TRUST FIRST, THEN VALUE MOVEMENT

How sovereigns and institutions can settle across borders under their own rules, with a ruling and a record before value moves

A White Paper for Nations, Banks and Institutions, Trade Consortia, Technical Evaluators, and Capital Partners

Published by JIL Sovereign Technologies Incorporated, operator of this Layer-1 host, under license from JIL Sovereign Holdings, LLC (Wyoming)

Author: Jeffrey Anthony Mendonca, Dallas, Texas

Released November 1, 2026. Revised November 12, 2026

Edition 3, revised 2026-11-12. Supersedes the October 16, 2026 edition, Restoring Integrity to Global Value Movement

https://jilsovereign.net

Original Layer-1 · Federated sovereign domains · Patent pending

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How to Read This Paper

Every capability carries one of three status markers, as of 2026-11-09. Measured figures carry their own dates. A marker applies to the capability named and not to its neighbors. The same three markers are used on every page of jilsovereign.net, and the current ledger is at jilsovereign.net/status.html.

- **Live.** It runs in production on jil-mainnet-2, or on the public site, today.
- **Built.** The code is merged and tested, and it is not running in production.
- **Designed.** It is written down and not built.

Where a sentence states a design rule and not a fact about today's system, it says so. The marker is what is true now. Claims that need a source carry a bracketed reference, such as [E1] for an external source or [R1] for a repository document, listed in Appendix C.

1. Executive Summary

The problem. Cross-border value movement depends on a few correspondent hubs, and a hub can be closed by a party the originator never chose. Compliance is mostly a report written after value has moved. A 2026 study of sanctions found that cutting key correspondent relationships reduced banks' access to major currency networks, and that de-risking cut off some non-sanctioned banks too [E1]. Trust is assumed in the design of the system and is not observed at the moment of movement.

The solution. JIL is trust first, then value movement. A movement is ruled before it settles, and the ruling is kept. JIL is an original, permissioned, federated Layer-1. A licensee governs a sovereign domain: a nation, a commodity consortium, an industry network, or a financial institution. It has its own constitution, chartered entities, and local bylaws. The provisioned chain is a sovereign cell. ATCE, the Adaptive Trust, Compliance and Execution Engine, rules every transfer before value moves. A movement that stays inside the domain takes a domestic ruling. A hop that leaves the domain, the cross-border path, takes a corridor ruling. Both counterparties are ruled. JIL does not replace a central bank, a currency, or a legal framework. The licensee governs the domain.

The difference. Every other Layer-1 sits inside one rule set and one jurisdiction. A sovereign domain keeps its own law and shares one institution and its corridors with the other domains, as member states do in a multilateral body. This is an analogy of structure only, and JIL is not affiliated with any multilateral institution (section 3.7).

The business impact. A sovereign or institution obtains compliance-aware settlement infrastructure through a license and pays a minimum of 5 basis points of settled gross on each settled corridor hop, instead of funding a multi-year build that the site estimates at forty to one hundred million dollars [R1]. The risk reduced is qualitative: a prohibited transfer is refused in consensus, and the record of who agreed is named and replayable. This paper states no return on investment, because none can be sourced yet.

What is true today.

- **Live.** The home chain, jil-mainnet-2, was genesised on 2026-08-21. Ten hosts are operated by JIL Sovereign Technologies Incorporated. Measured 2026-11-12, eight of those hosts were in the signing set, the height was 118,023, and a tip block sealed with six of those eight. The tip set was not catching up. Two hosts were not on that tip. The process is jil-abci-node under a third-party consensus engine from the image created 2026-08-21. The Attested Consensus Layer is a separate binary and is not that process.
- **Built.** Measured 2026-11-12, the every-transfer rule is not in the validator image created 2026-08-21. That image can deny a crossing. In the repository rule the verdict on an act inside a sovereign domain is a domestic ruling and the verdict on a hop that leaves it is a corridor ruling, on both counterparties. The attester, the agentic review and the record writer were not confirmed on the validator image created 2026-08-21. Per-asset limits are part of that repository rule.
- **Live.** Attestation seals carry hybrid Ed25519 and ML-DSA-65 signatures, and both must verify. Validator signing is classical today; post-quantum validator signing is on the roadmap.
- **Live, in part.** Ethereum bridge: the deposit path is Live and has run in production; the withdrawal path is Designed and awaits a key ceremony. No other chain or payment rail is connected.
- **Built.** Proof DEX, with nothing listed, and on-chain governance.
- **Designed.** The production record store, the InterOp router, and pre-negotiated per-hop rates.

Status limits. The consensus engine is self-written. Johanson Group LLP is examining SOC 2 Type 1, SOC 2 Type 2, and HIPAA. Those examinations are in progress. No report has been issued. JIL is engaging a separate firm for HITRUST. No HITRUST report has been issued. No token sale is running, and JIL.ai tokens have already been given to participants.

Next step. A briefing. Section 13 describes what it covers.

2. Context and the Problem

2.1 The macro context

Three developments make this discussion urgent now.

Sanctions have become a payments-network problem, not only a targeting tool. A 2026 NBER working paper that matched correspondent banking data to U.S., EU, and UK sanctions lists from 2021 found that sanctions reduce access to the global payments network by severing correspondent relationships, that sanctioned banks often keep only longer and more fragile chains of intermediaries, and that in countries where sanctions expanded sharply, non-sanctioned banks lost connectivity to Western networks as well [E1]. In October 2026 OFAC issued an alert on shadow-banking sanctions risk for foreign financial institutions, and the U.S. Treasury designated the A7 Network as part of Operation Economic Outcast [E3] [E4]. A payment route can now become commercially unusable because of a counterparty several hops away.

Payment transparency rules are tightening. In June 2025 the Financial Action Task Force agreed revisions to Recommendation 16 that move the standard from wire transfers to payment transparency across payment methods. The amended standard takes effect by the end of 2030 [E5]. Institutions will be expected to carry payer and payee information along the payment chain.

The cryptographic ground is moving. NIST finalized the ML-DSA digital signature standard in August 2024 [E6]. Records written now are expected to be read for years. A record signed only with classical keys is a record whose authenticity may need defending later.

2.2 The core problem

The problem is not speed or cost. It is order. In today's systems, the decision about whether a movement was allowed is made after it, by a report, a screening, or an audit. When value is already gone, the question becomes whether anyone can prove it should not have moved. For a sovereign this is sharper still: a foreign hub, which the sovereign did not choose, decides whether its payments flow.

Three requirements follow, and existing designs miss at least one of them.

- The rulebook has to be the sovereign's own, and it has to be a condition of finality.
- The decision has to be evidence: replayable by a party who was not there, years later.
- The sovereign has to be able to settle across borders without surrendering the rulebook.

2.3 Why the two usual paths fail these requirements

Renting a public chain fails the first requirement. On a public network in the Ethereum pattern, any validly signed transfer between any two addresses can settle. A regulator cannot get, from the protocol itself, the assurance that a prohibited transfer is impossible. Compliance is added afterwards in an application or an off-chain gatekeeper, where it can be bypassed. A global policy set by an anonymous community is not a national rulebook. A public ledger also cannot say which named institution agreed to a transfer, and a chain that has hard-forked cannot say what it said before.

Building from scratch fails on cost and risk. It restores control, and it also means building consensus, execution, compliance, issuance, cross-border settlement, upgrade, key custody, and operations. The cell-provisioning page on jilsovereign.net puts such a program on the order of forty to one hundred million dollars over three to four years [R1]. That figure is an estimate and not a measurement. The result has no ecosystem to inherit.

2.4 The cost of inaction

We quantify only what can be sourced. Where we cannot, we say so.

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Cost	What the source says	Source
Connectivity loss under sanctions	Severed correspondent relationships reduced access to major currency networks, and de-risking hit non-sanctioned banks in heavily sanctioned countries. The paper does not give one cost per bank.	[E1]
Diversion of aid and public transfers	A study of $238 billion of World Bank disbursements across 93 recipient countries in 2018 to 2024 found short-lived crypto-activity spikes in disbursement months. The authors' implied leakage is 2 to 6 cents per aid dollar, roughly $1.7 to $4.4 billion across the tranche arrivals they study. They state they cannot trace a particular aid dollar.	[E2]
Secondary-sanctions exposure	OFAC alerted foreign financial institutions in October 2026 that dealings with shadow-banking networks carry sanctions risk. No cost figure is given.	[E4]
Building a sovereign chain alone	Forty to one hundred million dollars over three to four years, as an estimate on this site.	[R1]
Cost to a given bank of a closed corridor, or to a ministry of a delayed payment	Not sourced. We do not state a number.	Gap, listed for the founder

The cost of inaction is therefore this: continuing to move value under rules that are checked after the fact, through hubs the originator cannot choose, with records that cannot show years later who agreed. Section 8 returns to what a different order costs.

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3. The Paradigm Shift: Trust First, Then Value Movement

This section states the idea before any product is named.

3.1 The thesis

An act of value is ruled before it exists, and the ruling is kept. Trust is established first: who the buyer and seller are, which rules apply, and a ruling that is written down. Value moves second, and only on that ruling. A transfer that cannot be explained afterward is not a transfer the system is built to make.

3.2 The sovereign domain is a gated garden

A sovereign domain is a gated garden. Inside it, the licensee's rules govern. The verdict on an act that stays inside the domain is a domestic ruling. A hop that leaves the domain is a corridor ruling, and it goes through ATCE and a corridor. ATCE also runs inside the domain, between the root and its hubs and annexes. That makes two layers: a corridor ruling between domains, and a domestic ruling inside the domain. The rule is that no legacy transfer moves value outside an ATCE ruling, and that both accounts in an account-to-account move are ruled, because one may carry restrictions the other does not.

Status. **Built.** The repository rule is that every transfer passes through ATCE before value moves. A domestic ruling stays inside the domain. A corridor ruling covers a hop that leaves the domain, which is the cross-border path, on both counterparties. A release with no ATCE context is refused [R9]. Measured 2026-11-12, that every-transfer rule is not in the validator image created 2026-08-21. That image can deny a crossing.

3.3 Policy comes before settlement, and it lives in consensus

The evaluation that decides whether a movement is allowed runs inside the state machine, so every validator re-runs the same evaluation over the same inputs and reaches the same verdict. Three things follow. The verdict is replayable by a stranger re-executing the block. It is anchorable to a court-grade evidence record. It cannot drift between hosts, because there is no service to be misconfigured on one of them [R3].

3.4 A record that outlasts its authors

A bank asks a ledger one question in two tenses. Now: did this settle, and can you prove it. In fifteen years: who agreed to it, under what authority, and can you show that nobody objected at the time. JIL keeps, for each ruling, a record of the rules that applied, the review, and the buyer and seller details with their KYB and KYC checks. JIL holds that record, write once and immutable, with a unique hash. The Layer-1 references the record by that hash. The chain carries no names, documents or KYC files, which stay in the encrypted WORM record [R4].

3.5 A second look before the final ruling

Before ATCE issues its final ruling it calls an agentic AI service. The service can hold an act even when every deterministic check is green. It cannot rescue an act that a check denied. Its result is signed and recorded with the ruling.

3.6 What the shift changes

	The usual order	JIL's order
First	Move the value	Rule the act
Second	Screen and report	Keep the ruling, with who agreed
What a regulator gets	A report	A replayable decision
Who writes the rulebook	The chain, or a foreign hub	The sovereign

3.7 Many laws, one institution

Every Layer-1 in wide use today sits inside one rule set and one jurisdiction: the protocol's, its validators', and its foundation's. A group that wants a common ledger has two ways to get one. It can issue a token on someone else's chain, and then it is bound by that chain's rules and jurisdiction. Or it can build its own Layer-1, and then it is bound to another chain, another jurisdiction, or both, to reach anything outside. A consortium of oil-producing states that wanted a common Layer-1 for oil would face exactly this choice. Public chains such as Bitcoin and Ethereum are generic. Rules are not part of their protocol, which is right for open settlement and is the limit for a member that must apply its own law.

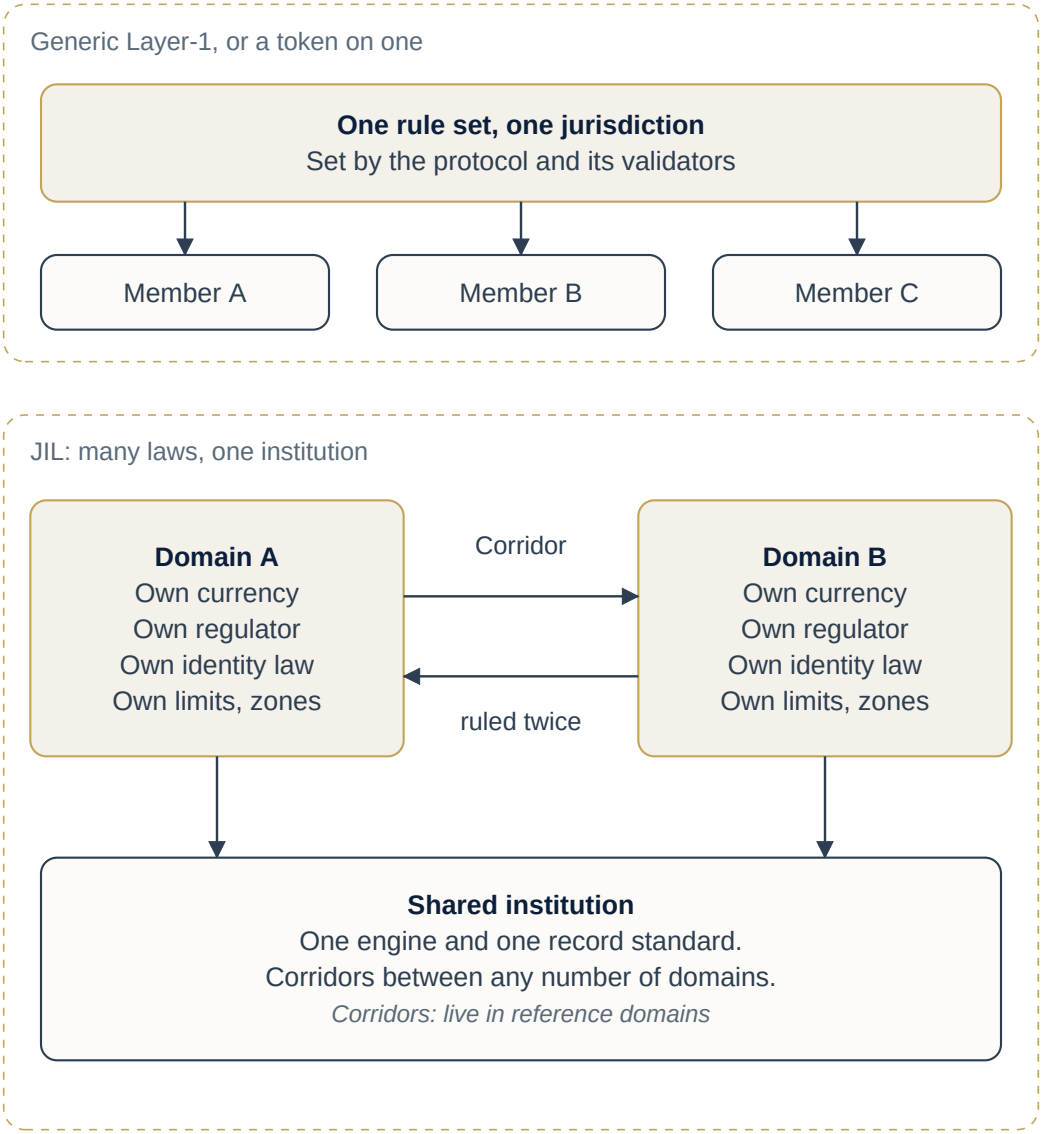
JIL was built the other way. Every domain operates like its own country with its own laws: its own currency, its own identity requirements, its own limits, its own zone rules, its own regulator, and a ruling by ATCE before anything settles. Each domain's law comes from its own jurisdiction. JIL does not grant sovereign status to anyone. The domains still share one institution and corridors between them, much as member states keep their own law inside a shared multilateral institution.

That comparison is an analogy of structure only. Member states keep their own law inside a shared institution, as they do in the World Bank. JIL is not affiliated with the World Bank or any multilateral institution. JIL is not a multilateral lender and does not lend to or act for any domain.

Who a chain answers to matters as much as what it runs. A common public Layer-1 is its own governing body, and in practice it stays answerable to exchange listings and liquidity, or to a foundation or a consortium it did not choose. A sovereign domain answers to its own jurisdiction. Its law and its listing decisions are its own. The home chain validators are operated by JIL Sovereign Technologies Incorporated. A domain does not operate them.

What a domain can do with that follows. In the setup portal demonstration a domain defines its own stablecoin in a few steps: the currency, the reserve model, and the limits. The portal is a demonstration. Currency Objects are live in the engine, issuance is disabled, and live issuance begins only after the license. A re-skin of the demonstration cell with a customer's names, language, and domain is measured in hours; that applies to the demonstration only. A pilot cell is designed for technical readiness in about 30 days after its policies are pinned. Licensing and regulatory approvals are separate and are not included in that figure. A customer may run a cell on its own hardware under the Regulated profile of the cell deployment runbook. Status: Designed. The runbook exists, and a full launch time for that option is not yet measured.

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Analogy of structure only.

Not affiliated with any multilateral institution.

Figure 1. Many laws, one institution. On a generic Layer-1, or a token on one, every member sits inside one rule set. A sovereign domain keeps its own law and shares one institution with the others. An analogy of structure only.

	Generic public Layer-1	Token on another chain	Own Layer-1 alone	JIL domain
Whose law governs	The protocol's rules and its validators' jurisdictions.	The host chain's rules and jurisdiction.	Its owner's, plus the law of any chain it joins.	The domain's own jurisdiction. A corridor adds the other domain's rules.
Who sets the rules	The protocol and its governance.	The host chain. The issuer sets only the token.	The chain's owner.	The domain, in its own ATCE profile.

	Generic public Layer-1	Token on another chain	Own Layer-1 alone	JIL domain
Who the chain answers to	Its own governance, shaped in practice by exchange listings and liquidity, or by a foundation or consortium.	The host chain's governance, and the venues that list the token.	Its owner, and the chains and venues it needs to reach.	The domain's own jurisdiction. Its law and its listing decisions are its own. The home chain validators are operated by JIL Sovereign Technologies Incorporated
Can a member refuse a transfer	No. Any valid signature settles.	Only inside the token contract.	Yes on its own chain. Not on chains it reaches.	Yes. ATCE rules both sides before settlement.
How it reaches other chains and rails	Bridges, which are separate systems.	Bridges, which are separate systems.	It builds each bridge itself.	Corridors between JIL domains: Live on reference domains. Ethereum deposit path: Live. Ethereum withdrawal: Designed. Other chains and rails through InterOp: Designed.
Who keeps the record	The public ledger.	The host chain's ledger.	The chain's owner.	The chain holds a hash. JIL holds the record, write once. Writer: Built, and not confirmed on the validator image created 2026-08-21. Production store: Designed.

4. Evaluation Criteria

Any solution that claims to meet the sovereign and institutional requirement should be held to the same criteria. We state them first and then measure JIL against them in section 6.

#	Criterion	What it requires	Why it matters
C1	Sovereign rulebook	The rules that decide finality belong to the sovereign, not to a global chain or a foreign hub.	A national rulebook cannot be set by an anonymous community.
C2	Ruling before movement	A prohibited transfer is refused before it settles.	A report after the fact cannot recover value.
C3	Both counterparties ruled	Each side of a transfer is evaluated on its own restrictions.	One account may carry restrictions the other does not.
C4	Decision as evidence	The verdict can be replayed years later by a party who was not there.	An assertion is not evidence.
C5	Named attribution	Each agreement is attributable to a named legal entity.	A regulator needs to know which entity agreed.
C6	Record retention	The ruling and the facts behind it are kept for 10 years from creation, immutable, with no names, documents or KYC files on a public ledger.	Audits and disputes arrive late.

#	Criterion	What it requires	Why it matters
C7	Cross-border settlement without a single hub	Value crosses between sovereigns on governed corridors, each side applying its own policy.	A single hub is a single point of failure and coercion.
C8	Fit with incumbents	The system works with public chains, stablecoins, and payment rails and does not replace the central bank.	Sovereigns will not give up what already works.
C9	Cryptographic durability	Records stay meaningful as cryptography changes.	Records are read long after they are signed.
C10	Honest status	The operator says what is built and what is not, and what is unaudited.	A buyer must be able to find the gap before signing.
C11	Cost within reach	Entry costs far less than a multi-year build.	Few ministries can fund a from-scratch chain.
C12	Operability	The operator can run many sovereign cells and say what one host carries.	A sovereign cell per domain is only credible with a measured cost.

5. The Architectural Blueprint

5.1 The federation: one engine, many chains

A licensee governs a sovereign domain: a nation, a commodity consortium, an industry network, or a financial institution. It has its own constitution, chartered entities, and local bylaws. A gold or oil desk under a root is a commodity annex, not a sovereign. The provisioned chain is a sovereign cell, with its own genesis and its own ledger. It is not a shard, a subnet, or a tenant. It is a separate ledger that happens to run the same engine [R3]. The federation lets value cross between domains without either side trusting the other's operator.

Why not one chain with jurisdiction flags. Three reasons a regulator raises in the first meeting [R3]. A row in a German ledger is not made German by a column that says so, so data residency has to be a property of the chain. On one chain a failing validator stops settlement for every domain, while with a sovereign cell per domain a fault stays inside that cell and corridors into it hold. And two regulators can both be right about what a legitimate transfer is, which one chain cannot represent. The cost is real: many chains to operate, and section 8.1 reports what one host carries.

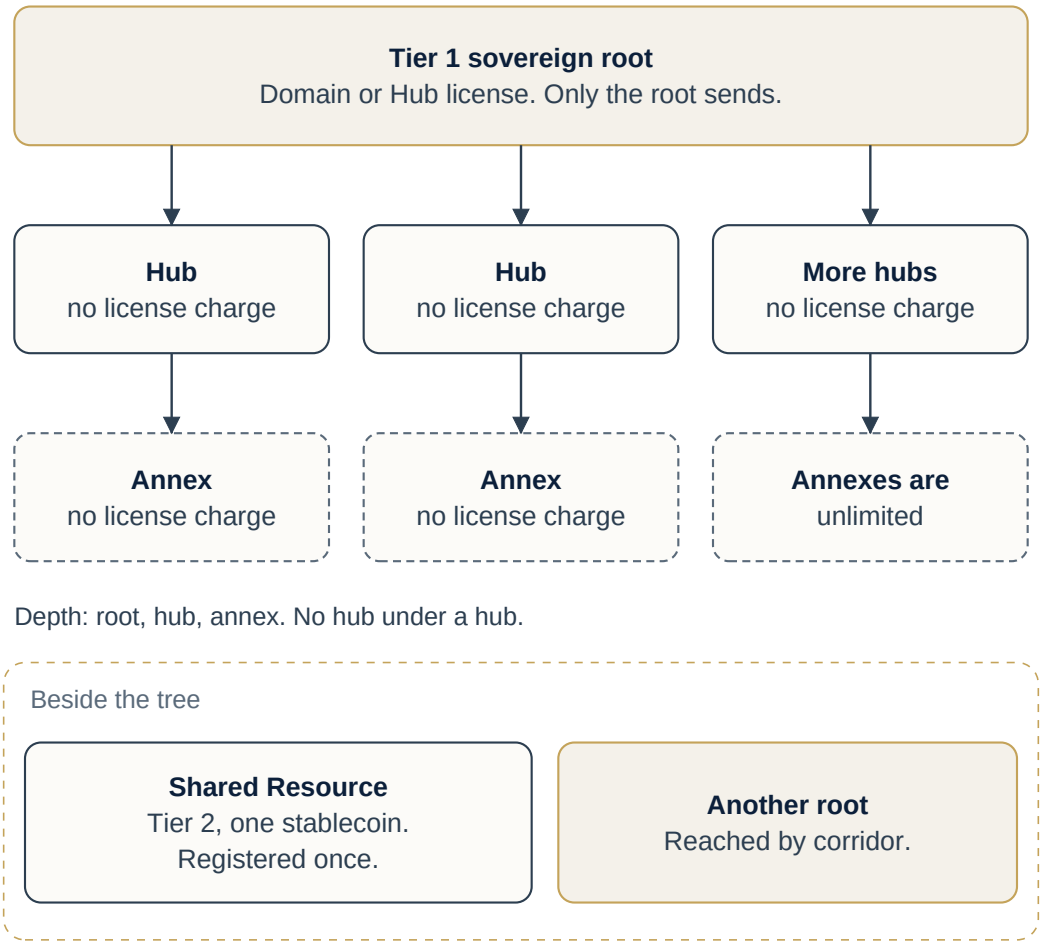


Figure 2. The domain tier model. The Domain license and the Hub license were called Class A and Class B in earlier papers.

A sovereign holds a Tier 1 root under a Domain or Hub license. The root holds hubs, and each hub holds annexes. JIL does not charge for adding hubs, spokes, or annexes, and an eleventh hub is not a second license. That is the November 7, 2026 operator rule, and the schedule is at jilsovereign.net/fees.html. Depth is sovereign, hub, annex, and a hub under a hub is rejected. Only the root sends on the corridor, so a hub or an annex cannot bypass its sovereign to trade externally [R5]. A stablecoin stands once as a Shared Resource, which is a Tier 2 for that one stablecoin with no hubs and no annexes. A Tier 1 registers once to use it, and that registration covers every hub and annex under that Tier 1. Domain and Hub are the two licenses, with the same published price. They were called Class A and Class B in earlier papers. Domain is for a nation, a central bank, or a commodity consortium. Hub is for a regional hub or an institution, connected to a Domain. The structure words are Domain, Hub, and Annex. Tier 1 means a sovereign root, and Tier 2 is used only for a Shared Resource.

Status. Live. Reference domains that show this model run today as demonstrations: Nubara, a fictional Domain with gold and oil commodity annexes, and Tirmore, a fictional banking Hub. They are not licensed deployments, and issuance on them is off. The provisioned chain is a sovereign cell.

5.2 The two ATCE layers

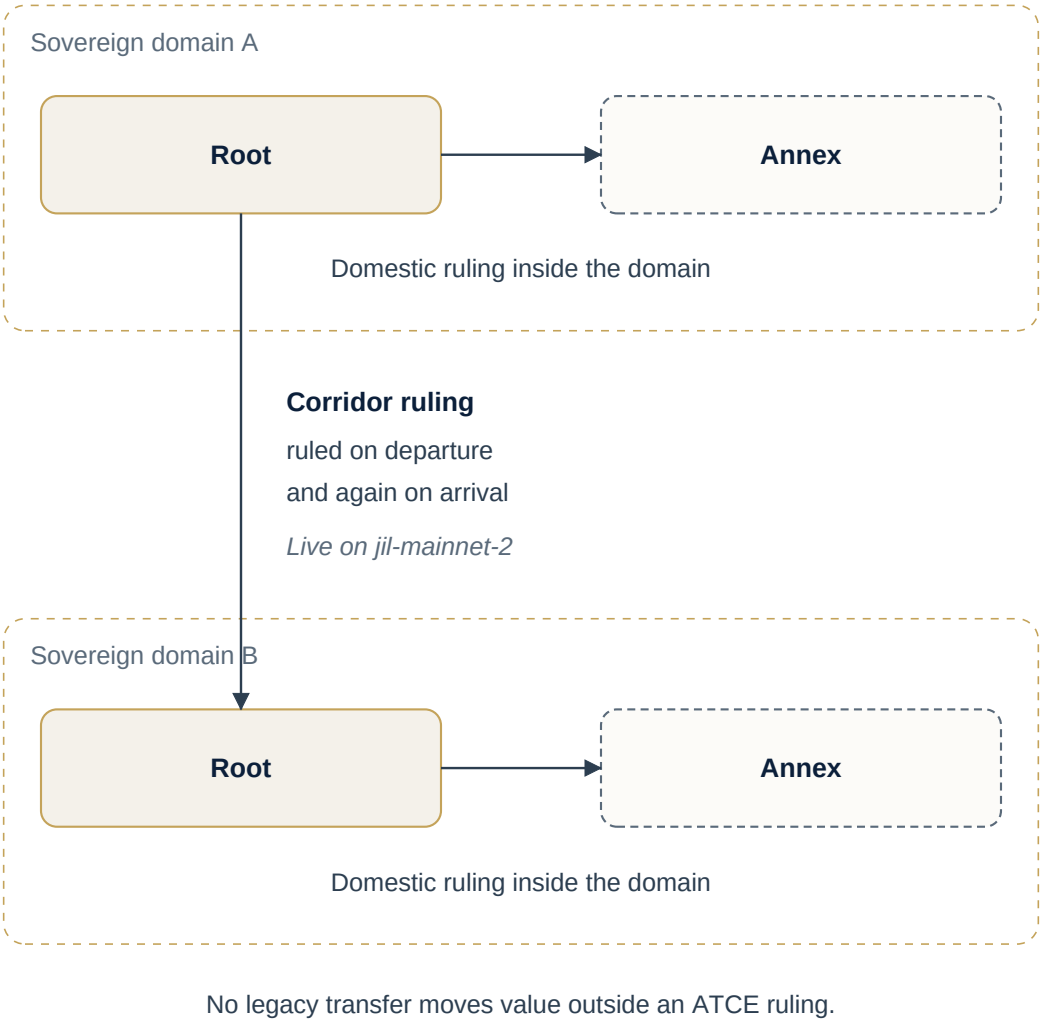


Figure 3. The two ATCE layers: a domestic ruling inside the domain, and a corridor ruling between domains, on every transfer.

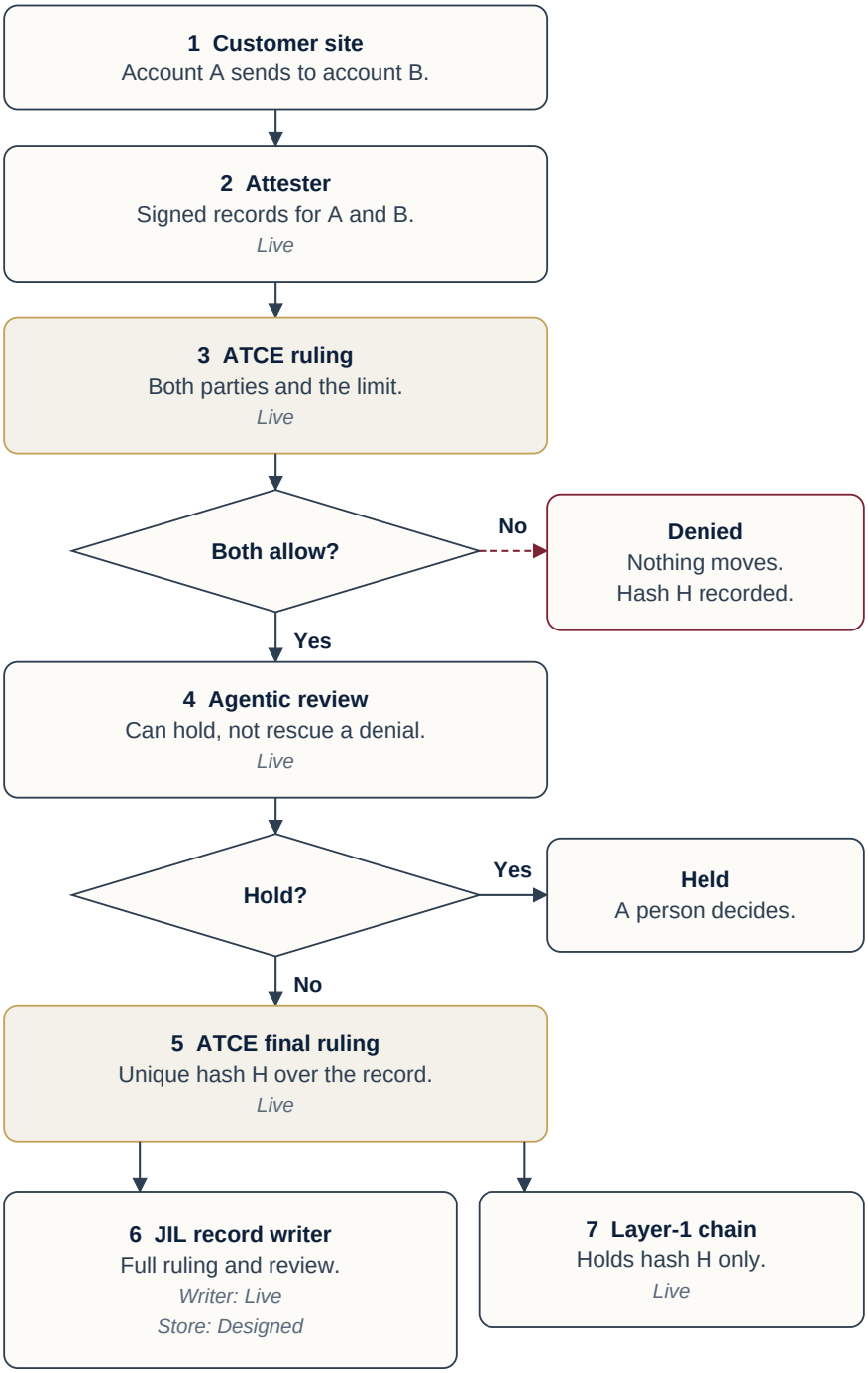
The first layer is between domains. A hop that leaves the domain is a corridor ruling. Value leaves a domain only on a corridor, and the sending cell's policy is enforced on departure and the receiving cell's on arrival. Neither cell is asked to accept the other's judgment, which is the only arrangement two regulators can both live with [R3]. The second layer is inside the domain, between the root and its hubs and annexes. The verdict on an act that stays inside the domain is a domestic ruling.

A corridor crossing works as follows. The hub's federation key is pinned in the receiving cell's own genesis. A release carries the hub's signature over a canonical authorization. The receiving cell verifies the signature against the pinned key, binds it to itself, enforces exactly-once settlement through a replay slot, and only then moves the funds. A cell honors a release because it can verify the authorization itself and not because a bridge key moved a balance.

That is what "finalize is dual-signed" means. The two signatures are the sending hub's federation key over the release authorization, and the commit of the receiving cell's validators, which verify that signature and rule the arrival under their own profile before they credit anyone. The escrow is ledger state, not a JIL account: a send debits the sender into a reserved system account on the sending cell (`jil1ibcescrow`), and the receiver is credited out of the receiving cell's escrow float. JIL holds no fiat and no customer funds in a corridor hop. A denied hop returns the escrow to the sender and settles no fee.

Status. Built. A domestic ruling stays inside the domain and a corridor ruling covers a hop that leaves it, on both counterparties. No transfer, domestic or cross-border, moves value outside an ATCE ruling. A release with no ATCE context is refused. Measured 2026-11-12, that every-transfer rule is not in the validator image created 2026-08-21. That image can deny a crossing.

5.3 A transfer from act to record



Value moves only on an allow ruling.

Figure 4. A transfer from act to record, one party per step. The attester, the agentic review, and the record writer were not confirmed on the validator image created 2026-08-21. The production record store is Designed.

1. **The act.** Account A sends to account B.
2. **Attested identity records.** The facts the ruling is judged on, such as KYB or KYC level, jurisdiction, risk, sanctions status, zone, and freeze state, come from on-chain records that an authorized attester signed. The context a holder puts in a transaction is ignored, because a holder could otherwise declare a clean context [R2].

3. **The ruling.** ATCE evaluates both counterparties and the per-asset limit. A zone mismatch is a denial, and an unzoned account counts as being in no zone. The verdict is a pure function of the profile and the context. Any missing input is a denial.
4. **The review.** The agentic review can hold an act. It enters the ruling as a signed, recorded result. Consensus calls no network service.
5. **The final ruling and its hash.** The ruling has a unique SHA-256 hash that binds the profile, both parties' records, the review result, and the outcome. Value moves only on an allow ruling.

Two records follow. The chain holds the hash. JIL holds the full record, as section 9 describes.

Status. Built. In the repository rule every account that sends carries an attested identity record, and the attester key and the reviewer key are pinned on the chain [R2]. The attester, the reviewer bridge, the agentic review, and the record writer were not confirmed on the validator image created 2026-08-21.

Sanctions. ATCE denies inside consensus on the sanctions flag in each party's attested identity record. Consensus never calls a live sanctions list, by design: every validator must decide from facts already agreed on chain, so the decision is evidence and not an assertion. The screen against current lists runs off chain in the attester service, and its result is signed into the identity record. The gas-block supervisor in section 12 is a different control, for gas-block eligibility, and is not the transfer screen.

5.4 The engine underneath

The consensus engine, the Attested Consensus Layer, is permissioned and single-operator. It makes no decentralization claim. Its technical core is a bifurcated fault model in which a node that does not answer and a node that answers differently are opposite events. Silence is tolerated. Contradiction is not, and it is recorded and adjudicated instead of being outvoted [R3]. Determinism is enforced by construction: Ring 0 is eleven crates and 52,447 lines, and its pure consensus core is about 3,100 lines. It is compiled with no clock, no network, and no entropy, and linked to WebAssembly with its import section asserted empty, so a third party can check purity from the compiled artifact without reading the source [R3].

Status. Built. The Attested Consensus Layer is a separate binary and is not the process on jil-mainnet-2. Measured 2026-11-12, that process is jil-abci-node under a third-party consensus engine from the image created 2026-08-21. Eight of ten hosts were in the signing set, and a tip block sealed with six of those eight. The agreement rule below belongs to that separate binary. It is not the rule that sealed that tip [R3]:

- **Block seal.** Six of ten validators with a verified enclave quote and a verified state-transition proof, or eight of ten when those proofs are absent. A quote or proof that fails inspection does not count. Seven does not pass.
- **Payment request.** A yes from every active validator. An active validator is one that answered in that round. A silent validator is not counted, and silence is never a yes. One objection fails that request, attributed, and the chain continues.
- **Bridge withdrawal.** Agreement from every responding validator, where responding has the same meaning as active.
- **Halt.** Below seven voting validators, consensus stops.

A contradiction is recorded and adjudicated, not outvoted.

5.5 Currency Objects instead of contracts

The ledger has no general-purpose virtual machine. An instrument is a Currency Object, a native managed instrument with a registry pin, state machines for mint, circulate, and redeem, exactly-once replay slots, and the same ATCE gate on every transfer [R3] [R7]. Two things follow that a contract cannot give. Solvency is a relation a verifier can check against the ledger, because circulating currency is a native denomination and its outstanding amount is the real total supply. And authority is bound to the licensed issuer's key, so JIL operates every validator and still cannot mint.

Status. Live in the engine on the reference domains. Issuance is disabled on every sovereign cell until a licensing event.

5.6 The InterOp router

JIL sits above the chains and rails customers already use. Each domain has its own token and its own ATCE profile. When a domain's rules do not allow a direct move, a router is designed to find a legal path through other domains.

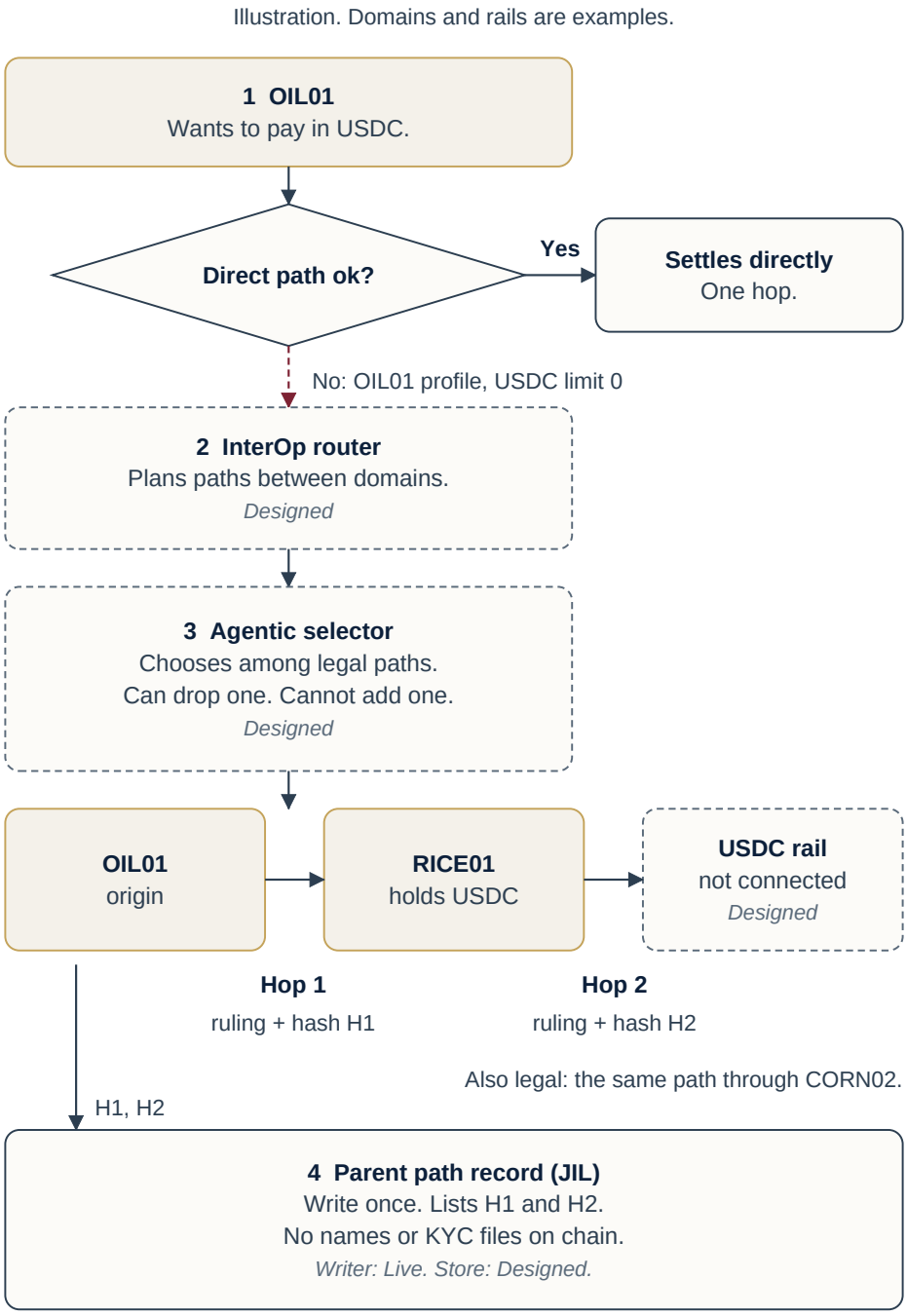


Figure 5. A multi-hop path through two domains, shown as an illustration. Designed, not built.

The illustration is a consortium of oil-producing states, called OIL01, whose profile does not allow USDC. A deterministic planner lists only the paths in which every hop passes the ATCE profile of each domain it touches. An agentic selector chooses among those legal paths by cost, time, and counterparty trust. It can drop a path or hold the request. It cannot add a path or change a hop. Every hop is ruled and has its own hash. JIL holds one parent record that lists the hop hashes, and the chain references those hashes. If a hop fails after earlier hops have moved, the design uses escrowed legs where any leg cannot be reversed, a

staged commit with reversal where every leg can, and per-hop finality with a stranded state only as a last resort. If the selector is unavailable, the router stops and routes nothing [R8].

Status. Designed. The planner, selector, executor, path record, and unwind are not built. An older cross-chain router in the repository builds candidate paths with fee and time estimates, is not aware of ATCE, and is not part of this design. Only the Ethereum bridge deposit path is live [R14].

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6. How JIL Measures Against the Criteria

6.1 Scorecard

#	How JIL meets it	Where the gap is	Status
C1 Sovereign rulebook	The sovereign cell has its own genesis. The licensee sets the profile.	Operation of the validators is by JIL Sovereign Technologies Incorporated today. A domain does not operate them. Sovereign-hosted validators are on the roadmap.	Live, on reference domains
C2 Ruling before movement	Every transfer is ruled before value moves. A domestic ruling stays inside the domain. A corridor ruling covers a hop that leaves it, on both counterparties.	The every-transfer rule was committed on 2026-11-01 and is not in the validator image created 2026-08-21. That image can deny a crossing. Latency under load is not yet measured (gate G5).	Built
C3 Both counterparties	The repository rule reads the identity record, zone, and freeze state of both accounts.	Same image limit as C2.	Built
C4 Decision as evidence	The verdict is a pure function inside consensus, with a SHA-256 commitment.	The every-transfer commitment is not in the validator image created 2026-08-21. The chain has not yet carried production load. JIL operates every validator.	Built
C5 Named attribution	The design makes each validator a named legal entity.	Every validator is operated by JIL today.	Designed
C6 Record retention	A JIL-held write-once record keyed by the ruling hash, no names, documents or KYC files on chain.	The production store is not yet selected. Storage is allocated for each domain when its license is signed.	Designed
C7 No single hub	Governed corridors with a corridor ruling on departure and on arrival.	No licensed corridor is live. Other chains are listed networks, not connections.	Live on reference domains
C8 Fit with incumbents	The Ethereum bridge deposit path is Live.	The withdrawal path is Designed and awaits a key ceremony. No other chain or payment rail is connected.	Live, in part. Designed for the rest
C9 Cryptographic durability	Attestation seals carry hybrid Ed25519 and ML-DSA-65, and both must verify.	Only the Ed25519 half is verified on chain today. Validator signing is classical.	Live, in part
C10 Honest status	Every claim in this paper carries a marker, and section 10 lists what is not claimed.	The consensus engine is self-written. Johanson Group LLP is examining SOC 2 Type 1, SOC 2 Type 2, and HIPAA. Those examinations are in progress. No report has been issued. JIL is engaging a separate firm for HITRUST. No HITRUST report has been issued.	Live
C11 Cost within reach	Domain and Hub licenses.	The cost estimate of a from-scratch build is an estimate.	Live as a published price

#	How JIL meets it	Where the gap is	Status
C12 Operability	Density was measured on two hosts.	The measurement used empty chains and is a floor.	Live, with caveats

6.2 Features and status

Feature	What it does	Status	Note
Sovereign domains and the root, hub, annex model	A licensee governs the domain, with its own currency and policy. The provisioned chain is a sovereign cell.	Live (reference domains)	No licensed domain yet.
Corridors	Governed value crossing, dual-signed, replay-protected, re-checked on arrival.	Live (reference domains)	Pinned hub key.
ATCE inside consensus	Evaluates identity, limits, sanctions, and policy before finality. A domestic ruling stays inside the domain. A corridor ruling covers a hop that leaves it.	Built	The 2026-08-21 image can deny a crossing. The every-transfer rule is not in that image.
Ruling on every transfer	Rules every account-to-account move on both counterparties. No transfer moves value outside an ATCE ruling.	Built	Committed on 2026-11-01. Not in the validator image created 2026-08-21.
Attested identity records	Signed facts the ruling reads, including the sanctions flag.	Built	The attester was not confirmed on the validator image created 2026-08-21.
Per-asset limits	A domain default plus per-asset overrides.	Built	Part of the repository rule. Not confirmed on that image.
Agentic review	A second look that challenges the rules and can hold an act. Hold only.	Built	Not confirmed on the validator image created 2026-08-21. It can hold an act and cannot release a denial.
Transaction record (WORM)	JIL-held, write once, unique hash, chain references it.	Built for the writer. Designed for the production store.	The writer was not confirmed on the validator image created 2026-08-21. Storage is allocated for each domain at licensing.
10 years of retention	The record is kept.	Designed	A commitment of 10 years from creation, with storage allocated for each domain when its license is signed.

Feature	What it does	Status	Note
Currency Objects	Native managed instruments with solvency checks.	Live	Issuance is disabled until a licensing event.
Hybrid seals	Ed25519 and ML-DSA-65, both must verify.	Live	On-chain only Ed25519 verified.
Post-quantum validator signing	Validator keys sign with ML-DSA.	Designed	Roadmap.
Ethereum bridge	Value from Ethereum enters the cell.	Live (deposit). Designed (withdrawal).	Withdrawal awaits a key ceremony.
Other chains and rails	Listed networks for InterOp.	Designed	None connected.
InterOp router	Plans and runs multi-hop paths.	Designed	
Negotiated per-hop rates	Rates agreed in the license, set by JIL staff.	Designed	Published rate is 5 bps.
Setup portal	Where a customer sets its profile and rates.	Designed	Demonstration only.
Customer-hosted cell	A cell run on the customer's own hardware under the Regulated profile.	Designed	The runbook exists.
Proof DEX	A regulated launch venue with ring-fenced pools and ProofGuard.	Built	Nothing is listed.
CourtChain	Evidence anchoring with verify links.	Live	
On-chain governance	Parameter changes by proposal and vote inside consensus.	Built	Upgrades are rolled by JIL as operator today.
Ten validators	JIL-operated, permissioned, named.	Live	One hosting provider.

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7. Positioning: Who JIL Is For, Who It Is Not For, and How It Fits

7.1 Who JIL is for

Reader	The job they need done	What JIL gives them	Where they start
Nation or central bank	Run a national digital economy under national law. Settle across borders without depending on one hub.	A sovereign domain with its own currency object and rulebook. The provisioned chain is a sovereign cell. Corridors to other domains. A record of every ruling.	A national domain briefing. Domain.
Bank or regulated institution	Enforce policy before settlement, not after. Prove who agreed years later.	ATCE rulings with identity, jurisdiction, and limits as conditions of finality. A kept record. Reject rights on both sides.	An institutional briefing. Hub, or a hub under a root.
Trade or commodity consortium	Let members pay and be paid in many assets while each member's rules still hold.	A consortium as its own sovereign domain and Tier 1 root. Routing through other domains when its own rules forbid a direct move (designed).	A consortium briefing.
Technical evaluator	Check the claims. Find what is missing.	The Federation Thesis, status marks on every claim, and a list of threats to validity.	The thesis and a technical briefing.
Capital partner or analyst	Understand the model, the stage, and the risk.	The license schedule, the revenue model, and a plain account of status.	A principal-level briefing.

7.2 Who JIL is not for

- **A permissionless, anonymous, or open-validator chain.** The validators are named and permissioned. Today every one is operated by JIL.
- **Ethereum tooling.** The ledger has no general-purpose virtual machine and is not EVM-compatible. Ethereum is reached by a bridge [R6].
- **A token to buy.** No sale is running on this site, and JIL does not operate an exchange. JIL.ai tokens have already been given to participants. Further issuance stays disabled until a licensing event [R13].
- **Custody of reserves or a set exchange rate.** JIL does not hold a domain's reserves and does not set its rate.
- **A replacement for your central bank.** JIL is infrastructure that a central bank can use. When a central bank issues, JIL is a rail it can run on.
- **A decentralization claim.** JIL does not make one.
- **A live customer reference.** JIL does not provide one.
- **A retail wallet.** The retail wallet at getjil.com is a separate host and a separate product.

7.3 How JIL fits with the incumbents

JIL is the policy layer above the systems an institution already uses. It does not replace them. We compare by category and name no vendor.

Category	What it gives	What it leaves open	How JIL relates
Public layer-1 chains	Open settlement and a large ecosystem.	Any valid signature settles. A national rulebook is not part of the protocol.	A bridge or router connects to them. The Ethereum deposit path is live. Others are designed.

Category	What it gives	What it leaves open	How JIL relates
Stablecoins	A familiar unit of account on a public chain.	Issuer policy is the issuer's.	A stablecoin stands once as a Shared Resource. A digital currency here is a stablecoin and not a token.
Payment rails such as SWIFT, ACH, SEPA, RTP, FedNow	Reach into domestic finance.	Compliance is largely after the fact.	Connectors are designed. Settlement integrity and proof stay on the JIL backbone.
Central bank digital currency	National money on a national ledger.	Cross-border use depends on other systems.	JIL does not compete with it. When a central bank issues, JIL is the rail it can run on.

8. Evidence and Validation

8.1 Measured data

Every figure below is dated and sourced. None is a capacity promise.

Measurement	Result	Date	Source
Home chain jil-mainnet-2	Ten hosts. Measured 2026-11-12, eight were in the signing set at height 118,023. The tip set was not catching up. Two hosts were not on that tip.	2026-08-21 to 2026-11-12	[R9]
Older chain jil-mainnet-1	About 3.8 million blocks and zero transactions. It never carried load.	2026-08-27	[R3]
Cell density, 96-core host with RAID1	2,061 cells at saturation. The ceiling derived on a 48-core host predicted about 2,150, within 4%.	2026-08-27	[R3]
Cell density, 48-core host with NVMe	1,074 cells at the ceiling.	2026-08-27	[R3]
Pure core	About 3,100 lines. Ring 0, which holds it, is eleven crates and 52,447 lines.	2026-08-27	[R3]
Public source canon	About 2.8 million lines of authored source and 350 or more services.	2026-09-03	[R10]
Patent claims and marks	177 patent claims filed (patent pending, none granted). 9 trademarks filed, none registered.	2026-09-02	[R10]

The density figures were taken on single-validator chains with no transactions. A production cell runs a seven-validator floor, real signature verification, and corridor traffic. A mature cell measured 134.7 MiB against 35 MiB idle. The figures are a floor on cost and are not a capacity promise.

8.2 Test results

On 2026-11-01 the test suites for the ruling code and its services were run on the merged main line (commit 54ef9f087fc) [R2] [R11].

Suite	Result	What it covers
jil-abci library tests	271 passed, 0 failed, 2 ignored across all targets	The ATCE ruling, identity records, per-asset limits, zones, currency, and federation.
acl-app tests	583 passed, 0 failed	The same ruling model on the successor engine, including the ruled IBC send.
ATCE services: attester, reviewer, record writer	52 passed, 0 failed	The signing, the hash check, and the refusals of the three services.

Tests establish that the code does what its design says. They do not establish behavior under load, which is listed first in section 11.

8.3 Case applications

These are reference architectures and illustrations. None is a customer, a result, or a claim that a state has joined.

Nubara, a root with gold and oil annexes. Nubara is a fictional Domain with currency NBR-S, and two commodity annexes under it. The gold annex issues GLD-S, a demonstration unit of one fine gram, against a synthetic vault schedule of 192 bars of 12.5 kg [R15]. The oil annex issues OIL-S, a demonstration unit of

one barrel, against synthetic tank stock. Both are illustrative units with no claim on physical metal or oil; the specification a licensed commodity annex must meet is at jilsovereign.net/commodity-annex-spec.html. Only the settlement unit crosses the corridor. A send from the oil annex to the corridor is refused, because only the root may send.

Tirmore, a banking root. Tirmore is a fictional reference Hub with currency TMR-S and twenty-four fictional banks [R15]. Neither name refers to a real jurisdiction, central bank, or bank.

A consortium paying in USDC (illustration). OIL01, a consortium of oil-producing states, needs to pay and be paid in USDC and other assets, but its profile does not allow a direct USDC movement. The router is designed to refuse the direct path and find a legal path through RICE01, or through CORN02. Each hop is ruled and carries its own hash. JIL holds one parent record that lists the hop hashes, and the fee is 5 basis points on each settled JIL hop. The domains and the rails here are examples, and the rails are designed, not connected.

8.4 Trade-offs and counter-arguments

A paper that claims no downsides should not be trusted. These are ours.

Challenge	The honest answer	Where it is tracked
You wrote your own consensus engine. Why trust it?	Do not rely on the author. The claim is that the pure core is small enough to check, that its purity is a property of the compiled artifact, and that it halts rather than guesses. External audit is a precondition.	Section 10, roadmap gate G2
Single operator means not decentralized. Why a ledger?	The product is attribution and replay, not decentralization. A database cannot let a party who distrusts the operator re-run the history.	Section 10
There are no smart contracts.	Correct. The exploit class is gone and so is the long tail of custom logic. Every extension is a governed protocol change on JIL's schedule. The thesis names this the decision most likely to be wrong.	Thesis, removing generality [R3]
Compliance in consensus cannot call a sanctions API.	Chosen. Facts must already be on chain and agreed, so a decision is evidence and not an assertion. The live-list screen runs in the attester, and its result enters the ruling as a signed sanctions flag. The cost is that a list change reaches the ruling when the identity record is re-attested.	Section 5.3
Ruling and review add latency and overhead.	Yes. Every act waits on a ruling and, where used, on a review. Latency under load has not been measured.	Roadmap gate G5
The record costs storage.	Yes. Ten years of write-once records is a petabyte-scale commitment, allocated for each domain when its license is signed.	Section 9
A sovereign cell per domain sounds like sprawl.	It is a real cost. Density was measured and is a floor taken on empty chains.	Section 8.1
Where are the customers?	The reference domains show the model. They are not customers. A domain goes live when its policies are pinned.	Section 10

Challenge	The honest answer	Where it is tracked
Validators are single-operator and software-keyed.	Correct. Hardware keys and sovereign-hosted validators are on the roadmap.	Roadmap gates G4 and G7
Only Ed25519 is verified on chain.	Correct. On-chain ML-DSA verification is not built, so a crossing's post-quantum property rests on an off-chain artifact.	Section 10

9. Trust, Records, and Compliance in Detail

9.1 What a ruling record holds

A ruling record holds the ATCE rules that applied, the agentic review and its result, the buyer and seller details including their KYB and KYC checks, and the ruling itself. It has a unique SHA-256 hash that the Layer-1 references. JIL holds the record locally, and it is write once and immutable [R4].

9.2 Identity as a condition of settlement

KYC and KYB are performed at each domain under local law. The results enter the ruling as signed, on-chain identity records and not as claims made in a transaction. Identity assurance is an ordered scale that mirrors the NIST digital identity assurance levels plus a KYB level, so a policy that requires a level means something a second implementation would agree with [E7] [R3]. A counterparty that has not satisfied KYC, or a business that has not satisfied KYB, does not generate a failed compliance check afterward. The transfer is refused.

Status. Built. In the repository an attester service reads the stored KYC or KYB result and the sanctions screen, and signs the on-chain identity record. It never guesses a missing field, and it signs nothing if the KYC service or the chain is unavailable [R11]. The attester was not confirmed on the validator image created 2026-08-21.

9.3 The write-once record

Where it lives. The record is held by JIL, and not on the chain. The chain holds the hash and the attestation values ATCE reads: identity level, risk score, sanctions flag, jurisdiction code, expiry and version. Names, documents and KYC files stay in the encrypted WORM record, never on the chain, because immutable chain data that outlives the 10 year record period conflicts with erasure and privacy obligations.

How it is protected. Each record is encrypted with its own key, wrapped by a master key that JIL holds. A legal erasure destroys the record's key and leaves the digest, so the chain's reference stays valid and the body is gone. The store enforces immutability itself, with an Object Lock on the bucket and not only by the writer's code. The writer refuses to write to a bucket that does not report the lock.

What is true today. An Object Lock bucket exists for tests. The production store, the lock mode, the data residency per jurisdiction, and the erasure policy are not decided. The store may move to a cloud that holds SOC 2 and HITRUST attestations, and this paper names no provider. The writer is provider-neutral and uses only standard Object Lock calls. The retention commitment is 10 years from creation, and JIL allocates petabyte-level storage for each domain when its license is signed.

Status. Built for the writer in the repository, and **Designed** for the production store. The writer files the ruling under its hash. JIL holds the record. The chain references the hash. Retention is 10 years from creation. Measured 2026-11-12, the writer was not confirmed on the validator image created 2026-08-21.

9.4 How a regulator or auditor verifies a ruling

1. Obtain the ruling record from JIL, with the ruling hash the chain references.
2. Recompute the hash from the record and compare it with the hash on the chain.
3. Check the signatures on the identity records and on the review result against the keys pinned on the chain.
4. Replay the ruling from the pinned profile and the recorded context, and confirm the same verdict.

Steps 2 to 4 need no trust in JIL's statement. They need only the record and the chain. Step 1 depends on JIL producing the record, which is why the commitment to retain it matters.

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9.5 What an examination covers

Johanson Group LLP is examining SOC 2 Type 1, SOC 2 Type 2, and HIPAA. Those examinations are in progress. No report has been issued. JIL is engaging a separate firm for HITRUST. No HITRUST report has been issued. Section 9.4 is how a reader checks a ruling from the record JIL holds and the hash the chain references.

10. Security, and the Claims JIL Does Not Make

10.1 The security model

Area	In production today	On the roadmap
Attestation seals	Hybrid Ed25519 [E8] and ML-DSA-65 [E6] signatures. Both must verify.	An independent external audit of the seal and consensus path.
Consensus	On jil-mainnet-2, measured 2026-11-12: the process is jil-abci-node under a third-party consensus engine from the image created 2026-08-21, the signing set is eight, and a tip block sealed with six of those eight. The six-of-ten, eight-of-ten, and nine-of-ten arms are the Attested Consensus Layer rule, and that binary is not this process. Seven does not pass on that separate rule. A payment request, on that separate rule, needs a yes from every active validator, and one objection fails that request while the chain continues; a bridge withdrawal needs agreement from every responding validator. Active and responding mean the validator answered in that round. JIL Sovereign Technologies Incorporated operates every validator. This is not Byzantine fault tolerance: the rules bound accident and partial compromise, not a malicious operator. A recorded showcase measurement of a block seal showed 9 of 10 validators signing [R6].	Sovereign-hosted validators. A set of 15 to 20 validators is a planned target and is not implemented.
Validator keys	Ed25519 software keys held in a file on each node.	A hardware security module and post-quantum validator signing.
Validator hosting	Ten hosts with one hosting provider. Measured 2026-11-12, eight are in the signing set. A zone name is a label, not a location.	Validators a sovereign hosts inside its own jurisdiction.
Default service key	A 2-of-3 threshold. All three shares are generated and held server-side, and signing reconstructs the key in memory. There is no user-held shard on the default key.	Threshold signing where the key is never reconstructed.
Transaction record	Measured 2026-11-12, the every-transfer rule is not in the validator image created 2026-08-21. That image can deny a crossing. In the repository rule the decision hash is committed on the Layer-1. The record writer was not confirmed on that image.	The production write-once store of section 9.

10.2 Claims JIL does not make

These are the limits an adversary would name. We name them first.

- **The consensus engine is self-written. Johanson Group LLP is examining SOC 2 Type 1, SOC 2 Type 2, and HIPAA. Those examinations are in progress. No report has been issued. JIL is engaging a separate firm for HITRUST. No HITRUST report has been issued.** It is the highest-risk software a company can write and will be a diligence question forever. The pure core is small enough for an auditor to read. That is mitigation and not an answer [R3].
- **The verification plane carries the correctness argument.** A reader checks a ruling from the record JIL holds and the hash the chain references.
- **Reproducible builds do not exist.** Without them a rolling upgrade can look like a one-against-many divergence.
- **JIL operates the ten validators on jil-mainnet-2.** Measured 2026-11-12, the process is jil-abci-node under a third-party consensus engine, the signing set is eight, and a tip block sealed with six of those eight. The Attested Consensus Layer is not that process. Silence is not a yes, and a contradiction is recorded.
- **The chain has not carried load.** The older chain committed zero transactions across 3.79 million blocks. The transaction count of jil-mainnet-2 is not published here.
- **The record writer files the ruling under its hash.** Measured 2026-11-12, the every-transfer rule is not in the validator image created 2026-08-21. That image can deny a crossing. The attester signs identity records. The review can hold an act and cannot release a denial. The record writer files the ruling under its hash, and the production record store is designed.
- **The on-chain post-quantum property is incomplete.** Only the Ed25519 half of a hybrid seal is verified on chain. The ML-DSA half is carried and anchored off chain.
- **The bridge is half open.** The Ethereum deposit path has been exercised in production. The withdrawal path awaits an operational key ceremony.
- **A single hosting provider and a single operator.** The ten validators share one provider and one operator.
- **No sale.** No token sale is running. JIL.ai tokens have already been given to participants.
- **A signature-encoding defect was found and fixed in one structure.** A systematic check of every signed structure in the estate is not done [R3].

11. Roadmap and Execution

11.1 Gates before first production use

The gates below are in dependency order. They carry no dates, because no dates can be sourced.

Gate	What must be true	Why	Status
G1	Reproducible builds	They separate a differing build from a failing machine. They gate ejection and the audit.	Not started
G2	An external audit of the pure core, then at least one non-customer verifier	Without them the correctness argument is self-reported.	Not started
G3	The ruling on every transfer	Identity records for every account that must send, including genesis accounts, a pinned attester key and reviewer key, and a coordinated validator upgrade. The every-transfer rule was committed on 2026-11-01 and is not in the validator image created 2026-08-21. That image can deny a crossing.	Built

Gate	What must be true	Why	Status
G4	Hardware security modules and post-quantum validator signing, with on-chain ML-DSA verification	Closes the classical-crypto window.	Designed
G5	Load on a production-shaped chain: seven validators, sustained traffic, aged state	The measurements so far are a floor on empty chains.	Not started
G6	A production record store decided and deployed	Provider, lock mode, residency, erasure policy. Storage is allocated for each domain when its license is signed.	Designed
G7	Sovereign-hosted validators, and growth of the validator set toward the target	Removes dependence on one provider and one operator.	Designed
G8	InterOp: a technical design document, then a build, one connector at a time, and the bridge withdrawal key ceremony	None of the router is built.	Designed
G9	Custody of the system accounts, and a divergence-certificate store	The first blocks launching any new sovereign cell. The second blocks the ejection path.	Not started
G10	A second independent implementation	A clean room that runs the same build shares its bugs.	Not started

11.2 A phased path for a customer

Phase 0. Briefing. A 45-minute first call with a named principal and an engineer, under NDA on request [R16]. You leave with a license term sheet and a security as-built summary.

Phase 1. Evaluation. Your technical team reviews the Federation Thesis and tests the claims. This paper's status markers and section 10 are the checklist.

Phase 2. Pilot cell design. Choose the license, Domain or Hub. Define the currency policy, the identity requirements, the jurisdictions the cell accepts value from and sends value to, the per-transaction ceiling, and the corridors that matter.

Phase 3. Pilot deployment. A cell on the managed backbone, designed for technical readiness in about 30 days after its policies are pinned, with issuance off. Licensing and regulatory approvals are separate and are not in that figure. A customer-hosted cell on institutional servers, still federated, is Designed. The 30-day figure is a design target.

Phase 4. Production. Local regulatory approval, a licensing event before issuance is enabled, and the gates in section 11.1 that apply to the use.

Phase 5. Expansion. Additional corridors, instruments, hubs, and annexes.

Prerequisites on the customer's side: a legal entity and a regulator relationship, a KYC and KYB process at the domain, and a named lead for compliance, treasury, and operations. JIL does not custody the domain's banking and does not set the sovereign's currency rate. Governance of the domain, including its policy and profile, stays with the licensee. JIL controls changes to the shared core. The home chain validators are operated by JIL Sovereign Technologies Incorporated. A domain does not operate them.

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12. The Business Model and Its Impact

12.1 Published pricing

Item	Published terms
Domain license	For a nation, a central bank, or a commodity consortium root. Setup is a one-time $100,000. The annual floor is $250,000, credited against JIL's share of collected transport fees.
Hub license	For a regional hub or an institution root. The same published price as the Domain license.
Hubs, spokes, annexes	No extra charge. An eleventh hub is not a second license.
Corridor hop	A minimum of 5 basis points of settled gross per settled JIL hop, paid by the initiating root. 60 percent to JIL, 40 percent to the lessor.
Gas-block fee inside a domain	A minimum of 5 basis points. 25 percent to JIL, 25 percent to the operator, 50 percent to the lessor. On a corridor hop the operator has no share; it is paid through its own in-domain rate.
Capacity reservation (Ignition Switch)	The capacity lease is not published on this site. It is discussed in a briefing. It is separate from the license and from the published toll. A block holder does not receive a domain's data and does not receive a governance right.
Denied hop	The escrow is released and the settled fee is zero.

The full schedule, who pays on each route, how the annual floor is credited, and a worked three-leg example are at jilsovereign.net/fees.html [R5].

The gas-block supervisor. Every gas block must register and be approved for the regions where it may work, and it is barred from benefiting in a region where it is sanctioned. The supervisor decides that eligibility: registration, KYC or KYB, a sanctions screen no older than seven days, policy, fiduciary and operational viability, and approved regions. It runs at the gas-block service gate and in the demonstration meter, before any approval or payout. It is not the transfer sanctions control; that is the ATCE ruling in section 5.3. The supervisor checks eligibility before a lease and again when capacity is drawn. A block that fails the check takes no load and earns no toll.

12.2 Negotiated per-hop rates

Single-hop and multi-hop rates can be agreed with a customer in its license. Within a domain the operator sets the rate. Between domains, JIL sets the rate. The published minimum is 5 basis points per settled hop (section 12.1). For non-JIL exchanges reached through InterOp, a negotiated fee may differ, because JIL negotiates what it controls. No discount figure or schedule is published. **Status: Designed.** The setup portal that would record a customer's rates is shown in a demonstration only [R8].

12.3 JIL.ai

JIL.ai is the unit that authorizes corridor capacity in the design. The design funds operations from licenses and fees, not by printing a token. JIL.ai tokens were given to participants earlier, no sale is running, and further issuance is disabled until a licensing event [R12]. The full account is at jilsovereign.net/learn/jilai-federation-utility.html. The Ignition Switch demonstration shows how corridor capacity could be leased for a term and not burned. The capacity lease is not published. It is a demonstration and is not a token sale. Nothing in this paper is an offer to sell, a solicitation, or a description of returns to any purchaser.

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12.4 Operator, licensor, and intellectual property

JIL Sovereign Technologies Incorporated (Delaware) operates this Layer-1 host under the license from JIL Sovereign Holdings, LLC (Wyoming), which owns the intellectual property and does not operate the host. JIL Sovereign Holdings, LLC licenses the core on an irrevocable, exclusive, perpetual, worldwide basis with a non-compete [R5]. 177 patent claims have been filed with the USPTO under provisional application 64/146,398 (patent pending, none granted) and 9 trademarks have been filed (none registered) [R10]. The authored source is about 2.8 million lines across more than 350 services [R10].

12.5 Impact, stated plainly

We state no return on investment. What can be stated is this.

- **Cost.** The license is a published price. The alternative that the site estimates is a multi-year build [R1].
- **Risk.** A prohibited transfer is refused in consensus and not flagged afterward. The record of who agreed is named and replayable. Both sides of a transfer can refuse.
- **Control.** The sovereign keeps issuance, policy, and regulatory authority. JIL does not hold its reserves.

Each of these is a design property. Each is only as strong as its status marker in section 6.

13. Conclusion and Next Steps

Synthesis. Value movement today is ruled after the fact, through hubs the originator cannot choose, with records that cannot show years later who agreed. JIL reverses the order. The rulebook is the sovereign's, a ruling comes before movement, both sides of a transfer are ruled, and a record is kept that a stranger can verify. The cost is a licensed core operated by JIL, a ledger that does not run general contracts, and a platform whose production record store and InterOp router are still designed. The paper has stated each of those costs.

Where to go from here. Three concrete steps follow.

1. **Request a briefing.** Use the form at jilsovereign.net/connect or write to contact@jilsovereign.com. The appropriate principal replies within two business days. The first call is 45 minutes, under NDA on request.
2. **Evaluate.** Read the Federation Thesis and section 10, and ask the engineers to show you each marker. A claim that cannot be shown should be marked Designed.
3. **Design a pilot cell.** Bring the jurisdiction, the instruments, and the corridors that matter. We respond with a scoped next step and not a generic sales sequence.

Telephone: +1 (855) 572-9636. Email: contact@jilsovereign.com.

14. Questions and Answers

What is JIL in one sentence? An original, permissioned, federated Layer-1 that a licensee governs as a sovereign domain. The provisioned chain is a sovereign cell. A movement is ruled and the ruling kept before value moves.

Is JIL a blockchain for a public market? No. It is permissioned. Its validators are named, and today JIL operates every one.

Does JIL replace a central bank? No. It is infrastructure. The sovereign keeps issuance, policy, and regulatory authority.

Is JIL EVM-compatible? No. The ledger has no general-purpose virtual machine. Ethereum is reached by a bridge, and a contract written for Ethereum does not deploy on this chain.

Was it forked from another chain? No. It is not a fork of Bitcoin, Litecoin, Ethereum, or any other chain.

Is it decentralized? JIL makes no decentralization claim. Today a single operator runs every validator. The case for the design is attribution and replay.

Is it live? The home chain, jil-mainnet-2, has produced blocks since 2026-08-21 and reported height 118,023 on 2026-11-12. Measured that day, eight validators were in the signing set. A domain goes live when its identity levels, jurisdiction zones, sanctions lists, limits and policy are written and pinned.

What is ATCE? The Adaptive Trust, Compliance and Execution Engine. It rules each movement against the domain's policy before it settles. The verdict inside the domain is a domestic ruling. The verdict on a hop that leaves the domain is a corridor ruling.

Does ATCE rule every transfer today? No. The repository rule is that every transfer passes through ATCE before value moves. A domestic ruling stays inside the domain. A corridor ruling covers a hop that leaves the domain, the cross-border path, on both counterparties. That rule was committed on 2026-11-01 and is not in the validator image created 2026-08-21. That image can deny a crossing. The attester, the agentic review, and the record writer were not confirmed on that image.

How are sanctions applied? ATCE denies on the sanctions flag in each party's attested identity record. The screen against current lists runs off chain in the attester, which signs the result into that record, because consensus never calls a live service.

Who holds the keys, and who can halt or upgrade? JIL operates the validators and holds their keys and the default service key, and rolls upgrades as operator today. The full account, including what is on the roadmap, is at jilsovereign.net/control-and-custody.html.

What is the agentic review? A second look before the final ruling, which can hold an act when every check is green. It cannot rescue a denied act. A person decides after a hold.

Where is the transaction record kept, and for how long? JIL holds it locally, write once, with a unique hash that the chain references. JIL commits to keep it for 10 years from creation, and allocates storage for each domain when its license is signed.

Are names, documents or KYC files on the chain? No. Those stay in the encrypted WORM record. The chain carries the hash and the attestation values ATCE reads.

How do I know a record was not altered? Recompute its hash and compare it with the hash on the chain.

How is JIL different from Ethereum or a token on it? Ethereum and other public Layer-1s are generic. Rules are not part of their protocol, and every user sits inside one rule set and one jurisdiction. A token on such a chain is bound by that chain. A sovereign domain keeps its own law (currency, identity requirements, limits, zone rules, regulator) and a ruling before settlement, and shares one institution and corridors with the other domains. Routing beyond the Ethereum deposit path is designed. The comparison to a multilateral institution is an analogy of structure only, and JIL is not affiliated with any multilateral institution.

Can a domain create its own stablecoin? In the setup portal demonstration, a domain defines its own stablecoin in a few steps: the currency, the reserve model, and the limits. The portal is a demonstration. Currency Objects are live in the engine, issuance is disabled, and live issuance begins after the license.

How fast can a domain launch? A re-skin of the demonstration cell with a customer's names, language, and domain is measured in hours; that is the demonstration only. A pilot cell is designed for technical readiness in about 30 days after its policies are pinned. Licensing and regulatory approvals are separate and not included. Running a cell on the customer's own hardware is designed, and its full launch time is not yet measured.

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How does JIL work with Ethereum and USDC? Ethereum bridge: the deposit path is Live and has run in production; the withdrawal path is Designed and awaits a key ceremony. No other chain or payment rail is connected. Other chains and stablecoins are listed networks for a router that is Designed.

What if my domain's rules forbid a direct move? The router is designed to find a legal path through other domains, with a ruling and a hash on every hop.

What does it cost? The license, a corridor fee per settled hop, and a gas-block schedule, as section 12.1 states. The full schedule and a worked example are at jilsovereign.net/fees.html.

Is there a token sale? No. JIL.ai tokens have already been given to participants, and further issuance is disabled until a licensing event.

What examinations are in progress? Johanson Group LLP is examining SOC 2 Type 1, SOC 2 Type 2, and HIPAA. Those examinations are in progress. No report has been issued. JIL is engaging a separate firm for HITRUST. No HITRUST report has been issued.

Who operates it, and who owns it? JIL Sovereign Technologies Incorporated, a Delaware corporation, operates it. JIL Sovereign Holdings, LLC (Wyoming) owns the intellectual property and licenses it.

Is it post-quantum secure? Attestation seals are hybrid today, and both signatures must verify. Validator signing is classical today, and post-quantum validator signing is on the roadmap. No system is quantum-proof forever.

How do I start? Request a briefing at jilsovereign.net/connect.

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Appendix A. Methodology Notes

A.1 How status markers were assigned

A capability is **Live** only if it runs in production on jil-mainnet-2, or on the public site, on 2026-11-09. It is **Built** if the code is merged and tested and it is not running in production; Proof DEX and on-chain governance carry that marker. It is **Designed** if only a written design or a demonstration exists. A demonstration is a label for synthetic screens, not a status. Where a capability is part live and part not, the paper splits it.

A.2 The ruling commitment, at summary level

The ruling hash is a SHA-256 commitment over a canonical encoding of: the site profile in force, both parties' identity record versions, their freeze flags and zones, the review result, the asset and amount, and the outcome. Each field is length-prefixed under a domain tag. The same discipline applies to signed authorizations: a caller-controlled string that can move a field boundary lets one signature cover two documents, and the federation authorization was fixed for exactly that reason [R3]. The full wire formats are in the ruling design document [R2].

A.3 Formulas and rules stated in this paper

Rule	Statement
Settled corridor hop fee	Fee = settled gross multiplied by the hop rate in basis points divided by 10,000, with a minimum rate of 5, per settled JIL hop, paid by the initiating root. 60 percent to JIL, 40 percent to the lessor.
Gas-block schedule	A minimum of 5 basis points, split 25 percent to JIL, 25 percent to the operator, and 50 percent to the lessor.
Liveness floor	Three quarters of the voting set, rounded up, never below a strict majority. It is an evidence threshold, not a safety threshold [R3].
Block seal	Six of the voting set when each vote carries a verified enclave quote and a verified state-transition proof. Eight of ten when those proofs are absent. A failed inspection does not count and the bar is nine of ten.
Payment request	A yes from every active validator, one that answered in that round. One objection fails the request; the chain continues.
Bridge withdrawal	Agreement from every responding validator.
Fault rule	Proceed if responders meet the floor and all agree. Eject and proceed if exactly one responder disagrees and the rest are unanimous. Halt if disagreement is broader. Stall if responders fall below the floor. Disagreement is evaluated before the floor [R3].
Zone rule	A transfer is allowed only if both accounts are in the same zone. An unzoned account counts as being in no zone. Named protocol flows are exempt, each for a stated reason [R2].
Atomicity mode	Escrowed legs if any leg is irreversible. Staged commit with reversal if every leg is reversible. Per-hop finality with a stranded state only as a last resort [R8].
Density prediction	The ceiling measured on a 48-core host predicted about 2,150 cells on a 96-core host. 2,061 were measured, within 4% [R3].

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A.4 Caveats on the data

The density measurements used single-validator chains with no transactions. The height of jil-mainnet-2 is a single reading. The test counts were run on 2026-11-01 on the merged main line and describe the code, not production behavior. The external statistics in sections 1 and 2 are quoted from the cited papers and releases and were not independently reproduced.

Appendix B. Glossary

Term	Meaning
ACL	Attested Consensus Layer. The permissioned consensus engine on jil-mainnet-2, whose ten validators JIL operates. The agreement rule per action is in section 5.4.
Active validator	A validator that answered in the round. Responding has the same meaning. A silent validator is not counted, and silence is never a yes.
Agentic review	A service ATCE calls before its final ruling. It challenges the rules, can hold an act, and cannot rescue a denial.
Annex	A leaf under a hub or under a root. It holds nothing. A gold or oil desk is a commodity annex.
ATCE	Adaptive Trust, Compliance and Execution Engine. The in-consensus rule that decides whether a movement may settle.
Attester	The service that signs identity records from KYC and KYB results.
Cell	The provisioned chain only. See sovereign cell. Not the domain.
Built	Status marker: merged and tested, not running in production.
Domain, Hub	The two licenses, with the same published price. Formerly Class A (a nation, a central bank, or a commodity consortium) and Class B (a regional hub or an institution).
Corridor	A governed route by which value crosses from one sovereign domain to another.
Corridor ruling	The ATCE verdict on a hop that leaves the domain.
CourtChain	The evidence layer that anchors decision hashes and issues receipts.
Currency Object	A native managed instrument with mint, circulate, and redeem state machines.
Domestic ruling	The ATCE verdict on an act that stays inside the domain.
Gated garden	A sovereign domain whose movements take a domestic ruling inside it and a corridor ruling on every route out.
Hub	A place under a root. No license charge.
InterOp	The designed service that plans multi-hop paths between domains, chains, and rails.
JIL.ai	The unit that authorizes corridor capacity in the design. Issuance is disabled until a licensing event.
Parent path record	The record, held by JIL, that lists the hop hashes of one multi-hop path.
Proof DEX	A regulated launch venue on the Layer-1 with ring-fenced pools and a ProofGuard gate.
Reference hash	The unique SHA-256 hash of a ruling record, which the chain references.
Ruling	The ATCE decision on an act, with its reasons, bound to a hash.
Shared Resource	A site for one stablecoin, with no hubs and no annexes. The only thing called Tier 2.
Sovereign cell	The provisioned chain for a domain. It is not the domain.
Sovereign domain	The economy a licensee governs: a nation, a commodity consortium, an industry network, or a financial institution. It has its own constitution, chartered entities, and local bylaws.
Sovereign root	A Tier 1 root of a sovereign domain. Only the root sends on the corridor.
Stranded	A multi-hop state in which value sits at the last good domain until the user chooses a new path.
Tier 1, Tier 2	Tier 1 is a sovereign root. Tier 2 is a Shared Resource. Annexes are never Tier 2, and there is no Tier 3. Not the Domain and Hub licenses.
WORM	Write once, read many. The immutable record of a ruling.

Appendix C. Citations and References

Access date for every external source: 2026-11-01. Repository documents are cited by path, last commit, and commit date on the main code line.

External sources

- **[E1]** Matvos, Gregor, and Brent Neiman. Financial Sanctions and the Global Payments Network. NBER Working Paper 35453, 2026 (also BFI Working Paper 2026-49). https://www.nber.org/papers/w35453
- **[E2]** Agarwal, Sumit, Peiyi Jin, Eswar Prasad, and Daniel Rabetti. Crypto Capture of Foreign Aid. NBER Working Paper 35655, August 2026. https://www.nber.org/papers/w35655
- **[E3]** U.S. Department of the Treasury. Operation Economic Outcast and the A7 Network, press release, October 1, 2026. https://home.treasury.gov/news/press-releases/sb0644
- **[E4]** U.S. Department of the Treasury, Office of Foreign Assets Control. Alert on shadow banking and sanctions risk for foreign financial institutions, October 2026. https://ofac.treasury.gov/media/937091/download
- **[E5]** Financial Action Task Force. Update on Recommendation 16, payment transparency, June 2025. https://www.fatf-gafi.org/en/publications/Fatfrecommendations/update-Recommendation-16-payment-transparency-june-2025.html
- **[E6]** National Institute of Standards and Technology. FIPS 204, Module-Lattice-Based Digital Signature Standard, August 2024. https://doi.org/10.6028/NIST.FIPS.204
- **[E7]** National Institute of Standards and Technology. SP 800-63-3, Digital Identity Guidelines. https://doi.org/10.6028/NIST.SP.800-63-3. NIST released SP 800-63-4 in July 2025, which keeps the assurance-level structure.
- **[E8]** Josefsson, S., and I. Liusvaara. RFC 8032, Edwards-Curve Digital Signature Algorithm (EdDSA). https://www.rfc-editor.org/rfc/rfc8032

Repository documents (main code line, as of 2026-11-01)

- **[R1]** apps/jilsovereign-net/learn/what-is-a-federated-layer-1.html, commit 295044fd97e, 2026-11-01. Federation description, license and the from-scratch cost estimate.
- **[R2]** docs/system/44_ATCE_Ruling_TDD.md, commit 56464fe59af, 2026-11-01. With l1/jil-abci/src/ruling.rs (bbb0c2a2c9c) and l1/jil-abci/src/atce.rs (f418e1acaf8).
- **[R3]** apps/jilsovereign-net/learn/thesis.html, commit 914050be046, 2026-11-01. The Federation Thesis, measured 2026-08-27 against source 7935fe2635.
- **[R4]** docs/architecture/ATCE_WORM_RECORD.md, commit 8cb1b2001a9, 2026-11-01.
- **[R5]** apps/jilsovereign-net/licensing.html and learn/cell-tiers.html, commit 295044fd97e, 2026-11-01. License classes and tiers.
- **[R6]** apps/jilsovereign-net/learn/not-an-ethereum-chain.html, commit ccd50a9a545, 2026-11-01.
- **[R7]** docs/architecture/federation/ADR_001_REMOVE_GENERAL_COMPUTE.md, commit 5c78ae5db47, 2026-08-27. With l1/jil-abci/src/currency.rs (0c8d0f71bcf).
- **[R8]** docs/architecture/INTEROP_ROUTER.md, commit 16e266bc1a7, 2026-11-01.
- **[R9]** apps/jilsovereign-net/security.html (295044fd97e, 2026-11-01) and docs/system/38_Mainnet_Readiness_Gate.md (c03db68054f, 2026-11-01). The chain height was read from the genesis validator RPC on 2026-11-01.
- **[R10]** docs/estate/METRICS.json, commit 0d8824bd36d, 2026-10-15. Public canon for source size, services, patent claims, and trademarks.
- **[R11]** docs/system/45_ATCE_Offchain_Services_TDD.md, commit 371d54b4437, 2026-11-01.
- **[R12]** docs/federation/JILAI_LAUNCH_SPEC.md, commit 8dace28da69, 2026-07-06.
- **[R13]** apps/jilsovereign-net/learn/what-this-company-does-not-do.html, commit 914050be046, 2026-11-01. What this company does not do.

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- **[R14]** apps/jilsovereign-net/shared-resources.html, commit 16e266bc1a7, 2026-11-01. Status of the Ethereum bridge corridor.
- **[R15]** apps/jilsovereign-net/federation.html and apps/jilsovereign-net/demo/investor-world.js (commits 295044fd97e and 54de43ac2de, 2026-11-01). The worked examples: the fictional Nubara root with gold and oil annexes, and the fictional Tirmore banking root. They are demonstrations.
- **[R16]** apps/jilsovereign-net/connect/index.html. The briefing process.

Patents and marks

177 patent claims have been filed with the USPTO under provisional application 64/146,398, filed 2026-09-02 (patent pending, none granted) [R10]. 9 trademarks were filed on 2026-09-02 and none is registered [R10].

Appendix D. What Changed From the October Edition

- The paper now follows a stated architecture: front matter, context and problem, the paradigm shift before any product, evaluation criteria, blueprint, evidence, roadmap, and back matter.
- It adds who JIL is for and not for, why it took a different path, how it fits with incumbents, a features table with a status marker on every row, five diagrams, a question and answer section, a glossary, and formal references.
- It removes the virtual machine from the list of original engineering, because the general compute surface was removed from the ledger [R7].
- It removes the claim that the system is mainnet ready, and states what runs, with dates.
- It replaces the paused-sale paragraph with the current statement: no sale is running, and tokens have been given to participants.
- It removes statements that cannot be sourced: the combined years of experience of the engineering team, and the specific team size, years, and cost figures of a from-scratch build, replaced by the estimate on this site.
- It adds the ruling on both counterparties, the agentic review, the write-once record, the InterOp router, and negotiated per-hop rates, each marked.
- It removes the first edition's example list of aid-diversion cases, and keeps only sourced studies and releases.

Appendix E. What Changed on November 9, 2026

- One status legend, Live, Built, Designed, dated 2026-11-09, matching every page of jilsovereign.net. "The rule" is no longer used as a status.
- The agreement rule is stated per action: block seal, payment request, bridge withdrawal, and halt, with "active" and "responding" defined.
- The sanctions control is stated first: ATCE denies on the attested sanctions flag, and the live-list screen runs in the attester. The gas-block supervisor is described as the gas-block eligibility check it is.
- Corridor finalize is explained: who signs, and that the escrow is ledger state and not a JIL account.
- The Ethereum bridge has one status sentence. Post-quantum is qualified everywhere: hybrid seals Live, post-quantum validator signing on the roadmap.
- Domain and Hub are the two licenses, formerly called Class A and Class B. The structure words are Domain, Hub, and Annex. Further hubs under a licensed root carry no extra charge.
- The worked examples use fictional names, Nubara and Tirmore. No real country, central bank, or bank is used as a demonstration domain.
- Fees are stated once, in section 12.1, with the full schedule at jilsovereign.net/fees.html. The 30-day figure is technical readiness only.

Appendix F. What the November 12, 2026 Measurement Changed

- Every transfer passes through ATCE before value moves. A domestic ruling stays inside the domain. A corridor ruling covers a hop that leaves the domain, the cross-border path, on both counterparties. That is the repository rule.
- That rule was committed on 2026-11-01 and is not in the validator image created 2026-08-21. That image can deny a crossing. The attester, the agentic review, and the record writer were not confirmed on that image. Their status is Built. The production record store stays Designed.
- The home chain stays Live. Measured 2026-11-12, the process is jil-abci-node under a third-party consensus engine from the image created 2026-08-21. Eight of ten hosts were in the signing set, and a tip block sealed with six of those eight. The Attested Consensus Layer is a separate binary and is not that process.

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