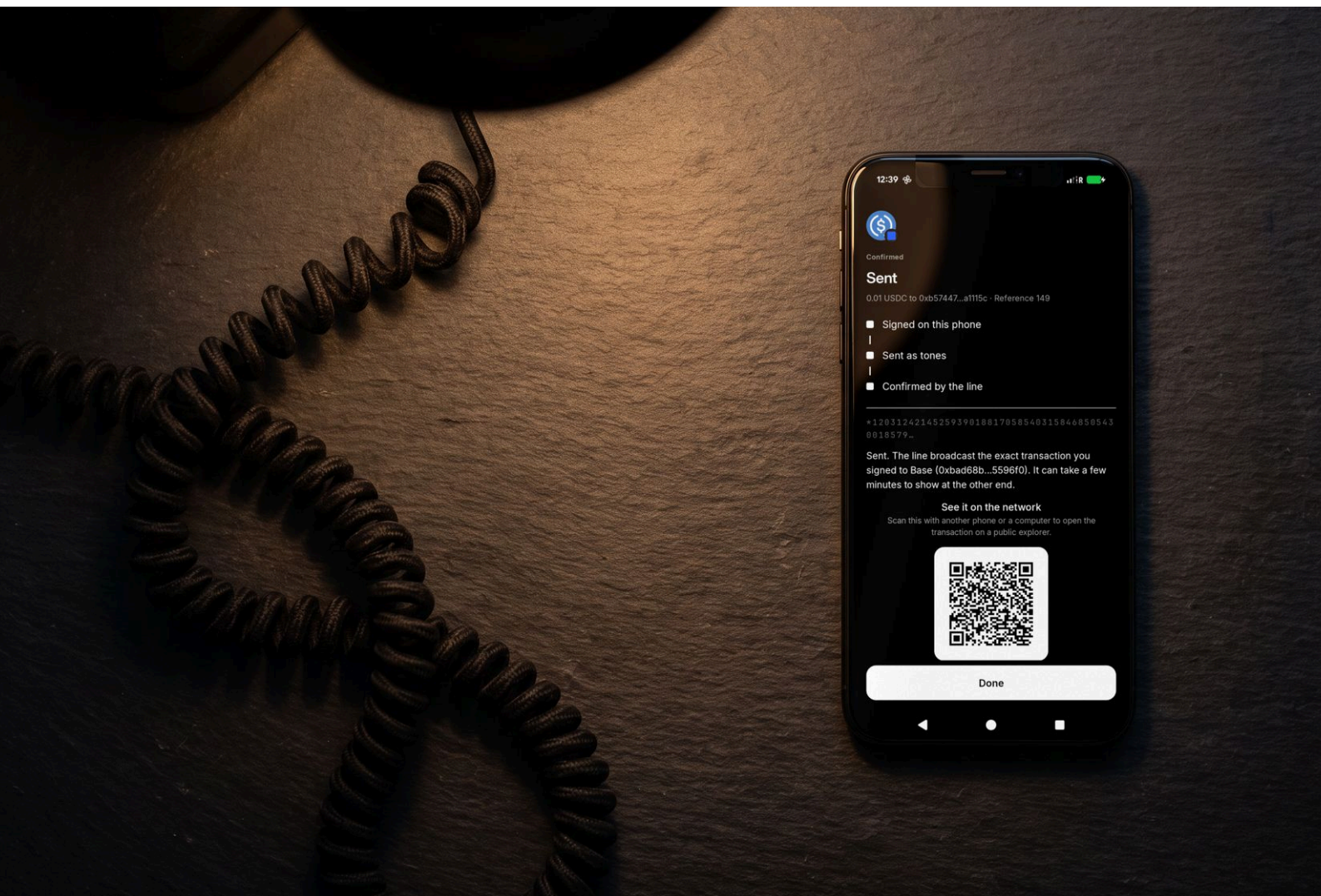




How a call moves money

Technology overview

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TELRPC sends a signed blockchain transaction over an ordinary phone call, from a device that never goes online. On 11 October 2026 one USDC on Base left a phone with no internet permission over an ordinary call and confirmed in block 52,460,479 (0x54cc6ddc...78b1a7), public on any Base explorer.

A TELRPC signer needs no internet connectivity at any point: not at key generation, not at signing, not at broadcast, not for balance reads, not for fee settlement. The transaction travels outward as DTMF signalling over the public switched telephone network. The chain state a transaction needs comes back offline: by an air-gapped QR relay (an internet-connected screen shows public chain state as a QR code and the signer reads it with its camera), or by the echo, in the caller ID of a call the signer declines in silence.

TELRPC is device-agnostic. The signer may be a phone app, a purpose-built device with no radio, an isolated module or addon inside other hardware, or code built into another app; the TELRPC Wallet for Android is the product in production today. The broadcast-and-state rail also stands on its own: a party that signs on its own device, hardware wallet, or MPC setup can use TELRPC only to broadcast the signed transaction and to read the state a send needs. TELRPC need not be the signer.

0 bytes of internet data, ever	4 app permissions, none of which can open a network connection	~95 s of tones for a USDC transfer; about 2 minutes from call to confirmation	64 B of signature, bound to payee and amount
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1

What it covers

Receive works on every major chain, each address derived on the device from one seed, across 144 on-chain-verified tokens and any custom token added by contract. Send is live across 36 EVM networks, including Ethereum, Base, Arbitrum, Optimism, Polygon, BNB Chain, Avalanche and World Mobile Chain, with native coins and every token, and across Bitcoin, Solana, Litecoin, Dogecoin, XRP, Tron and Cardano, signed offline and broadcast over the call. Beyond transfers, the wallet signs smart-contract calls the same way, and token swaps through Uniswap on nine networks (Ethereum, Base, Arbitrum, Optimism, Polygon, BNB Chain, Avalanche, Linea and Blast), with the price read by call. In Swap the wallet lists the 144 verified tokens plus the 2,841 tokens on Uniswap's default and extended lists, and a custom token is marked Not verified. It also carries a transaction signed elsewhere ("Carry a signed transaction"), on a hardware wallet, an MPC setup or any device.

Offline signing and broadcast is the universal capability of the rail: RAW mode carries any chain's signed bytes, so the grid broadcasts whatever the device signs. Every send is self-gassed: the sending account pays its own network fee in the chain's native coin, so the grid runs no gas relay and sponsors no transaction, and this holds for a token and for USDC exactly as for a native coin.

2

Why this is possible

A blockchain transaction's validity is a property of its signed bytes, not of the channel that delivers them. Any carrier able to deliver a few hundred bytes suffices, and integrity is self-enforcing. Altering one byte invalidates the signature, so trust in the carrier reduces to availability alone.

3

Why tones survive where modems died

Mobile speech codecs destroy modulated audio, which is why fax and dial-up never survived GSM. A DTMF digit is different. Mobile networks carry it as signalling, regenerated at every hop and untouched by voice compression. The digit crosses the world as data about a keypress, immune to the vocoder, because every phone menu on earth depends on it.

4

How state comes back

The phone talks; it does not listen to the line. A transaction that needs live chain state to build - a nonce, a sequence, a set of UTXOs, a durable nonce - gets it over an air-gapped QR relay. An internet-connected screen reads the public state and shows a QR code; the phone reads that code with its camera and signs offline. The phone opens no socket, and the screen never holds a key. The return path is a picture on a

screen rather than tones on the line because the app cannot capture inbound call audio, a deliberate limit of the operating system, and it does not need to. An EVM send takes a one-time sync of the account nonce and the current gas, after which the wallet advances the nonce locally and every token on that chain reuses the same two figures. Sequence chains seed once; chains that spend UTXOs or bind to a recent block sync each send. One relay serves them all.

The send-state a chain needs reaches the phone by the QR code above or by the echo, both writing the same state and neither opening a socket. For the EVM family, a short call to a state line that reads the nonce and gas aloud, and manual entry of those two values, work too.

5 The echo

The grid calls the phone back and carries a short value in the caller ID of that call. The wallet declines it silently through Android's call-screening role (Android 10 and later): the phone never rings, and there is nothing to answer and nothing to type. The role reads one incoming number and grants no network access. The echo carries these things, among others.

- **Sync.** The wallet places a short call; the grid calls straight back with the account's current sequence and fee level. The wallet is send-ready.
- **Balance.** The balance arrives the same way.
- **Confirmation.** After a broadcast the grid calls back with a reference to the transaction id. The wallet checks it against the id it computed itself, and only a match moves its sequence forward. No person is ever asked whether a payment went through.
- **Swap result.** Minutes after a swap, the amount received, or the reason it did not go through.

An echo carries public chain data or a reference to a transaction the wallet already knows, never a key or an instruction to spend. A forged echo is ignored, or at worst causes a resync against the chain's real value.

6 The numbers

Measured on 9 October 2026: a USDC transfer on Base is about 95 seconds of tones, and about two minutes from the start of the call to the confirmation echo. Larger transactions are simply a longer call. The full throughput model, format by format, is in the whitepaper, available under NDA.

7

The protocol, briefly

Each transaction travels as one checksummed TRP/1 frame, sent whole. An incomplete or damaged frame is refused and is cryptographically unusable, so nothing is broadcast.

Any chain's signed transaction can be carried, and compact forms keep common sends short. The wallet computes every transaction id locally before the call, and inclusion comes back as the confirmation echo that the wallet matches against it.

The grid measures itself as it runs: it logs every decode and every return-call delivery, scores each route, and retries a weak route on a healthy one, so carriage quality is maintained in both directions.

8

Calls that heal themselves

If a tone is lost or the call drops, the checksum refuses the frame and nothing is broadcast. The grid hangs up quietly, with no error message, and signals a resend by echo; the wallet redials the same signed transaction by itself. Because it is the same transaction, it can only ever land once: a resend can delay a payment, never double it. If the wallet's sequence is ever out of step, the grid echoes the chain's real value and the wallet corrects itself.

In field runs on 9 and 11 October 2026, calls that arrived garbled recovered this way, with nobody touching the phone, and every transaction id is public on the explorer.

9

What this unlocks

No remote attack surface

No IP address, no RPC endpoint, no browser, no Wi-Fi. The app holds no internet permission, and four others: place a call, end its own call if the network doesn't, read the camera, and unlock with the phone's own fingerprint or face check; the echo adds Android's call-screening role, which grants no network access. One `aapt dump permissions` on the APK proves it.

SIM swap, nulled

The number is never identity. A swapped SIM signs nothing and moves nothing: every send needs a signature from the key on the device.

Balances by call

One tap in the app places a short call: the balance is read aloud and lands on screen by echo, with no data connection.

Zero on-chain footprint

No TELRPC contract exists on any chain. The service is paid from prepaid credit, and every send pays its own network fee. TELRPC adds no contract for anyone to audit or trust.

Every major chain, one grid

Bitcoin, the EVM family, Solana, Litecoin, Dogecoin, XRP, Tron and Cardano, all sending live. A chain added at the grid lights up every product at once.

Reach beyond the internet

Voice service outlives data in rural, congested, roaming, and degraded conditions. Where a call connects, value moves.

10**The grid**

The TELRPC Grid runs on carrier infrastructure that Minutes Network operates, a carrier estate with local numbers available in 93 countries; it answers on 17 local numbers live in 15 countries today, with more added on demand. It decodes the call, broadcasts on each chain, and returns the echo, and it holds no key that can move user funds: its only keys are an operational Solana co-signer, limited to one fixed setup template, and a small fee-payer for setup slots. Every call request costs 10 cents of prepaid credit, charged only when it succeeds: a broadcast, a sync or balance read by call, a swap price check, a swap, a token approval, a contract read. A send is never charged a percentage. Every fee is shown on the review before a swap.

The TRP/1 specification, the whitepaper and the reference implementation source are shared with partners under licence and NDA as part of an integration.

TEL RPC

The rails that never go online.

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