COUNTERSIGN

01 / THE PROBLEM

Your agent. Your rules.

Let software request a purchase.
Keep authority with the owner.

Whitechain settles.
World authenticates.
ENS makes identity discoverable.

Somesh S. Talligeri • ETHGlobal Mumbai 2026



Three protocols. One bounded payment.

Each component has a different job. No identity record or login can move funds by itself.

SETTLEMENT

Whitechain

Mandate + registry enforce the official-USDT transfer.

HUMAN CHECKPOINT

World

Fresh sandbox authentication; the owner still signs the payment.

AGENT IDENTITY

ENSv2

Discover the agent and inspect scoped record permissions.

OWNER
Sets limits + allowance

→

AGENT
Signs exact intent

→

RELAYER
Checks + pays gas

→

MANDATE
Enforces + transfers

Merchant + SDK
402 quote → confirmed receipt → deliver resource

Observer + application
Logs → status → signed webhooks / history / CSV

A name is not spending authority.

ENSv2 makes identity and record-write permissions inspectable; Whitechain remains financially authoritative.

countersign.eth

└ agent1.countersign.eth

UserRegistry
Dedicated PermissionedResolver
Enhanced Access Control

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Recorded setup + scoped grants.
Live negative/revoke tests still open.

OWNER-CONTROLLED

Policy + administration

Owner controls protected policy records and grants.
The agent cannot gain spending power by editing metadata.

AGENT-SCOPED

Endpoint + context

Scoped text-key roles cover agent-endpoint[web]
and agent-context. Scope is resolver-wide, not per-name.

Passport: compare pinned reads; show MISMATCH, STALE, UNVERIFIED or RPC_ERROR honestly.

0.50 USDT: request → signature → receipt.

Example amount from recorded testnet payments. The current policy, not this illustration, decides execution.

01

Connect + configure

Owner selects agent, merchants, limits, expiry and limited allowance.

02

Merchant quotes

HTTP 402 returns exact amount, payout, order and resource terms.

03

Agent signs

EIP-712 binds chain, contract, nonce, epoch and payment terms.

04

Relay preflight

Verify, simulate and reserve bounded GasGuard capacity.

05

Contract settles

Check policy + signature; transfer official USDT from owner to payout.

06

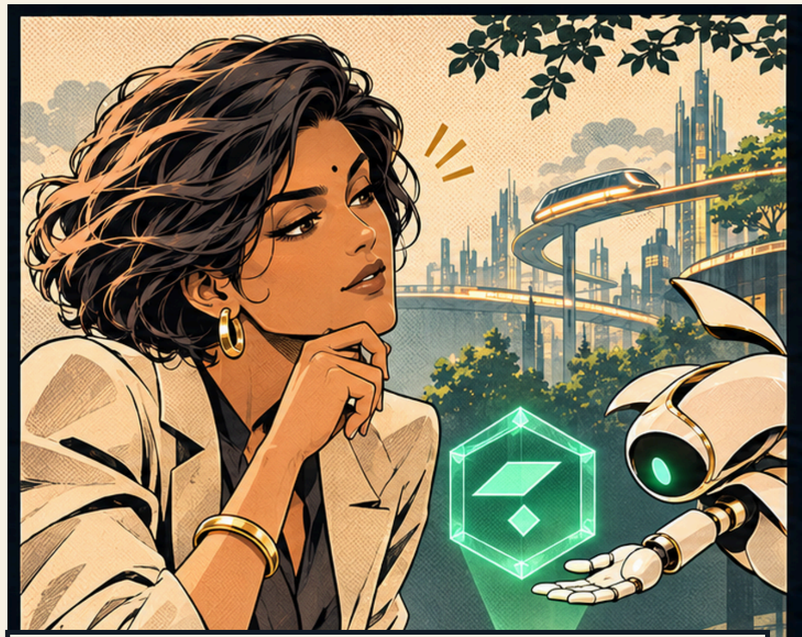
Observe + deliver

Confirmed event → receipt, webhook and merchant response.

Agent needs no USDT or WBT for this path. Relayer pays execution gas; treasury setup still costs gas.

A login is not a payment approval.

World authenticates the session. The owner and attestor bind their signatures to the exact payment.



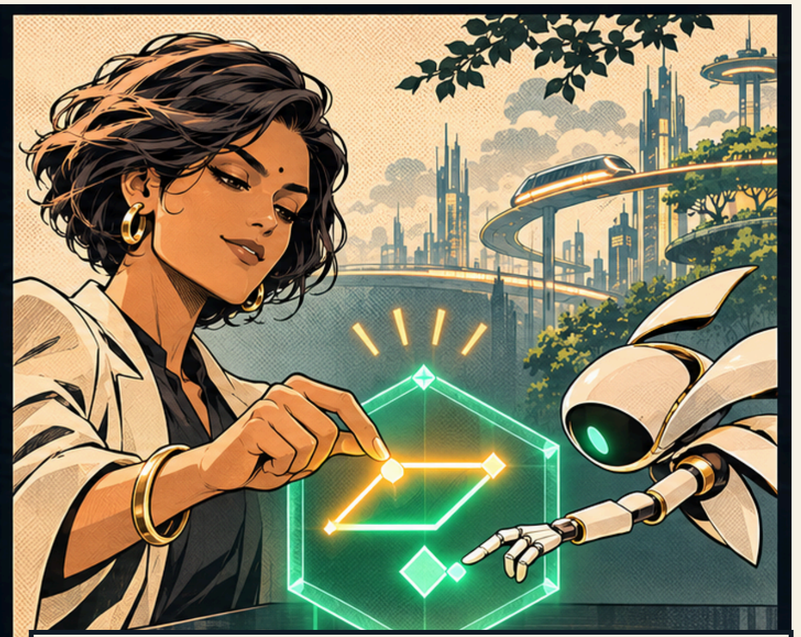
01 / REVIEW

Exact amount, merchant and payout



02 / AUTHENTICATE

Fresh World sandbox login + binding



03 / COUNTERSIGN

Owner approval + separate attestation

1.50 USDT sandbox-approved payment is recorded. Denied, expired or mismatched attempts must fail.

Signed terms. Enforced limits. Explicit failures.

Local adversarial execution tests support these checks. Live evidence is narrower and separately labeled.

AMOUNT / AGENT

Changed amount or wrong signer

BadIntentSig

PAYOUT / MERCHANT

Changed payout or registry version

RegistryMismatch

BUDGET

Per-payment or period cap exceeded

OverPerTx / OverPeriod

REPLAY

Consumed nonce or paid order

NonceUsed / AlreadyPaid

EPOCH

Old signature after included revoke

StaleEpoch

HUMAN CHECK

Missing owner or stale attestation

BadOwnerSig / StaleAuth

Boundaries matter: ENS changes are not a kill switch. Pause/unpause can revive unused signatures.
Refunds need merchant consent and funds. RPC observations are not cryptographic state proofs.

Inspect the proof. Keep the gaps visible.

A testnet systems-security implementation, not a production-readiness or prize guarantee.

157

NODE TESTS • rerun this pass

131

SOLIDITY EXECUTIONS • recorded

3

SHARED DIGEST VECTORS • recorded

RECORDED / REPORTED

Whitechain: official-USDT payments
World: sandbox approval-to-payment
ENS: registry, resolver and scoped grants
Hosting + 2:39 video: latest README record

STILL OPEN

ENS deployed-state negative/revoke tests
Browser: 35 passed / 5 failed; fixes pending rerun
Two historical demos remain 5/6 each
Research revision + independent review

Explore the source → github.com/SomeshTalligeriDEV/ETHGLOBAL