NGT Chain

Pay-Per-Call Settlement for AI Agents on Base

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Abstract

AI agents increasingly need paid APIs and services, but API keys, subscriptions and card checkouts all assume a human is present. NGT Chain connects the HTTP 402 Payment Required status to EIP-3009 signed token transfers on Base, in NGT or, where the seller accepts it, USDC, so an agent can pay for a single API call with a signature made on its own machine, without holding ETH for gas. This paper describes the protocol, the software that implements it, the safety limits on both sides of a payment, and the current state of the project, including what does not exist yet.

At a glance

	Status on 17 November 2026
Live	Gateway on Base mainnet returning x402 v2 challenges. Open-source packages on npm: @ngtchain/paywall, @ngtchain/client, @ngtchain/mcp and @ngtchain/agentkit. The MCP server is listed on the official MCP Registry (io.github.Har50/ngtchain) and sets up Cursor, Claude Desktop, Claude Code, Gemini CLI or Codex with one command. Sellers can accept USDC as well as NGT, and the MCP server pays USDC when the user turns it on. The packages are listed in the x402 developer ecosystem via michielpost/x402-dev pull request #306 (merged).
Not live	No liquid market for NGT. Fiat prepaid checkout is archived. No investor vesting contracts are deployed. No liquidity lock exists.
Early	Organic third-party volume is still early; most mainnet settlements so far are team tests or demos. VPC Shield AgentExec uses @ngtchain/paywall for a paid compliance ALLOW screen (0.001 NGT). The paid reference stream returns a settlement receipt plus a live treasury and usage snapshot.

1. The problem

A software agent working through a task can discover a useful API in seconds, then stall: the API wants an account, an API key, a card or a monthly plan. Standard on-chain payments remove the account but add a different burden, because the agent's wallet must hold the chain's native token to pay gas.

Sellers have the opposite problem. Small per-call prices are uneconomic on card networks, and there is no simple way to charge a client that has no account and no human behind it.

2. How a payment works

NGT Chain uses the x402 pattern: payment terms and proof travel in ordinary HTTP headers, so any HTTP client can take part.



- **Challenge.** A request without payment receives HTTP 402 with an x402 v2 body listing the scheme, network, asset, amount, recipient, time window and a server nonce. Each seller sets its own price and recipient, and can offer NGT, USDC or both, each at its own fixed price.
- **Authorization.** The agent checks the terms against its limits, then signs an EIP-3009 `TransferWithAuthorization` with its local key. Signing costs no gas, and the signature covers one amount, one recipient, one nonce and one time window on one chain.
- **Settlement.** The agent retries with a `PAYMENT-SIGNATURE` header. The server verifies the signature and terms, simulates the transfer, submits it to the token contract and pays the gas.
- **Response.** After settlement the seller's handler runs. What it returns is up to the seller.

Who pays gas

The facilitator is the party that submits the signed transfer. For the NGT reference endpoint that is the NGT gateway. A third-party seller using @ngtchain/paywall runs its own facilitator key by default, and that wallet needs a small amount of Base ETH. The agent never needs ETH in either case, whichever token it pays.

3. Safety limits

A payment protocol for autonomous software has to assume that servers may be hostile and that agents may make mistakes. Limits are enforced in code on both sides.

Side	Control	Effect
Buyer	Token and chain check	The client signs only for NGT or USDC on Base, using its own table of token addresses and EIP-712 domains. A challenge naming any other asset, address or network is refused before signing.
Buyer	USDC is opt-in	The MCP server pays USDC only when the user sets `NGT_USDC_MAX_PRICE` and `NGT_USDC_SESSION_BUDGET`. Each token has its own per-call cap and session budget, and nothing is converted between them. When a seller takes both, `NGT_PREFERRED_CURRENCY` picks the token (default NGT). `fetch_ngt_stream` and the AgentKit action pay NGT only.
Buyer	Per-call cap	`pay_and_fetch` refuses any price above `NGT_MAX_PRICE` (default 0.01 NGT). A tool argument can lower the cap but never raise it. The AgentKit action `ngt_pay_and_fetch` applies the same cap through its `maxPrice` option.
Buyer	Session budget	`NGT_SESSION_BUDGET` (default 0.1 NGT) limits total spend per server session. It resets when the server restarts. The AgentKit action has the same limit (`sessionBudget`).
Buyer	Client approval	Both MCP payment tools and the funding tool are marked as destructive, so MCP clients such as Cursor and Claude ask the user before running them, unless the user has turned on automatic approval.
Buyer	Key handling	The key is read only from the environment and is never a tool argument. It signs locally and is not sent to the server. A missing or malformed key is refused before any payment, with instructions to fix it.

Side	Control	Effect
Buyer	Setup and funding	`npx -y @ngtchain/mcp@latest init` creates or imports the agent key on the user's machine, never prints it, and writes it only to the app's MCP config. Its optional funding step opens a local page that asks the user's browser wallet to send NGT to the agent address. The page never sees the key, and init confirms funding by reading the balance on Base.
Buyer	In-chat funding	`ngt_wallet_status` reports the agent address, its balance, the caps and the budget left, and spends nothing. `fund_agent_wallet` opens the same funding page from the chat. Nothing moves until the user confirms in their own wallet, and each request is capped by `NGT_MAX_FUNDING` (default 10 NGT). Funding never raises the per-call cap or the session budget. It sends only NGT; the user adds USDC to the agent wallet themselves.
Buyer	Agent guidance	The MCP server tells the AI client to check the wallet before the first paid call, and to size any funding request to the calls the user plans. It also states that NGT cannot currently be bought, and that NGT must never be presented as an investment.
Buyer	See and stop spending	Each payment tool call is logged on the user's machine (`~/.ngtchain/activity.jsonl`) as paid, free, refused, paused or failed, without keys, headers, query strings or response data. The user commands `pause` and `resume` stop and restart both payment tools, and `dashboard` opens a page, reachable only from that computer, with recent calls, totals, balances and a pause button. USDC spending is totalled separately from NGT.
Buyer	API key headers	For a paid API that also needs a key, `NGT_HOST_HEADERS` sets headers per host. Each header is sent only to its host, never across a redirect, and the AI model never sees it.
Buyer	Transport	Only https URLs are paid, with http://localhost allowed for testing.
Buyer	Clock tolerance	The client signs an expiry up to 30 seconds inside the seller's time window, so a local clock that runs fast does not cause a rejected payment.
Seller	Exact terms	The paywall requires the exact price for the token paid, the configured recipient, an open time window (at most 60 seconds by default, plus 30 seconds for a buyer whose clock runs fast) and a valid EIP-712 signature. The expiry itself is enforced exactly, as on-chain.
Seller	Simulate first	Settlement is simulated before sending, so a payer without enough of the token costs the seller no gas.
Both	Replay protection	The token contract (NGT or USDC) records each authorization nonce and rejects a second use.

4. Software

Package	Version	Purpose
@ngtchain/paywall	0.2.1	Express middleware and framework-agnostic check for sellers to charge per call. Accepts NGT, USDC or both, each at its own fixed price. Used by VPC Shield AgentExec for paid ALLOW screening.
@ngtchain/client	1.5.2	Client library: payAndFetch pays any NGT paywall under a required cap, and USDC under a separate USDC cap. payAndFetchWithSigner does the same with a wallet signer instead of a raw key.
@ngtchain/mcp	1.7.1	MCP server for AI clients. pay_and_fetch and fetch_ngt_stream pay for calls, and pay_and_fetch can also pay USDC when the user turns it on; ngt_wallet_status and fund_agent_wallet check and top up the agent wallet from the chat. Its init command configures Cursor, Claude Desktop, Claude Code, Gemini CLI and Codex, and asks whether to turn USDC on. pause, resume and dashboard show and stop spending.
@ngtchain/agentkit	0.1.0	Coinbase AgentKit action provider. Adds ngt_pay_and_fetch, with a per-call cap and a session budget. Pays NGT only.

Setup for Cursor, Claude Desktop, Claude Code, Gemini CLI or Codex: `npx -y @ngtchain/mcp@latest init`. Source code: github.com/Har50/New-network. AgentKit example: github.com/Har50/ngt-agentkit-demo, in which an agent pays a seller that runs its own facilitator. Machine-readable specification: ngtchain.com/llms.txt. MCP Registry name: io.github.Har50/ngtchain. Ecosystem listing: github.com/michielpost/x402-dev/pull/306.

5. The NGT token

Name	NextGen Token (NGT)
Network	Base mainnet (chain 8453)
Contract	`0xc97b05F2F68D5CED7aB65F83ab5f4f7A64d9CC44`
Supply	Fixed at 1,000,000,000 NGT, minted once at deployment. The mint function always reverts.
Payment standard	EIP-3009 TransferWithAuthorization, EIP-712 domain NextGen Token, version 1
Role	Settlement asset for the paywall, client, MCP and AgentKit software. Sellers may also accept USDC on Base; the reference stream and the AgentKit action accept NGT only.
Reference fee	0.001 NGT per call on the NGT stream endpoint only. Third-party sellers set their own prices.

The 0.001 NGT fee is a token amount, not a dollar peg. This paper makes no claim about the value of NGT.

The contract restricts deployment to Base and Base Sepolia, and a second deployment would mint a separate supply. Any future expansion to another chain would therefore need a bridged token design rather than a redeployment. None is planned at this time.

6. Current state

Facts below can be checked on Base explorers (as of 17 November 2026). This paper does not list a DEX pool, FDV, or market price.

Item	State
Treasury	`0x675199F0b5F76f6b89D7B29c2ADf27C452E06784` Holds nearly all NGT supply. Small native ETH / WETH only; no USDC treasury balance claimed here.
Market	No liquid market for NGT. Do not treat any historical DEX pair as a live price or depth source.
Liquidity lock	None.
Vesting	Contract code is ready in the repository. No vesting wallets are deployed and no investor allocations have been made.
Usage	Organic third-party volume is early. Public counters: ngtchain.com/v1/stats (team test wallets excluded where configured).
Ecosystem listing	NGT Chain packages merged into michielpost/x402-dev pull request #306 on 17 November 2026.
x402 gate settlement	On 17 November 2026 the PR gate was paid with 0.25 USDC on Base mainnet via an EIP-3009 authorization. Transaction on basescan.org: `0xa3048610ff712fdb050bf52267a80094d45aba590b77834c1fb55ae83df92167`
AgentExec (VPC Shield)	On 17 November 2026 a local AgentExec ALLOW screen settled 0.001 NGT on Base through @ngtchain/client and @ngtchain/paywall. Transaction on basescan.org: `0xf24b866096b94a51513d248dd59d4b184e6f387f9f4f8a2e5454580ebd612c4e`
Reference demo	On 7 November 2026 a team agent paid a demo seller 0.001 NGT on Base mainnet through @ngtchain/agentkit, and the seller's own facilitator paid the gas. Transaction on basescan.org: `0x4a578b050467b918d3400c231551cf9e5988fd001d763e1c1edb38710022d72a`
MCP test	On 11 November 2026 (UTC) @ngtchain/mcp 1.6.2, running in Cursor, paid the reference stream 0.001 NGT on Base mainnet, and the call appeared in its local dashboard. Transaction on basescan.org: `0x1c8f6f27f8d070021b5243c0eda98eb8bd7c6355201001b3432c2c740ea25b7b`
USDC test	On 12 November 2026 (UTC) @ngtchain/mcp 1.7.0, running in Cursor, paid a team-run demo seller built on @ngtchain/paywall 0.2.0 0.001 USDC on Base mainnet, and the seller's own facilitator paid the gas. Transaction on basescan.org: `0xc92aa252478fb6c258e41391ac9b6c81473722e41359f2b7e4cf8ad3aef81fde`

> **Getting NGT today.** There is no market route, and fiat prepaid checkout is archived. The live product is pay-per-call settlement in NGT. An agent can instead pay in USDC any seller that accepts it.

7. Allocation plan

This is a target for the 1 billion supply, not a description of current balances. Nothing below has been executed, and it may change.



Bucket	Share	Amount	Purpose
Ecosystem and developer utility	50%	500M	Developer access, demos, grants and facilitator utilities.
Strategic investors	25%	250M	Private backers through disclosed, published vesting contracts.
Treasury and operations	15%	150M	Hosting, infrastructure and operating runway.
Market liquidity	10%	100M	Reserved for a future DEX seed if and when capital and parameters are decided.

The vesting template uses a 180-day cliff and a 540-day total duration, with linear release after the cliff. Each deployed vesting address will be published. The project will not use wash trading or volume bots, and will not claim locked liquidity or a diversified holder base before the chain shows it.

8. Next priorities

These are intentions, not commitments, and they carry no dates.

- Grow sellers beyond team demos and AgentExec using @ngtchain/paywall (NGT and optional USDC).
- Keep discoverability current after the x402-dev ecosystem listing (pull request #306).
- Make it simpler for a new agent to obtain a small amount of NGT to try the system.

9. Risks

- **No market.** NGT has no liquid market, may never have one, and may not be sellable at any price.
- **Early adoption.** The system has little or no external usage, and it may not attract buyers or sellers.
- **Smart contracts.** Code may contain bugs; no independent audit has been published.
- **Concentration.** One treasury wallet holds nearly all supply; one operator runs the facilitator.
- **Keys.** Anyone with an agent's key can spend its NGT and USDC, so fund it only with what you plan to spend.
- **USDC.** USDC is issued and controlled by Circle, not by NGT Chain, and its issuer can freeze addresses.
- **Regulation.** The treatment of digital assets is unsettled and varies by country, and could affect the project or its availability.

10. Contact and notice

Website: ngtchain.com. Support: support@ngtchain.com. Code: github.com/Har50/New-network.

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published source code take precedence over this document.