Rise of the Crypto Mesh

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Problem Statement

• Internet access requires actual physical infrastructure

• Several innovations addressing a variety of problems

• In 2012, we deployed an adhoc WiFi crowdshared network in Nottingham, UK (called PAWS)

• Can we share the unused bandwidth with your poor neighbour on a less than best effort QoS?

• Interesting outcomes - ideas for new business models: new VNOs (e.g. local council, charity), reverse payment models etc..

• But project failed, no socio-economic incentives for keeping the PAWS nodes alive and to share the network for free

• Technical - better WiFi coverage requirements
Problem Statement

- Community networks + WISP models across the globe have been successful

- e.g. guifi.net (~100K users) - social cohesion + a good economic compensation system (manual and cumbersome).

- Taknet (500+ users) - community mesh + WISP model + amortised backhaul costs

- 4.1 billion yet to be connected | we need more & more....

How do you incentivise network deployments@scale in underserved communities in emerging markets?
Autonomous Modular Mesh Blockchain Router (AMMBR)

The Sharing Economy for telecoms infrastructure

- Multi-frequency, unlicensed spectrum, wireless connectivity
- Modular Edge Computing Platform
- Micro Payments layer for true Peer to Peer marketplace

Bringing fast Internet and digital inclusion to everybody
Multi-Spectrum Mesh

Ammbr is built to connect - whatever the network

Compatible modules for specific networks and devices can be added as required

✓ Cat-NBI
✓ Cat-M1
✓ Sigfox
✓ ANT
✓ LoRA
✓ BLE
✓ Zigbee/Thread

- Bluetooth
- Wifi
- WiMAX
- 4G/5G LTE
- 802.3 ETHERNET
- ONT FIBRE

PLUG & PLAY
Transit Pricing

Each AMMBR node is paid. Neighbouring nodes pay and charge for transit traffic.
Self Sovereign Digital Identifier

Each Ammbr owner manages their Digital Identity and Digital Currency Wallet with a secure, air-gapped, management appliance the size of a credit card, and not much thicker.

Digital identity is the unique representation of a subject engaged in an online transaction. A digital identity is always unique in the context of a digital service, but does not necessarily need to uniquely identify the subject in all contexts. In other words, accessing a digital service may not mean that the subject’s real-life identity is known.

~ National Institute of Standards and Technology | NIST
Blockchain

Configuration and transaction data are all controlled via the immutable ledger that is the Ammbr Blockchain.

✓ Rating and Price Discovery
✓ Pricing
✓ Metering
✓ Billing
✓ Payment
✓ Reconciliation
✓ Reporting
✓ Auditing
Ammbr uses an extremely high-speed ASIC processor in each device, uniquely identified and linked to its owner’s KYC compliant digital identity, to implement a “green”, energy-efficient Proof of Work based consensus mechanism

Proof of Velocity/Proof of Elapsed Time (PoV/PoeT)

Micropayments for Telecommunications in Real Time
Edge Computing Platform

Spring Loaded Connector Bus
Magnetized Foot Recess
Need more services?
Simply drop in the module

Edge Cloud Server
Edge Cloud Storage/Cache
Edge IoT Management
Ammbr | Solution for GAIA

- **Startup cost**: minimal initial financial investment as devices paid from service usage
- **Feasibility**: training and assistance to local initiatives & pilots
- **Flexibility**: local operators instead of a global/national single operator
- **Modularity**: diverse access technologies adapted to local conditions (wired, wireless, mobile) + new (disruptive) services (e.g. fintech)
- **Extensibility**: open source and open hardware components
- **Sustainability**: local revenue from operation to maintain and expand capacity & coverage of service
FULL SPECTRUM
MESH NETWORK

Earn Ammbr Tokens To Carry Telecom Traffic
Become a micro-telecoms provider

Questions?

www.ammbr.com