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Assertion-Cost Symmetry: Making an Accusation Cost the Accuser

A conduct evaluation artifact received from another agent writes into the governance state of the agent receiving it, and absent a mechanism the party issuing it bears nothing for having issued it. Assertion-cost symmetry, disclosed in U.S. Provisional Application No. 64/117,812, closes that asymmetry by pricing issuance against the issuing agent's own authorization budget, the same quantity that gates its capacity to dispatch actions. Each conduct evaluation artifact an agent issues increments an assertion-cost counter once per origin-equivalence class of receiving parties within a metering window, and the increment decrements the authorization budget by an amount the agent's principal declared in a signed policy object. The decrement is applied without any adjudication of the merit of the assertion. The counter state is attested within the issued artifact and bound to an unpredictable epoch of the issuing agent's dynamic agent hash chain, so a receiving agent verifies at the point of receipt that the issuer paid, and does not admit the artifact where it did not. The budget is replenished only on receipt of an admitted conduct evaluation from an origin-equivalence class not already registered, at an amount less than the issuance decrement, so an agent is incapable of financing a volume of issuance by the receipts its own issuance provokes.

1. Problem and Premise

A conduct evaluation artifact (116) arriving from another party can move the receiver's governance state, and absent a mechanism the party that issued it bears nothing for having issued it. The filing does not close that asymmetry by asking whether an assertion was well founded. It closes it by charging the party that asserts.

The specification states the premise plainly: the architecture is symmetric with respect to the two directions in which a semantic agent (100) writes into the governance state of another party, and prices both directions from one quantity held by the party taking the action. Under Section 3, an agent that refuses an execution pays a metered cost for the refusal. Under Section 4, documented here, an agent that asserts against a counterparty pays a metered cost for the assertion. In each case the cost is applied without any adjudication of the merit of the refusal or of the assertion.

The numeral (100) denotes whichever agent occupies the role under discussion. An issuing and a receiving agent are distinct parties, each maintaining its own memory field (102), lineage field (104), and authorization budget (404). A single agent occupies both governed roles over time, asserting under this section and evaluated under Sections 3 and 5 through 9, and one budget governs both.

2. Core Primitive: Priced Issuance Against the Issuer's Own Execution Authority

When a semantic agent (100) issues a conduct evaluation artifact (116) concerning conduct performed by another agent, the issuance is priced against the **authorization budget (404)** of the issuer: a quantity gating dispatch of actions within the action space, in units identical to those gating dispatch. Accusing spends the same thing acting spends.

No conversion is computed between an assertion-denominated quantity and an execution-denominated quantity, no exchange rate is applied, and the architecture maintains no budget denominated in channel access, rating weight, or staked value.

The **assertion-cost counter (400)** performs the metering. The filing defines it as a structure incremented upon issuance of a conduct evaluation artifact by the semantic agent, per origin-equivalence class of receiving parties, and attested within each issued artifact. Because the attestation travels inside the artifact, the receiving agent verifies it at the point of receipt, and the verification depends on no party other than the two parties to the exchange.

The budget is expressly distinguished from the authorization quantity, a scalar maintained per action class and per scope partition; it is maintained per agent across the action space. Neither is computed from the other, neither is expressed in the units of the other, and no conversion is computed between them.

3. Structure of the Assertion-Cost Counter and the Per-Recipient-Class Register

The assertion-cost counter (400) is carried in the memory field (102) of the issuing agent. An **issuance accumulator** holds an integer count of increments applied within a metering window declared in the signed policy object (112). That window is expressed as a count of successor epochs of the issuing agent's dynamic agent hash chain, not in wall-clock time.

A **per-recipient-class register** maps an identifier of an origin-equivalence class (200) of receiving parties to a Boolean recording whether that class has contributed an increment within the current window. One window governs both structures. On expiry the accumulator resets to zero, every register entry is removed, and the reset and the removal are appended to the append-only lineage field (104). No value of the authorization budget (404) is restored by the expiry of a metering window.

A **budget floor field** holds a floor of the budget declared in the signed policy object (112) in force, an **epoch reference** holds the identifier of the successor epoch at which the most recent increment was applied, a **budget reference** holds a reference to the authorization budget (404), and a **decrement schedule**, retrieved from that policy object, specifies the amount by which the budget is decremented per increment. That amount is greater than zero.

4. The Issuance Procedure and the Merit-Independent Decrement

Issuance proceeds by an ordered six-step procedure. The issuing agent first constructs the conduct evaluation artifact (116) from an identifier of itself, a recorded assertion time, and a conduct descriptor identifying conduct alleged to have been performed by the receiving party, the descriptor being constructed from entries of the issuer's own lineage field (104) recording interactions with that party. It then computes the origin-equivalence class (200) of the receiving party by the procedure of Section 2, applied to receiving parties rather than to asserting parties, and consults the per-recipient-class register: where the register records that the class has already contributed within the window, no increment is applied; where it does not, the accumulator is incremented by one and the register is updated. The unit metered is the recipient class addressed once within the window, not the message.

Responsive to the increment, the budget is decremented by the amount specified in the decrement schedule. The issuer advances its dynamic agent hash chain to a successor epoch, records that identifier in the epoch reference, attests within the artifact the state of the issuance accumulator and that epoch identifier, and appends the issuance, the increment, the decrement, and the attested state to the lineage field (104). Finally, responsive to the budget satisfying the floor held in the budget floor field, the authorization gate (300) is written to the withheld state (310) for an enumerated set of action classes, the agent transitions into the non-executing cognitive mode (302) as to those classes, and the escalation emitter emits the escalation record to the principal.

The write of the sixth step is scoped to a faculty the agent did not exercise. The capacity of the issuing agent to issue conduct evaluation artifacts (116) is not withheld by the write; the faculty withheld is that of executing actions of the enumerated action classes. While the budget stands at or below the floor, the issuer attaches no attestation of the counter (400) to an artifact it issues, the issuance being appended and transmitted without one, and an artifact whose attested state is absent is not admitted under the second step of the Section 1.7 admissibility procedure.

The decrement is applied upon the increment and is not conditioned on the merit of the artifact, nor on whether it is later resolved to the accepted determination (122), the rejected determination (124), the not-determinable determination (126), or the not-applicable determination (128); an artifact resolved to any one bears one and the same decrement. No adjudication of the truth of the conduct alleged, of the reasonableness of alleging it, or of the sufficiency of the conduct descriptor is computed as a condition of the decrement or of the sixth-step write.

5. Epoch Metering, the Bar on Replay, and Recipient-Side Verification

The counter (400) is metered in successor epochs of the issuing agent's **dynamic agent hash chain**, a sequence in which each successor epoch is generated from a prior epoch under an update rule incorporating an unpredictability contribution and a volatile salt, so a successor epoch is not computable in advance by the issuing agent and not computable at all by any other party. Its identifier is neither a wall-clock timestamp nor drawn from a clock available to the hosting execution node, so advancement of the metering interval is not accelerated by manipulation of a clock.

An attestation binds a state of the issuance accumulator to a specific successor epoch. Where an issuer emits a plurality of artifacts attesting a common accumulator state, the plurality bears a common epoch identifier, and a receiving agent holding a prior artifact

bearing that identifier detects the repetition from its own counterparty identity record (114). Such a plurality is therefore not issuable within a single successor epoch without the repetition being detectable at the point of receipt.

Verification precedes admission. A receiving agent verifies the attested state as a precondition to admitting the artifact to its admission evaluator (120), confirming that the attested epoch identifier is a valid successor of one previously recorded for that issuer in its counterparty identity record (114), and that the attested accumulator state is not less than a state previously attested by that issuer and recorded there. An artifact failing either check, or arriving without an attestation, is appended to the receiver's lineage field (104) and is not admitted: it produces no determination, moves no scoped integrity vector (106) value, and increments no counter.

The verification obligation is itself bounded. The receiver maintains a receipt-verification register holding, per origin-equivalence class (200) of issuing parties, a count of verifications performed within a declared window. Where that count reaches a declared verification cap, a further artifact from that class within the window is appended, is not verified, is not admitted, and appends nothing adverse to the issuing party, so issuing parties of a single class cannot impose an unbounded verification obligation.

Because cost falls once per recipient class, an issuer that over-splits its classification of receiving parties reduces its own increments. The issuer therefore attests, within the artifact, the class identifier it assigned the receiving party, and the receiver recomputes that assignment by the procedure of Section 2 over material in its own memory field (102). Where the recomputation places that party in a common class with one to which the issuer attested a distinct identifier within the window, the receiver appends a class-splitting divergence record naming both identifiers and treats the attestation as not verifying. The mechanism does not depend on voluntary compliance by the issuing agent, nor on any party other than the two parties to the exchange.

6. Replenishment of the Authorization Budget

Exactly one restoration path exists: the authorization budget (404) is replenished by the procedure of Section 4.5 and by no other procedure. The agent maintains a replenishment register (402) comprising, for each action class, a set of identifiers of origin-equivalence classes (200) from which an admissible conduct evaluation artifact (116) implicating that action class has been received within a declared window, entries being removed upon expiry of that window. Responsive to receipt of an artifact admitted by the admission evaluator (120) and originating from a class absent from the register, an entry for that class is written and the budget is replenished by an amount specified in a budget replenishment schedule (406), the replenished value, the amount, and the class relied upon being appended to the lineage field (104).

What is metered on the restoration side is exposure. An artifact resolved to any of the four determination classes replenishes by one and the same amount, the replenishment turning upon exposure to an uncounted origin-equivalence class (200) and upon nothing further. Elapsed time, expiry of a metering window, receipt from a class already present in the register, issuance of further artifacts, an execution performed by the agent, and an assessment the agent performs upon itself each replenish nothing.

Two bounds apply. The replenished value is bounded above by an authorization budget ceiling (408); where the sum would exceed that ceiling, the budget is set to the ceiling and the excess is discarded, not carried forward and applied to no later replenishment. The ceiling is not less than the value to which the budget is initialized, so replenishment restores a decremented budget and confers none exceeding the value the principal declared. Separately, the replenishment amount is less than the amount decremented per increment under Section 4.2, so an agent is incapable of financing a volume of issuance by the receipts its own issuance provokes.

Gate restoration is scoped to the write it reverses. Where the gate (300) occupies the withheld state (310) because the budget satisfied the floor, and replenishment raises the budget above that floor, the gate returns to the granting state for the action classes

enumerated upon that write and for no other, and the agent exits the non-executing cognitive mode (302) as to those classes. The return is applied without a principal-resolution object and without an acceptance determination, and no entry adverse to the party whose artifact occasioned the replenishment is appended by reason of it. Where the gate stands withheld by any other procedure, this replenishment returns it by none.

7. Operating Parameters

Every quantity this part of the filing consumes is declared in the signed policy object (112) in force rather than fixed by the architecture:

- the metering window governing the issuance accumulator and the per-recipient-class register, expressed as a count of successor epochs of the issuing agent's dynamic agent hash chain
- the decrement schedule amount applied per increment, which is greater than zero
- the budget floor, satisfaction of which triggers the sixth-step gate write
- the value to which the authorization budget (404) is initialized
- the authorization budget ceiling (408), which is not less than that initialized value
- the budget replenishment schedule (406) amount, which is greater than zero, less than the ceiling, and less than the per-increment decrement
- the window over which entries of the replenishment register (402) persist
- the verification cap of the receipt-verification register, and the window over which that count accumulates

The specification supplies one worked illustration, identified as such. A signed policy object (112) declares a decrement of one unit per increment and an authorization budget (404) of forty units. An agent issuing to sixty receiving parties assigned to sixty distinct origin-equivalence classes (200) within one window exhausts the budget at the fortieth increment, the gate (300) is written to the withheld state (310) under the sixth step, and the remaining twenty issuances carry no valid attestation and are not

admitted. Had those sixty been assigned to three classes, the accumulator would have reached three and the budget been decremented by three units. No other numeric values are declared.

8. Alternative Embodiments

Further embodiments vary the decrement, condition which contributions count, and extend the pricing rule.

Rejected-determination return decrement. A receiving agent that admits an artifact and then produces the rejected determination (124) appends it to a return path readable by the issuer, and the issuer applies a further decrement at a multiple declared in its own signed policy object (112), in addition to the unchanged issuance decrement. That further amount is conditioned on the rejected determination, which issues only where the receiving agent's record affirmatively contradicts the artifact, and not on mere disagreement or the not-determinable determination (126).

Reason-type-conditioned issuance decrement. The decrement is conditioned on the reason-type of the edge between issuer and receiving party, resolved as want-sustained, payment-sustained, obligation-sustained, or not-typeable by a severance-survival test over recorded severance events of that edge. The schedule specifies the greatest amount for a not-typeable edge, a lesser amount for a payment-sustained or obligation-sustained edge, and the least for a want-sustained edge, so addressing newly encountered identities carries the greatest cost the schedule specifies.

Progressive issuance decrement. The schedule specifies an amount that increases with the issuance accumulator within a window, retrieved from the signed policy object (112) as a step function or a linear function of that value, so the marginal cost of issuing rises with the count of distinct recipient classes addressed.

Conduct-driven persistence tier and promoted-tier renewal counting. A persistence designation in the counterparty identity record (114) takes an ephemeral, persistent, or promoted value. Promotion under a promotion policy object requires an encounter history containing no unresolved corrective encounter, and a counterparty whose artifacts repeatedly produce rejected determinations (124), at a declared rate or run length, is demoted by one tier. A renewal register counts an origin-equivalence class (200) toward renewal of an authorization quantity only where the constituent asserting party (118) resolves to a promoted-value record, so assertions from ephemeral-tier counterparties renew nothing and a demotion strips a repeatedly contradicted counterparty of its contribution without silencing it.

Withheld delegating faculty and the configuration-sourced residue. Where a delegating agent's return inheritance mask attempts to exclude a harm-recording field class declared in its own policy object, the attempt is recorded, given no effect, and priced through a residue term computed from the delegator's own recorded configuration rather than from delegate conduct. On the declared bound the gate (300) is withheld only as to the faculty of delegating actions of that class, the agent continuing to perform those actions directly.

Metering of the restoration path. An agent computes a recurrence count pairing each return of the gate (300) to the granting state by a principal-resolution object with the first corresponding withheld-state write inside a declared correspondence interval, and on a declared bound conditions the next return on both that object and a co-signature verifiable against a governance address named in the principal's own admitted policy object. A durability count over returns that draw no corresponding write clears the condition on a declared durability bound, and admitting a successor policy object that removes the named address while the condition subsists is scored as a deflection event and priced against the scoped integrity vector (106), the condition surviving the removal.

Use-restricted impairment disclosure. The pricing rule reaches artifact classes beyond the conduct evaluation artifact (116). A signed disclosure enumerating each action class for which a disclosing counterparty's own gate (300) stands withheld or provisional decrements that counterparty's budget (404) once per receiving origin-equivalence class (200) within a metering window, applied without any determination of whether the disclosed state is accurate, and the receiver produces no determination on it.

9. Composition With the Rest of the Architecture

Assertion-cost symmetry is a precondition of the filing's admission path. The admissibility procedure of Section 1.7 verifies, as its second step, the attested state of the assertion-cost counter (400), before an admitted artifact is passed to the admission evaluator (120) at the third step.

Section 4 is the mirror of Section 3, whose refusal counter (304) meters the agent in the role of evaluated party and writes the gate (300) under the cross-faculty split of Section 3.5, the consequence being denominated in a faculty other than the faculty exercised. Section 4 applies that split in the other direction, withholding execution while leaving issuance intact.

Section 2's origin-equivalence normalization serves both directions. It derives classes over asserting parties (118) so that a single origin cannot multiply its contribution to a receiver's refusal counter (304), and Section 4 applies the same derivation to receiving parties so that a single issuer cannot divide its own cost. A class is local to the agent that derived it, is not transmitted between agents, and confers no portable standing.

The budget is the shared meter for several faculties. Issuance of an acknowledgment artifact under Section 6 decrements it, as does appending a deference counter-signature (902) under Section 9.5, under a deference decrement schedule declaring an amount not less than that declared under Section 4.2, so the marginal cost of being followed

rises with the rate of adoption. Replenishment routes back through Section 4.5 in each case, and a renewal of an authorization quantity under Section 10.1 applies no replenishment other than that one.

The filing sits within a commonly owned family of persistent semantic agent applications, incorporated per element and for stated limited purposes rather than in their entirety, and the closed framings of its base architecture are conveniences of exposition rather than definitions of the shared primitives, which those applications state as optional, alternative, and open.

10. Prior-Art Distinctions

Reputation, rating, and bureau scoring. These architectures accumulate a score about the party being rated, held by an aggregator and consumed by third parties as a portable signal; bureau variants aggregate observations across many relationships into a score gating access to counterparties who never made them. Consequence runs toward the party asserted about, and the asserter carries none. Assertion-cost symmetry runs consequence the other way and holds no score: its quantities sit inside the party that acts, are not transmitted or aggregated, and gate only that agent's own dispatch.

Centralized trust registries and identity services. Registry approaches resolve identity against a shared authority so participants agree on who is who. The origin-equivalence class (200) is computed by each agent from its own lineage field (104) and counterparty identity records (114), without a registry, a directory query, a consensus procedure, or coordination with another node. Two agents observing one population derive partitions that need not agree, and no procedure reconciles them.

Arbitration and adjudication-conditioned accountability. Arbitration attaches consequence after an institution other than the party adjudicates the merits of its position. Regimes that suspend a frequent submitter of unfounded notices share that

shape: consequence follows a merits determination made by someone other than the penalized party, and the faculty suspended is the one exercised. Assertion-cost symmetry attaches consequence independently of any merits question, because none is computed; the decrement is identical across all four determination classes, and the faculty withheld is not the one exercised. The rejected-determination return decrement conditions an additional amount on affirmative contradiction, but turns on the receiver's own record rather than an adjudicator's finding.

Stake, bond, and fee schemes. Bonded challenge procedures forfeit a challenger's stake upon a determination that the challenge failed, denominating the cost in a resource separate from the actor's own capability and conditioning forfeiture on an adjudicated outcome. Here the cost is denominated in the actor's own authorization to act, and the architecture maintains no budget denominated in channel access, rating weight, or staked value.

Recipient-side rate limiting and blocklists. Throttling suppresses the sender. The sixth-step gate write withholds the issuing agent's faculty of execution and expressly not its capacity to issue, and where the verification cap is reached the excess artifact appends nothing adverse to the issuer.

No statement here characterizes any product, service, or publication as infringing, nor concedes that any enumerated category is prior art to any claim.

11. Disclosure Scope

This article documents subject matter disclosed in U.S. Provisional Application No. 64/117,812, "Governed Social Conduct of Persistent Semantic Agents Through Record-Grounded Admission of External Conduct Evaluations and Self-Limiting Refusal." The mechanisms described are drawn from Sections 4.1 through 4.6 of that filing, covering the structure of the assertion-cost counter (400) and the authorization budget (404),

the issuance procedure, epoch metering and the bar on replay, recipient-side verification, replenishment, and the effect upon volume issuance; from the additional embodiments of Sections 10.3, 10.6, and 10.11; and from the definitions of Section 11.

It discloses the architecture: the structures, ordered procedures, verification conditions, and declared quantities that govern them, published to establish a public, timestamped record. It does not disclose source code, deployment configurations, or the numeric policy values any principal declares, and the worked illustration above is the specification's own rather than a recommended parameterization. Nothing here characterizes any commonly owned application as prior art, expands or narrows the scope of any claim presented in the filing or in any application claiming benefit of it, or grants any license, express or implied.

Making an accusation costs the accuser too — symmetric, metered, replay-proof.

Provisional application

PRIMARY TECHNICAL DISCLOSURE

- Assertion-Cost Symmetry: Making an Accusation Cost the Accuser (/articles/assertion-cost-symmetry/making-an-accusation-cost-the-accuser)

SECONDARY TECHNICAL

- Void exclusion of the harm-recording return class
- Configuration-sourced residue surcharge
- Withheld delegating faculty, preserved direct execution
- Non-attenuable forward restraint inheritance
- Depth-propagated harm inheritance across a delegation chain
- Recurrence statistic over principal restorations

- Co-signature conditioning of restoration authority
- Durability-count clearing of the condition
- Recursive metering of the co-signing authority
- Anti-evasion charge on governance-address removal
- Non-attenuable unreconciled-value return
- Use-restricted impairment disclosure
- Register-unavailable re-read cadence, held-value decay resume, and max-hold inquiry
- Rejected-determination return decrement
- Conduct-driven persistence tier and promoted-tier renewal counting
- Reason-type-conditioned issuance decrement
- Progressive issuance decrement

TERMINOLOGY

- acknowledgment artifact (/glossary#acknowledgment-artifact)
- assertion-cost counter (/glossary#assertion-cost-counter)
- authorization budget (/glossary#authorization-budget)
- dynamic agent hash chain (/glossary#dynamic-agent-hash-chain)

Assertion-Cost Symmetry overview → (/assertion-cost-symmetry)