Gbe Mesh & Guaso Coin

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Executive Summary

Gbe Mesh & Guaso Coin

The *Gbe Pass* turns the smart-phone in your pocket into a cooperative ISP. By activating 802.11s mesh and BLE radios that normally sit idle, each phone becomes both user and micro-tower. A flat annual fee of 12 Guaso Coin (GC)—unlocks unlimited routing for 365 days

How it works

A mesh network turns every participating phone, laptop, or router into both a user and a mini-tower. Each node in a mesh sends out “hello” beacons so nearby devices can discover one another and form direct Wi-Fi or Bluetooth links. If the destination is farther away, packets leap across participating nodes. When any connected device reaches fiber, LTE, or satellite back-haul, that gateway transparently carries the entire cluster onto the wider Internet. The mesh heals itself whenever a device moves, powers off, or becomes congested. Every newcomer adds additional relay capacity, coverage is broadened and bandwidth increases instead of being sliced thinner. The result is affordable and resilient connectivity.

Local relay	Wi-Fi Direct hops
Back-haul	Partnerships providing gateways (fiber / LTE / VSAT)
Routing overlay	BATMAN-adv + libp2p gossip-sub
Payment & auth	Telegram @GbeMeshBot → Mesh-Pass

Economic engine

- Predictable fees. An on-chain “Treasury bot” keeps GC between 0.14 – 0.20 USDC, anchoring the 12 GC pass near US $2.
- Treasury bot; 20 % of supply plus subscription-funded USDC.

Road to scale

| 2025 Q3 | Token + on-chain collectibles pre-sale; Accra beta mesh (2 000 users) || 2025 Q4 | Abuja & Lagos pilot; || 2026 Q1 | 100 000 users; City-Node on-chain collectibles launch funds gateway roll-out || 2026 Q2 | 650 000 users; satellite back-haul pilot extends reach |

The Gbe Mesh

2 Problem & Opportunity

Mobile data across West Africa is too expensive. Many users ration data, curtailing online work, study, and leisure

2.1 Latent opportunity

- Dense handset grid. Smartphone density already exceeds 1100 devices/km² in Accra, Lagos and Abuja.
- Unlicensed spectrum. Sub-100 mW Wi-Fi / BLE is license-exempt under Ghanaian law.
- Idle capacity. Phones sit radio-silent > 90 % of the day; now users can harvest the slack bandwidth.
- Crypto based. A token-based fee model lets the network reward early relayers and gateway hosts from day one, rather than waiting for break-even like a traditional ISP.

2.2 User Journey

1. Get GC → Buy on any Solana DEX
2. Subscribe → visit @GbeMeshBot on Telegram
3. Receive license → Bot returns a signed Mesh-Pass blob plus the Gbe Pass download link.
4. Install → One-tap installer unlocks bootloader, applies root patch, installs Gbe Pass, validates license.
5. Connect → App auto-discovers peers; traffic starts flowing.

2.3 Why This Design Works

- Zero proprietary hardware
- License exempt spectrum
- Predictable economics — Flat 12 GC annual fee

2.4 Adoption — Market Penetration

Users will switch as soon as latency is acceptable.

Roll-Out Sequence

Seed (≤ 2 000 nodes)	Mesh-Pass introduced formally	Early adopters route traffic through the mesh to avoid airtime top-ups.
Cluster (2 000 – 50 000)	Average hop count < 3	Users inside “mesh islands” stop buying mobile data except when they travel outside the area.
Community (>50 000)	City-Node gateways link clusters across neighborhoods	The mesh carries the majority of discretionary traffic within key areas in the city
City (> 250 000)	xxxxxxx	Mesh-Pass Ubiquitous

3 Technical Architecture

Figures below based on rooted Pixel 4a phones and MT7981A gateway boards.

3.1 Device Level Networking

Most smartphones ship with radios that normally sit idle. Gbe Pass—delivered as a single APK plus root patch—turns them into fully fledged mesh nodes.

Purpose	Radio / Stack	Why it matters	Field result
Neighbor discovery	BLE 5.x (coded-PHY when supported)	Ultra-low overhead, penetrates walls	97 % peer detection within 80 m LOS
Data transport	802.11s mesh (40 MHz @ 5 GHz; fallback 2.4 GHz)	Native multi-hop, no group-owner hack	Median two-hop RTT 210 ms
Session layer	QUIC v1 over UDP	Fast loss recovery	Sustained 720 p video at 25 % loss

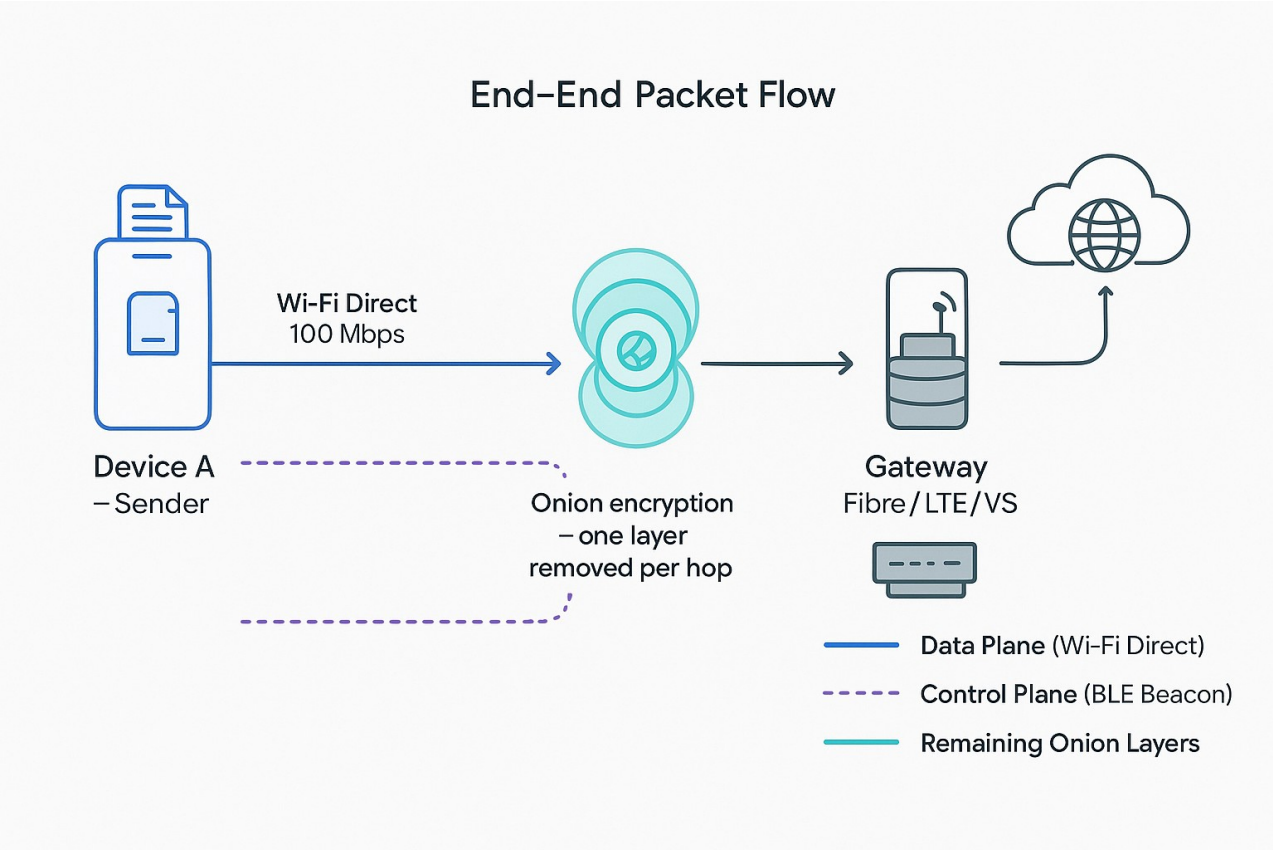
Workflow

1. Discovery — Phones broadcast a 128byte encrypted beacon every few seconds on BLE.
2. Linkup — Upon mutual detection, radios auto-switch to 802.11s and join the local mesh SSID.
3. Store and forward — If no gateway is reachable, packets wait in a local queue until one appears.
4. Dynamic channel — Nodes gossip airtime utilization; when congestion > 80 % the cluster migrates to a cleaner 40 MHz block

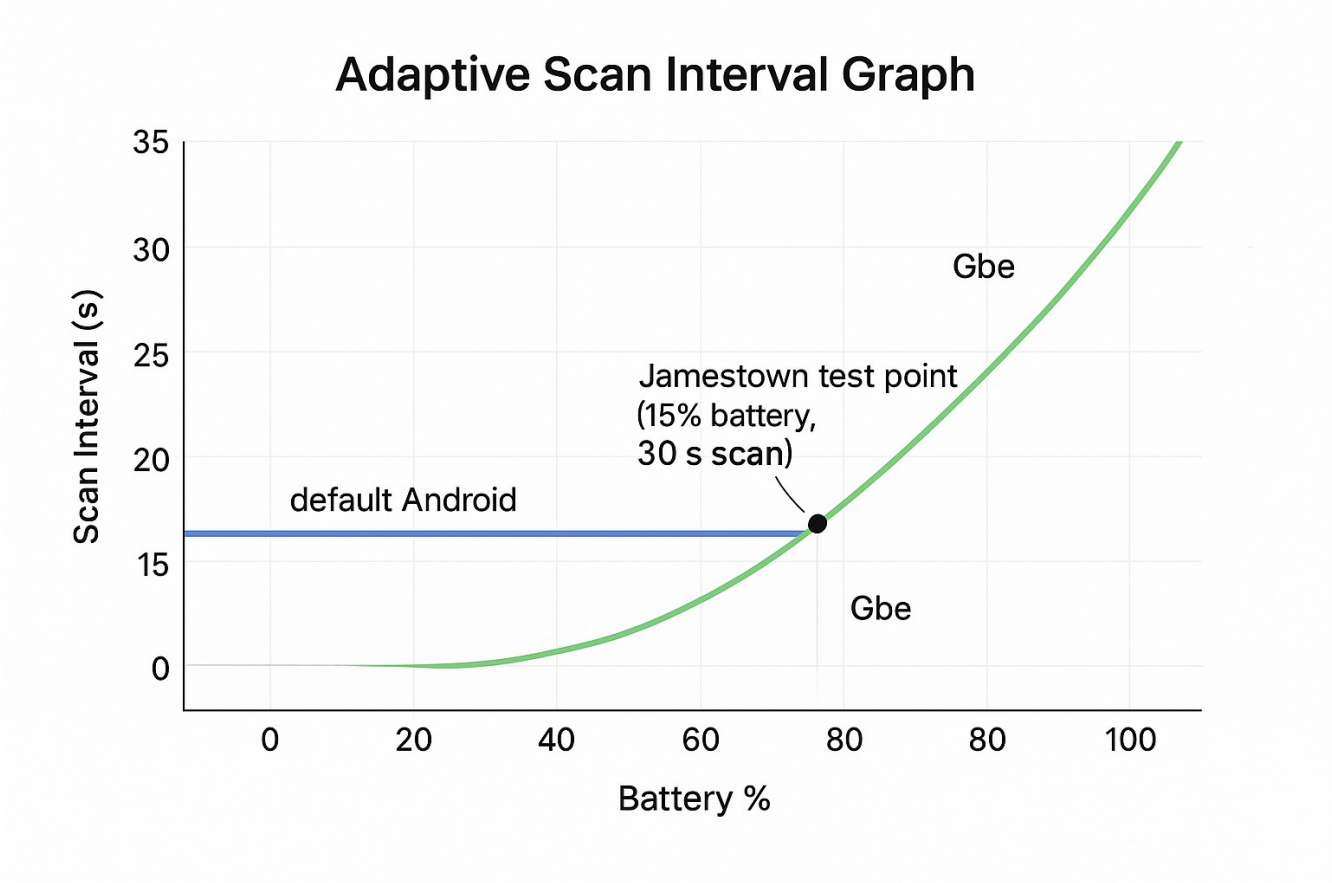
With Gbe Pass installed, two phones can find each other, create a private WiFi link, and start forwarding traffic without towers or user input

3.2 Security & Privacy

Threat	Mitigation
Packet inspection	ChaCha20-Poly1305 end-to-end
Traffic correlation	4-layer onion + 128-byte padding
Malicious relay	Signed RSSI/RTT beacons + path scoring



- — EndtoEnd Packet Flow (updated for 802.11s)



- — Layered Gbe Mesh Stack

4 Token Economics

The Guaso Coin (GC) economy is engineered to keep the annual 12 GC access fee close to US $2 while supplying the protocol with permanent liquidity and an automated price stabilizer.

4.1 Genesis Supply and Allocation

Bucket	GC (Mn)	% of Supply	Custody & Purpose
Private Placement	40	4 %	Pre-sale for initial infrastructure outlay, gateway sponsors; proceeds earmarked to reinforce the liquidity pool after the fair-launch auto-listing.
Public Fair-Launch	60	6 %	Pump.fun listing; open to anyone.
Permanent Liquidity	30	3 %	LP token burned.
Treasury Reserve	200	20 %	Funding price-stabilizer.
Board-Member NFTs	50	5 %	Long-term compensation for Board Members.
Builder NFTs	5	0.5 %	Rewards for early contributors and gateway hosts.
Ecosystem Grants	35	3.5 %	Audits, integration, research
Strategic Reserve	580	58 %	Long-term pool for future coverage expansion and deeper liquidity. Any movement requires Board approval and on-chain disclosure.
Total Supply	**1 000**	**100 %**	Hard-capped at genesis.

Board and Builder allocations vest monthly, linear over 36 months and are not expected to circulate immediately.

Why a 55 % Strategic Reserve? Building a physical mesh across multiple countries is capital intensive; the reserve lets the Board inject additional GC into future liquidity pools and across new market roll outs, without ever inflating beyond the genesis cap.

4.2 Subscription Flow

Breakdown of the yearly subscription fee

Slice	Destination	Function
2 GC	Treasury	Future *sell* interventions when price overheats.
4 GC	Ops Wallet → swapped to USDC	Pays gateways, bandwidth, support.
6 GC	Converted to USDC, deposited into Vault wallet	Fuels *buy* interventions when price softens.

Even at one million paying users the protocol absorbs only 12 M GC per year—1.2 % of total supply

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4.3 Price-Band Stabilizer (“Treasury Bot”)

Condition (checked every 6 h)	Action	Volume Cap
GC > 0.20 USDC	Sell Treasury GC into USDC	1 % of treasury
GC < 0.14 USDC	Buy GC with vault USDC	1 % of vault

5 Governance & Incentive Framework

Gbe's control layer is on-chain from day one. Authority sits entirely with three fixed-supply on-chain collectibles classes that receive voting rights and vested GC

5.1 NFT Classes & Supply

Board	12	50 M GC (12 %)	91 % of distributions
Builders (GBE-B1000)	500	5 M GC (18 %)	9 %
City Node Badge (CN-5000)	0 – 50 000[3]	—	+5% traffic fees

Unsold on-chain collectibles are burned; their GC allocation reverts to the Treasury pool.

5.2 Making Changes: Proposal Life-cycle

- Any holder of a GBE-B1000 may submit a proposal; code or parameter change must include audited diff.
- Builders Vote – Snapshot at block N; quorum 20 % of outstanding Builders votes; simple majority passes.
- Board Vote – Snapshot at block N+1 440 (~24 h later); ≥7/12 Board votes required.
- Time-lock – 48 h delay; contract publishes call-data for community review.
- Execute – On-chain program (Governance v1.0) dispatches transaction to target module.

5.3 Economic Rights

- Gateway rebates – City Node holders earn an additional 5 % on the traffic fees routed through their registered gateway address.
- Exit liquidity – on-chain collectibles are transferable; the Governance program enforces vesting cliffs by pausing GC claim rights, not transfer rights.

5.4 Transparency Stack

Voting	Telegram
Treasury	SPL-token balances exposed via Solana-FM widgets
Analytics	In-house Grafana + PostgreSQL indexer
Audit trail	On-chain program logs + IPFS build hashes

Appendix – Cost Comparison

How much West Africans pay for mobile data today — and where a US $2 per-year offer would sit

Ghana (Accra)	US $0.40–0.49 for 1 GB prepaid (National Communications Authority, National Communications Authority)	MTN “10 GB for GHS 50” (≈ US $3.9) (Coupons Ghana)	~US $14.4	~US $252 living-wage (urban) (Global Living Wage Coalition)	0.48 %	0.08 %	-83 %
Nigeria (Lagos)	US $0.38 per GB (Techfinance, Business Day)	MTN “10 GB for ~~₦~~4 500” (≈ US $4.1) (MTN Nigeria, MTN Nigeria)	~US $13.7	~US $178 median salary (EARLY)	0.64 %	0.08 %	-88 %
Côte d’Ivoire (Abidjan)	US $1.18 per GB (BestBroadbandDeals .co.uk)	Orange “8 GB for CFA 5 000” (≈ US $8.3)[3]	~US $42.5	~US $180 (World Bank GNI pc)	2.0 %	0.08 %	-96 %
Senegal (Dakar)	US $1.63 per GB (BestBroadbandDeals .co.uk)	Free “10 GB for CFA 5 000” (≈ US $8.3)[3]	~US $58.7	~US $213 (World Bank GNI pc)	2.3 %	0.08 %	-97 %

Notes

- 3 GB/month approximates GSMA’s 2024 median smartphone consumption for Sub-Saharan Africa (SSA).
- Median- or living-wage benchmarks used because mean averages are skewed by high-income outliers.
- CFA-zone bundle pricing converted at XOF 600 ≈ US $1 May 2025.

Competitive landscape

MTN / Airtel / Glo (NG, GH)	Volume-capped bundles (daily, weekly, monthly). Cheapest headline price may require overnight usage windows. Data rolls over but expires every 30 days.

Orange / Sonatel (CI, SN)	“Illimix” packs give uncapped social-media access but throttle video; full-speed data charged per GB and capped.
FWA Home-Broadband (5G routers)	Fixed location, device financing costs US $80-120. Minimum US $15-30 per month for 100 GB; unreachable for > 70 % of households.
Starlink Residential	Hardware US $400+, service US $45–50 / month; only affluent SMEs and NGO field sites sign up.

How much of their wallet do West Africans spend on data today?

- Alliance for Affordable Internet (A4AI) reports the SSA median user spends 5.7 % of monthly income for just 1 GB. (Alliance for Affordable Internet)
- National telecom regulators put the figure lower in Nigeria and Ghana (~0.6%), but that still breaches the “1 for 2” goal (1 GB ≤ 2 % income). (National Communications Authority, Techfinance)
- Lower-income quintiles pay the steepest share: e.g., Liberia’s poorest 20 % fork out 47 % of monthly income for a single GB. (Alliance for Affordable Internet)