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Skyfire: Agent Payment Rails and Counterparty Conduct Records

Two autonomous agents meet, transact, and part. The payment may clear perfectly, and still neither side holds a mutually signed record of what was offered, what was accepted, and how the counterparty behaved when the exchange went sideways. Skyfire, as publicly described, addresses the authorization and payment side of that encounter: giving an agent an identity and the means to pay for a service without a human present at the moment of purchase. U.S. Provisional Application No. 64/117,812 discloses a different layer of the same encounter, a matched pair of signed governed observations recognized within a declared proximity window and written to each party's own settlement lineage, closing without a clearing party, without a consensus round, and without any prior relationship between the two agents.

The receipt that nobody holds

An agent buying an API call from another agent can complete the purchase and still leave both sides empty-handed on the question that matters later. Payment authorization answers whether the spend was permitted. What was exchanged is a separate artifact, and producing it structurally requires both sides: a record that the seller made a specific offer, that the buyer accepted it while live, and that the two are cryptographically bound in a form a third reader can check.

The gap shows up the moment something goes wrong. A fulfillment arrives incomplete. An offer goes unanswered. One side declines after the other has committed resources. Human commerce absorbs these through contracts, chargebacks, and reputational memory built over a prior relationship. Autonomous agents frequently have no prior relationship: two of them may transact once and never meet again, and each needs to walk away holding something from which its own history is reconstructible.

The constraint tightens when the parties are ephemeral. The filed disclosure takes prior enrollment off the table as a precondition, so whatever proves the exchange has to be produced by the exchange itself.

What Skyfire builds, and the category around it

Skyfire, as publicly described, builds payment infrastructure for AI agents. Its public positioning centers on giving an agent a verifiable identity and a way to be authorized to spend within limits its principal sets, so the agent can pay a service provider directly rather than routing every transaction back through a person.

Two elements of that public description are worth stating fairly. The first is identity: a payment counterparty needs to know which agent it is dealing with and on whose behalf, a problem the category has taken to discussing under the heading of knowing your agent. The second is authorization: an agent should carry evidence that it is permitted to spend, bounded by the constraints its principal declared, and a seller should be able to check that evidence at the point of sale.

Both are foundational, and building that layer is substantial infrastructure work: it is what lets a seller treat an unattended buyer as something other than a loose credential. The architecture disclosed in U.S. Provisional Application No. 64/117,812 is not addressed to how value moves. It is addressed to what the two parties are left holding afterward. Those are adjacent questions on the same transaction, and the comparison below is structural rather than an assessment of any product.

Matched-pair settlement as the filed architecture describes it

In the filed disclosure, the unit of settlement is a matched pair (600): a first governed observation (608) from one party representing an offer, a tender, a claim, a demand, or a commitment, and a second governed observation (610) from the other representing an acceptance, a counter-tender, an acknowledgment, a refusal, or a fulfillment.

A governed observation is a signed structure carrying an authority credential, a continuity hash field encoding identity continuity of the emitting party, a spatial reference field, a temporal reference field, a time-to-live field, a payload field, and an observation lineage field. An observation lacking a verifiable authority credential is not a governed observation within the meaning of the disclosure. Emission is complete upon emission: the emitting party requires no acknowledgment, no handshake, no delivery confirmation, and no registration with a central authority as a condition of emitting.

The two observations become a pair when a pairing rule recognizes them within one or more of a spatial proximity window and a temporal proximity window (602). Whether the rule requires spatial coincidence, temporal coincidence, or both is declared by a governing policy object, which is a signed policy object (112) issued by a deploying authority and resolved through the policy reference field (110) of the party applying it. That object also declares the windows themselves, the continuity parameters, the factor coefficients and thresholds of the admissibility evaluator, the refusal-meter increment and bound, the escrow-depth bound, and the deferral-expiration parameter. These are declared by policy rather than fixed by the mechanism; where the filing states numbers, it does so as an illustrative trace. Where the two parties resolve different policy objects, each applies its own.

On recognition and admission of the pair, the settlement record (604) is written: the two signed observations, a cryptographic binding over both, and an attestation of the window within which the pair was recognized, and finality attaches at that moment. The record supports non-repudiation and is verifiable by a downstream consumer from the

record alone. Each party appends a settlement-lineage entry (606) to its own append-only lineage field (104) and writes the settled state into the counterparty identity record (114) it holds of the other.

Three negative conditions are stated explicitly in the filing. No third-party intermediary participates: no clearing party, no payment processor, no platform adjudicator, and no escrow party is required for the pair to settle. No centralized consensus is computed: no quorum, no distributed ledger commit, and no consensus round is a condition of settlement. No pre-negotiated session state exists: no account relationship, no session key, no standing channel, and no prior enrollment is a precondition. Consent is expressed per transaction by the paired observations.

Identity, absent enrollment, is carried by continuity. The continuity hash field holds two subfields computed by different constructions: a successor hash field, being the emitting party's dynamic agent hash at emission, verified by an equality test and not a distance test; and a continuity vector field, an ordered tuple of components each a normalized projection of the emitting party's operational state. A trust-slope validator computes a consistency measure from the continuity vector field and no other field. A received observation is accepted on continuity only where both conditions hold together: the per-step distance against its predecessor does not exceed a declared per-step ceiling, and the measure is not less than a declared acceptance threshold.

Refusal is a first-class move, not an exception. A party that declines emits a refusal observation, itself a governed observation bearing that party's credential and referencing the observation refused, paired with the offer it refuses. The refusal meter is incremented once upon each such emission, by an increment declared in the governing policy object, and no adjudication of the merits of the refusal is performed by anyone as a condition of the meter. Responsive to the meter satisfying the declared bound, the refusing party's settlement-binding authorization is written from a granting state to a withheld state, whereupon it binds no further settlements while its capacity to

observe, to produce determinations, and to emit further refusals is preserved. Timeouts, disputes, non-convergence, and rejections for want of a partition intersection increment no refusal meter of either party.

An offer whose match has not arrived is an orphan observation, held in a deferral queue under a declared expiration parameter. If the second observation arrives while it is held, the pair settles identically to one recognized immediately; on expiry it resolves as a timeout.

Where the two layers separate

Convergence at the category level is genuine. Both treat the buyer as software, both put cryptographic evidence at the center rather than a platform's assurance, and both proceed on the premise that a transaction cannot pause for a human.

Divergence appears in what each layer makes verifiable. A payment authorization layer, on the public descriptions in this category, makes the right to spend verifiable at the point of sale. The filed architecture makes the shape of the exchange verifiable afterward, from a record that no party produces unilaterally, because the settlement record (604) is built from both parties' own signed observations. One concerns permission before the act. The other concerns evidence of the act.

Where state lives differs too. Payment rails involve funds, custody, and a ledger somewhere that reflects balances. The disclosed mechanism specifies no shared ledger: each party holds its own settlement lineage, from which its transaction history is reconstructible without recourse to the counterparty and without recourse to any registry.

Read this as complementary positioning. The filing's negative conditions describe what settlement does not require, not what a deployment must exclude. A deployment that runs a payment rail and also forms matched pairs is consistent with the disclosure.

Running both layers in one deployment

Picture a buying agent and a selling agent that have never met. The buyer presents whatever authorization its payments layer requires and the seller checks it, handling the money. In parallel, the seller's quote is emitted as a first governed observation (608) and the buyer's acceptance as a second (610), the pair is recognized inside the declared window, and each side appends a settlement-lineage entry (606) and writes the settled state into its counterparty identity record (114) of the other. The payment layer answers whether the buyer could pay. The lineage entry carries what was agreed, along with each failure and rollback: a refusal emitted as its own governed observation, a timeout on an unanswered offer, a fulfillment that did not satisfy the declared completeness of the transaction type. Only the refusal increments the refusing party's meter, and only upon emission. A timeout resolves nothing against either party.

Content held pending a condition can be placed under an escrow custody record, the forms including a dual lock in which each party holds one. Escrow depth is bounded by a declared bound, and a placement exceeding it is not performed.

State the limits plainly. The disclosed architecture does not move funds, does not price anything, and provides no custody, currency, or connectivity to any financial system. It does not establish a counterparty's real-world legal identity: it establishes continuity of an emitting party and the scope of a credential issued by some authority, and who that authority is remains a deployment question. On the merits of a refusal it is deliberately silent, applying the meter without any determination of whether the refusal was well founded. A settled pair is subject to challenge only through a credentialed dispute procedure, routed to whatever resolution the governing policy object declares, including authority adjudication, arbitration, regulatory review, or legal-system procedures. The architecture supplies the evidentiary record those procedures consume; it does not supply the judgment.

Because each party applies its own resolved policy object, parameter agreement between counterparties is a deployment choice rather than a guarantee of the mechanism. Interoperability therefore turns on the policy layer.

Disclosure Scope

This article describes subject matter disclosed in U.S. Provisional Application No. 64/117,812, Chapter 6, matched-pair settlement. It is published for defensive purposes; it is not legal advice and creates no license, express or implied. The application is pending, and nothing here characterizes the scope of any claim that may issue.

References to Skyfire are to public materials and are used for comparison only; no relationship, endorsement, or infringement is asserted.

Governed Matched-Pair Settlement

All 49 steps → (/inventive-steps)

(/governed-settlement)

Two agents settle on matched signed observations, by continuity, with no clearer.

Provisional application

PRIMARY TECHNICAL DISCLOSURE

- Matched-Pair Settlement Between Agents: Bilateral Closure Without a Clearer (/articles/governed-settlement/matched-pair-settlement-without-a-clearer)

SECONDARY TECHNICAL

- The Derived-Artifact Provenance Chain and Chain-Head Identifier (/articles/governed-settlement/derived-artifact-provenance-chain)
- Provenance Withdrawal and the Provenance-Withdrawn Attribute (/articles/governed-settlement/provenance-withdrawal)
- Matched-Pair-Gated Corpus Contribution (/articles/governed-settlement/matched-pair-gated-corpus-contribution)

- Partition-Scoped Escrow Release Gated on Intersection Non-Emptiness (/articles/governed-settlement/partition-scoped-escrow-release)
- The First-Encounter Settled Pair and Promotion to the Persistent Tier (/articles/governed-settlement/first-encounter-settled-pair)
- Contribution Encumbrance on Severance or Quarantine: Governing Dispatch to Models Trained on a Severed Counterparty's Corpus Without Retraining or Deletion (/articles/governed-settlement/contribution-encumbrance-severance-quarantine)
- Encumbrance Bounds That Bar Persistence Promotion and Onward Tool-Source Emission Once the Per-Endpoint Count Exceeds the Bound (/articles/governed-settlement/encumbrance-bound-barring-promotion-onward-emission)
- Blinded Encumbrance Commitments: Carrying a Severed Contributor's Encumbrance Along With an Inference Endpoint Emitted to a Peer Agent (/articles/governed-settlement/encumbrance-commitment-travelling-emitted-endpoint)
- Release of a Contribution Encumbrance: Matched-Pair Re-Admission or a Substitution With an Empty Intersection (/articles/governed-settlement/release-contribution-encumbrance)
- Registering Third-Party Reliance on a Settled Matched Pair: The Reliance Record and the Settled-Party Reliance Register (/articles/governed-settlement/reliance-record-registered-settled-parties)
- Conditioning a Settlement Reversal on a Reliance-Completeness Predicate Evaluated Over the Reverting Party's Own Reliance Register (/articles/governed-settlement/reliance-completeness-predicate-conditioning-reversal)
- The Relying Party's Reversal Mark: Barring a Reversed Settlement as a Determination Input and Re-Resolving the Determination That Consumed It (/articles/governed-settlement/relying-party-reversal-mark-and-re-resolution)
- Transitive Reliance Records and the Reliance Chain: Registering Second-Order Dependency on a Settlement Without Any Party Enumerating the Whole Chain (/articles/governed-settlement/transitive-reliance-record-reliance-chain)
- Transitive Reversal Notices That Carry a Settlement Reversal One Hop at a Time Along a Reliance Chain No Party Enumerates (/articles/governed-settlement/one-hop-propagation-reversal-along-reliance)
- Contested Pairing in Matched-Pair Settlement: Withheld Recognition, a Distinct-Identity Claimant Count, and the Not-Determinable Resolution (/articles/governed-settlement/contested-pairing-not-determinable-resolution)
- Attributable Contest Resolution: Settling a Contested Offer by Re-Emitting a First Governed Observation That Names Exactly One Claimant (/articles/governed-settlement/attributable-contest-resolution-named-re-emission)
- Local Outcome-Quality Records and Smoothed Endpoint Selection Preference for Governed Inference Dispatch (/articles/governed-settlement/outcome-quality-record-endpoint-selection-preference)

APPLICATIONS · GENERAL

- B2B Agent Commerce: Bilateral Settlement Without a Clearing House (/articles/governed-settlement/b2b-agent-commerce-settlement)
- Supply Chain Handoffs: Settling a Transfer on Matched Observations (/articles/governed-settlement/supply-chain-agent-handoffs)

APPLICATIONS · SPECIFIC

- ISO 20022 and Settlement Messaging: Matched Pairs in Financial Infrastructure (/articles/governed-settlement/iso-20022-settlement-messaging)
- Stripe Agent Toolkit: Agent Payments and the Settlement Layer (/articles/governed-settlement/stripe-agent-toolkit)
- Visa Intelligent Commerce: Mandates, Trust, and Bilateral Settlement (/articles/governed-settlement/visa-intelligent-commerce)
- Mastercard Agent Pay: Tokenized Agent Identity and Settlement (/articles/governed-settlement/mastercard-agent-pay)
- Coinbase x402: Machine-Native Payments and Governed Settlement (/articles/governed-settlement/coinbase-x402)
- **Skyfire: Agent Payment Rails and Counterparty Conduct Records (/articles/governed-settlement/skyfire-payments)**

TERMINOLOGY

- governed observation (/glossary#governed-observation)
- matched pair (/glossary#matched-pair)
- scope partition (/glossary#scope-partition)

Governed Matched-Pair Settlement overview → (/governed-settlement)