/NR (distribute ledger for a federated backbone)

Community LTE in Seattle: two networks federated, you can join too. roaming across.

Q: privacy?

A: the internet way...

Q: requirements on backhaul

A: approx 100 Mbps, but less possible

Q: roaming across many technologies

A: everything in the IP env works

Q: how much is pirated spectrum

A: CBRS = 0

Q: process

A: CBRS national license, national allocation (automated spectrum allocation)

BCP on cooperative fibre networks (alternative operators), Leandro Navarro – UPC (12m)
[postponed for next time]

AOB: Next steps for GAIARG, including Update of RFC 7962 "Alternative Network Deployments..."
August 2016 (5 m)

If interested in updating RFC 7962 please contact gaia-chairs@ietf.org