



CRITICAL MINERALS • SETTLEMENT RAIL • XRP LEDGER

Paid only on proof.

Proof-of-audit and proof-of-reserve settlement for mined and recycled critical minerals.

29 Cu Copper	27 Co Cobalt
3 Li Lithium	28 Ni Nickel
6 C Graphite	60 Nd Neodymium

Proven in the ground. Still idle.

RECYCLERS

Ship today. Get paid on net-30, 60 or 90 days terms.

JUNIOR MINERS

Proven reserves, but funded by selling equity.

29 yrs in US

Average from discovery to production for a US mine (S&P Global). 3 to 18 month delays for funding.

20–40%

Annual dilution for junior miners through repeated share issues.

\$0

Working capital from a certified reserve, the whole time.

WHAT IS XCRMS™

A token that carries its own proof.

XCRMS™ is the settlement token of the CRMS Protocol™. Every unit traces to an independent audit and a custodian’s confirmation, and it moves only between screened parties, only on proof.

TYPE	Trust-line token on the XRP Ledger
BACKED BY	Certified mined reserves (AUDIT) and recycled streams (YAUDIT)
FLOOR	130% collateral, recomputed per basket at every mint
ISSUED WITH	Four keys: auditor, custodian, operator, supplier
HELD BY	Screened accounts only: KYC and FEOC credentials
MOVES BY	Native token escrow, released on proof of delivery
TODAY	Testnet demonstration token, no value

Four moves on one rail

01



Screen

Every account carries on-ledger credentials. Payments from anyone unscreened are refused.

Credentials · Permissioned Domain · DepositAuth

02



Mint

Four signatures: auditor, custodian, operator, supplier. Refused below 130% collateral.

Weighted Multisign

03



Lock

The buyer locks the contract price in a native escrow that nobody holds.

Token Escrow · Tickets

04



Prove & Release

The warehouse's proof counts only while it holds a credential. Two of three holders release.

Crypto-condition · CUSTAUDIT

Connects. Confirms. Settles.

01 · QUICKNODE

Connects.

Every request and every transaction reaches the ledger through our endpoint.

02 · LEDGER

Confirms.

A human auditor reads and approves on the device. No mint without it.

03 · XRPL

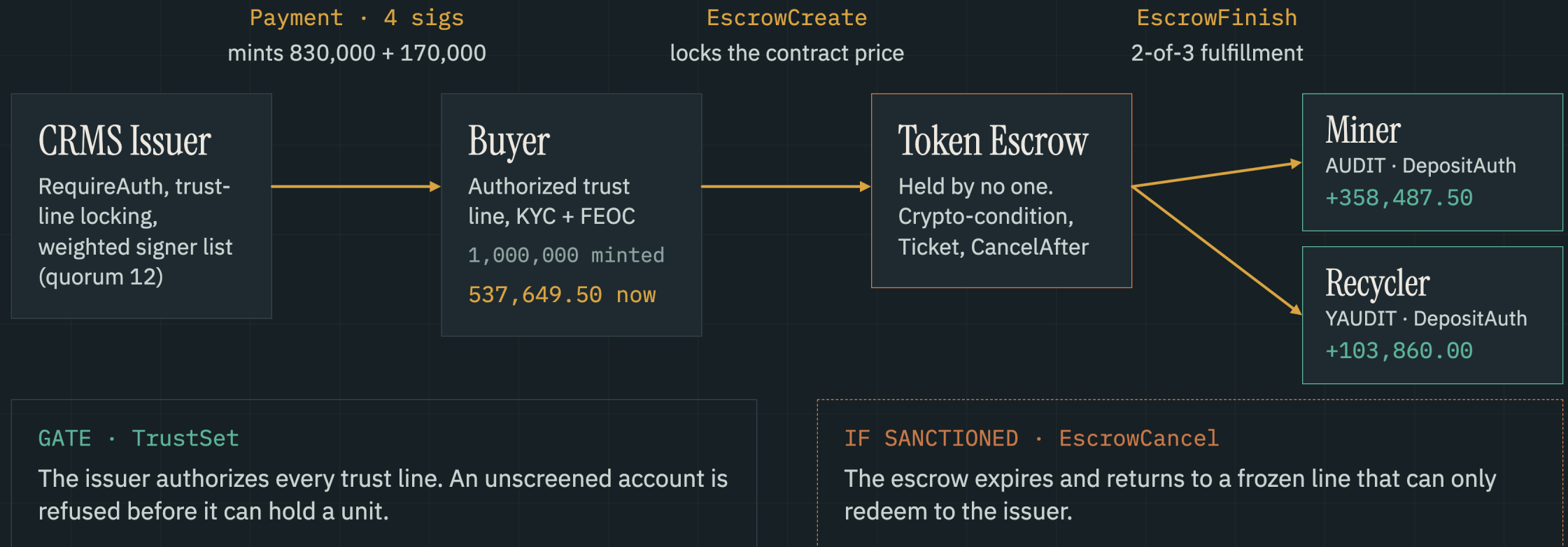
Settles.

The ledger enforces every rule: credentials, freeze, escrow, quorum.

The code checks every rule it can; then a human auditor approves on a Ledger. **Neither alone can mint.**

How XCRMS™ moves on the XRP Ledger

A trust-line token. Every hop is a native transaction the ledger checks before it settles.



● Live on XRPL Testnet

```
npm run s7 -- demo-milestone-0002 --new && npm run s8 -- demo-milestone-0002 && npm run s9 -- demo-milestone-0002
```

S7 • LOCK

34,620 XCRMS™ escrowed
to the recycler

One tonne of recycled cobalt;
condition bound to the contract hash.

S8 • PROVE

Warehouse credential
read live

Proof checked by three holders; two of
three rebuild the key.

S9 • RELEASE

Recycler finishes the escrow

tesSUCCESS, four reconciliation
checks, explorer receipt.

Labelled mocks: proof, oracle, key-share runtime, Layer 1 validation. Everything else is the ledger.

Trusted on the ledger.

1 min 56 s

from escrow locked to recycler paid

0

smart contracts, Hooks or sidechains

5,164

method calls in one hour, peak at 09:00 UTC on 25 Oct

18

verification exercises on validated Testnet transactions

15K

successful QuickNode requests, last 30 days (188 failed)

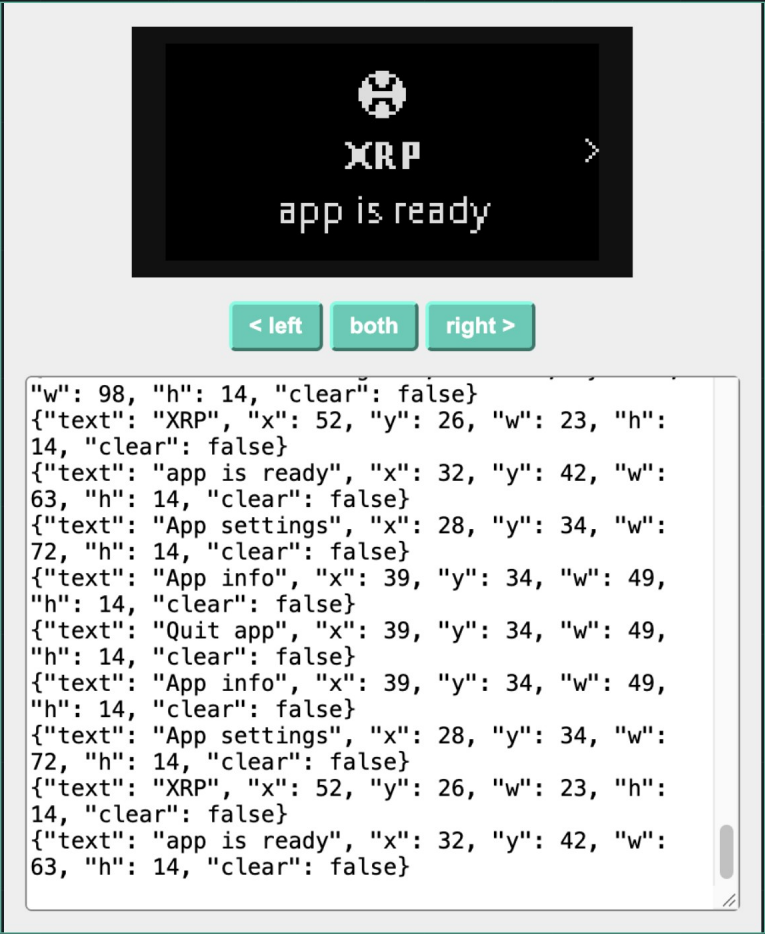
14

fictional accounts, every state change on screen

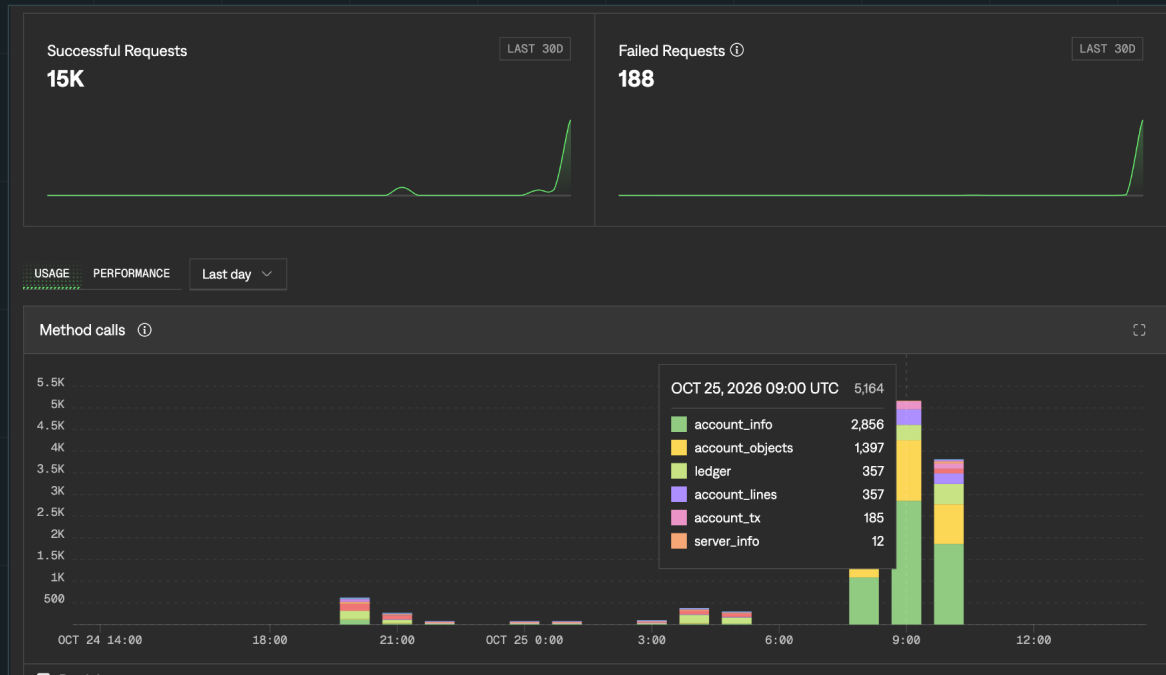
MOCKED AND LABELLED

Milestone ZK proof · Hyperledger Fabric · Chainlink pricing · EVM attestation

LEDGER XRP APP · SPECULOS (NANO X)



Measured on QuickNode, not claimed.



15K successful, 30 days 5,164 calls, 09:00 UTC peak

188 failed requests. Three reasons:

- 1 **Connection limit.** The free plan allows 2 websockets. The dashboard plus the scripts hit it, and the scripts fell back to a public node. Our design: the dashboard now uses one connection.
- 2 **Throttling.** The dashboard's constant polling still drew HTTP 429 and 8-second timeouts; snapshots and account_tx stalled.
- 3 **A timeout that wasn't a failure.** In a dry run S9 timed out, yet the EscrowFinish landed (ledger 21810955). Rule: after a timeout, check the ledger, not the error.

THE FIX

Dashboard moved to the public node. QuickNode then answered in 12 to 20 ms; S12 and the A1 and A2 runs went through cleanly. Free-plan limits under polling, not a slow node. Exact timeout cause not yet proven.

Every transaction, carried by QuickNode

ONE ENDPOINT

Credentials, four-seat mints, the escrow, the lookup, the finish.

TOKEN SAFE

Kept in the environment file; the dashboard reads the public node.

FAST

12 to 20 ms per request, measured this morning.

NEXT

Streams and Webhooks alert both sides on release or revocation.

RECENT VALIDATED TRANSACTIONS updated 7 s ago							
LEDGER	STEP	TYPE	FROM	TO OR SUBJECT	AMOUNT (XCRMS)	RESULT	HASH
21811352	A2	TrustSet clear freeze	ISSUER	MINER		tesSUCCESS	E768139B87...
21811350	A2	TrustSet clear deep freeze	ISSUER	MINER		tesSUCCESS	C68F65B6F6...
21811348	A2	EscrowCancel	OPS	owner OEM		tesSUCCESS	5C92CB8E8C...
21811278	A2	TrustSet deep freeze	ISSUER	MINER		tesSUCCESS	6F29F73AAD...
21811277	A2	TrustSet freeze	ISSUER	MINER		tesSUCCESS	20D0AE6342...
21811276	A2	EscrowCreate	OEM	MINER	358,487.50	tesSUCCESS	5439F48377...
21811223	A1	CredentialAccept	OEM	from ISSUER		tesSUCCESS	8CD70AE4AD...
21811221	A1	CredentialCreate	ISSUER	OEM		tesSUCCESS	DB71A67C54...
21811220	A1	TrustSet clear freeze	ISSUER	OEM		tesSUCCESS	B0FE9DD8B2...
21811219	A1	Payment	OEM	ISSUER	1.00	tesSUCCESS	C95B89C27E...
21811213	A1	EscrowCancel	OPS	owner OEM		tesSUCCESS	7D53595AF0...
21811141	A1	TrustSet freeze	ISSUER	OEM		tesSUCCESS	CABBD7BD9D...

VALIDATED ON TESTNET
tesSUCCESS

A1 and A2 runs: freezes, credentials, the 358,487.50 XCRMS™ escrow and its cancels. Every row went through QuickNode.

Sanctioned mid-lock.

01 → CREDENTIAL REVOKED	02 → LINE FROZEN	03 → HOLDERS WITHHOLD
04 → ESCROW EXPIRES	05 → BACK TO A FROZEN LINE	06 REDEEM TO ISSUER ONLY

XCRMS™ proceeds are a secured loan. If a borrower’s basket falls below 130%, minting stops and they get a window to top up. If they don’t, the trust line is frozen. Only that borrower is affected: other holders, escrowed funds and the reserve are never touched.

A1 • OEM SANCTIONED

PARTICIPANTS: STATE COMPUTED FROM THE LEDGER

OEM

Demo OEM Buyer

179,163.00 XCRMS

KYCFE0G

line authorized • FROZEN

no deposit authorization

rLUGnS...dpaQ • 100.0 XRP

Restricted

Escrow-eligible

MINER

Demo Mine A

358,487.50 XCRMS

KYCFE0CAUDIT

line authorized

deposit authorization by KYC and FEOC

r34kmu...vs35 • 101.0 XRP

MINER

Demo Mine A

358,487.50 XCRMS

KYCFE0CAUDIT

line authorized • DEEP-FROZEN

deposit authorization by KYC and FEOC

r34kmu...vs35 • 101.0 XRP

Frozen

A2 • MINER DEEP-FROZEN

Credentials intact, balance intact,
nothing moves until the issuer clears
the freeze.

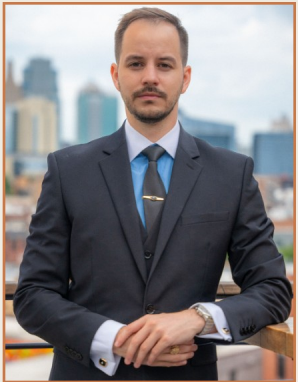
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XRPL settles. Eight native features, **no smart contracts**.

JOB	XRPL FEATURE	WHAT IT DOES IN XCRMS™
SCREEN	Credentials XLS-70	Screen every party; the warehouse audit credential is read live
SCREEN	Permissioned Domains XLS-80	Admit only credentialed parties
SCREEN	Deposit Authorization	Suppliers accept funds only from credentialed senders
HOLD	Authorized trust lines	The issuer approves every holder of XCRMS™
MINT	Weighted multisign	Four seats sign every mint; the Auditor seat is on a Ledger
SETTLE	Token Escrow + crypto-condition XLS-85	Payment releases only on proof, bound to the contract hash
SETTLE	Tickets	Reserve the escrow's sequence ahead of time
STOP	Freeze and Deep Freeze XLS-77	Stops a sanctioned line mid-flight; the ledger refuses the finish

Team



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- Inventor of CRMS Protocol™
- Business & Quality Analyst
- MSc in Blockchain & Digital Currencies - University of Nicosia, Cyprus



Rafael De la Mora Ríos

- Partner at PAC DLMR Agente de Seguros y de Fianzas.
- Co-founder of PUM!, an employee benefits and insurance platform

Built at the AI Fintech XRPL Hackathon, Apella NYC, 24 and 25 October 2026.



Thank you.

Paid on proof. Settled on the XRP Ledger.

1,000,000

XCRMS™ minted on Testnet

1 min 56 s

from escrow locked to recycler paid

0

smart contracts

EVIDENCE PACK AND REPOSITORY

github.com/CryptoGnosisLLC/xcrms-xrpl-mine-to-mint

Testnet issuer rLGCPFT79WaUfFnBKEKeu2dhVzA2an5uKL

XRPL Testnet only. No real assets. No offer. Proof, oracle and Layer 1 validation are labelled
mocks. • Patent pending