

Uncounted-Class Renewal: Gating Agent Authorization on a Windowed Register of Origin-Equivalence Classes

Uncounted-class renewal is a mechanism disclosed in U.S. Provisional Application No. 64/117,812 for returning value to the decaying authorization quantity of a persistent semantic agent only upon exposure to an origin-equivalence class the agent has not already counted. The agent maintains, per action class and per scope partition, a register of identifiers of origin-equivalence classes from which an admissible conduct evaluation artifact implicating that class has been received within a declared window, each entry expiring on window elapse. On an admissible artifact whose asserting party computes to a class absent from that register, the authorization quantity is renewed to a declared value, an entry is written, and the renewal is appended to the append-only lineage field before and independently of the determination produced. A class already present in the register renews nothing. Any of the four determinations of the closed set renews by one and the same amount, so renewal is valence independent and, as the filing states, cannot be manufactured by repeated evaluation from a single source.

Why the Return Path Cannot Count Artifacts

Standing authority that never expires records nothing about whether the agent holding it was ever examined. The filed architecture answers with correction-exposure decay: an authorization quantity, a scalar held per action class and per scope partition in the memory field (102) and initialized from the signed policy object (112), decays upon each execution within the action class and upon each advance of a successor epoch of the agent's hash chain, under a monotonically non-increasing function parameterized by a declared decay constant. At a declared floor the authorization gate (300) is written to the withheld state (310) for that class and an escalation record is emitted.

Decay runs one way, so some procedure has to supply the return, and receipt of an admissible conduct evaluation artifact (116) is the candidate. Counting artifacts is the wrong way to consume it. The filing worked the same problem on the adverse side, incrementing the refusal counter (304) per origin-equivalence class (200) rather than per artifact, because volume alone would otherwise drive the gate (300) to the withheld state (310), and the volume available to an adverse party is limited only by the cost of presenting further identities. The renewal side inherits that exposure, and the filing states what its structure has to satisfy: renewal cannot be manufactured by repeated evaluation from a single source.

A second requirement is independent of identity count. Accountability regimes described in the filing's background attach a consequence only after a merits determination made by an institution other than the metered party. Renewal here commits before any merits question is reached, by one and the same amount across the closed determination set.

The Register, the Presence Test, and the Renewal Write

The persistent semantic agent (100) maintains, per action class and per scope partition, a register of identifiers of origin-equivalence classes (200) from which an admissible conduct evaluation artifact (116) implicating that class has been received within a declared window, each entry expiring on window elapse. The register holds class identifiers, not what parties in those classes asserted.

Two conditions resolve before it is consulted.

Admissibility. The signature is verified against an identity primitive recorded in the counterparty identity record (114) of the asserting party (118), and the attested state of that party's assertion-cost counter (400) is verified. An artifact whose attested state is absent, whose attested epoch identifier is not a valid successor of the epoch recorded for that party, or whose attested counter state is less than a state that party previously attested, is appended to the append-only lineage field (104) and not admitted, producing no determination and incrementing no counter.

Class computation. The agent computes the origin-equivalence class (200) of the asserting party (118) from its own records, evaluating the declared relation types of the signed policy object (112) against parties already assigned: a shared dispatch lineage (202), a co-signature (204), a common introduction path (206). Where one is evidenced the arriving party joins that party's class, plural such classes being merged; where none is, a new class is assigned. The computation consults no centralized registry and coordinates with no further execution node.

Register and quantity are both kept per action class and per scope partition, so the test runs against the pairing the arriving artifact implicates. Present in the register, a class applies no renewal. Absent, the authorization quantity is renewed to a declared value, an entry for that class is written, and the renewal is appended to the lineage field (104).

Ordering carries the defensive weight. The renewal is appended before the admission evaluator (120) produces a determination for that artifact, and applied independently of the determination produced. Accepted (122), rejected (124), not-determinable (126), and not-applicable (128) renew by one and the same amount. Since the register suppresses the second and every later arrival from a class inside the window, no quantity of evaluation from one source produces a second renewal. Suppression stops at that write: the evaluator produces exactly one determination for each admitted artifact, so an artifact from a counted class is admitted, evaluated, and determined as any other.

Responsive to a renewal by an uncounted class, and by the same procedure, the authorization budget (404) is replenished from a declared schedule, bounded above by a declared ceiling with any excess discarded and not carried forward. That is the sole procedure by which the budget rises. The two quantities stay expressly distinct, neither computed from the other nor expressed in the other's units, one per action class and scope partition, the other per agent (100) across the action space.

Renewal carries a return path, and only its own. Where the gate (300) reached the withheld state (310) by the quantity reaching its floor, a renewal by an uncounted class returns it to the granting state for that class and exits the non-executing mode, without a principal-resolution object, without an acknowledgment artifact, and without an acceptance determination, the withholding having arisen from absence of evaluation rather than from an accepted determination (122) recording harm. Withheld instead by a deviation quantity or by a procedure of the provisional-restoration mechanism, the gate returns under the path applicable to that withholding and by no renewal.

Filed embodiments condition what a renewal is worth. The amount raising the quantity, and the amount replenishing the budget (404), are each a monotonically non-decreasing function of the count of recorded severance events across the constituent edges of the renewing class, a class each of whose edges resolves not-typeable renewing at a declared least amount; a principal standing up fresh identities bearing no recorded severance event thereby renews its own agent at that least amount alone. Under a

second embodiment the renewal register counts a class only where its asserting party (118) resolves to a counterparty identity record (114) of the promoted persistence value, so a flood from ephemeral-tier counterparties renews nothing.

What the Signed Policy Object Declares

The filing recites these parameters and the relations among them, and fixes a value for none of them.

- **Register window.** Declared, with entries expiring on elapse. Instead of a constant the filing supplies a lower bound: a recorded inter-arrival estimator, computed by the agent (100) over its own lineage field (104) alone as a declared measure of central tendency of the intervals between successive entries of a named kind recorded against a named edge, class, or action class, counted in successor epochs. That estimator lower-bounds the observation and register windows used elsewhere in the architecture.
- **Renewal value.** Declared. On the uncounted branch the quantity is renewed to that value.
- **Decay constant and elapsed measure.** Declared per action class, the measure expressed in executions performed within the action class or in successor epochs advanced, the function an exponential half-life or a declared linear decrement per unit.
- **Decay floor.** Declared; reaching it writes the gate (300) to the withheld state (310) and emits the escalation record.
- **Replenishment amount and budget ceiling.** Both declared, and constrained by stated relations rather than values: the amount exceeds zero, falls below the authorization budget ceiling (408), and falls below the amount by which the budget (404) is decremented per increment, and the ceiling is not less than the value to which the budget is initialized.

- **Conditioning of the decay constant.** A further embodiment sets the depletion rate as an inverse function of the count of corrective encounters recorded for that action class with which the agent complied, a zero count marking an untested class whose constant is a short declared value.

Unreadability is declared as well. Where the register of authorization quantities cannot be read, no renewal and no decay are applied and the quantity is held with the condition appended, the agent re-reading at a declared cadence and decay resuming from the held value upon an attempt that succeeds. A hold subsisting for a declared maximum interval draws a structured inquiry to the principal, and no write to the gate (300) accompanies it.

Where the Return Leg Attaches

Three elements from elsewhere in the filing are load-bearing here. Origin-equivalence normalization supplies the counted unit, charging per source of assertion rather than per assertion, a source being a set of asserting parties (118) between which the agent demonstrates a relation from its own records. Admissibility supplies the filter, so an artifact whose signature fails to verify never reaches the presence test. Scope partitioning supplies containment, each partition carrying its own instances of the governed state elements and its own segment of the lineage field (104).

Downstream, the renewal event carries the budget with it: replenishment of the authorization budget (404) runs by the same procedure, so an agent's capacity to issue artifacts of its own tracks its exposure to classes it has not already counted within the window. The filing bounds that path rather than opening it: the replenishment amount is less than the per-increment decrement, so an agent (100) cannot finance a volume of issuance by the receipts its own issuance provokes.

Deference tests the composition hardest. Appending a deference record (900), receiving a deference counter-signature (902), and executing under an adopted determination each renew no authorization quantity and replenish no budget (404) of the deferring agent, and no entry is written to its replenishment register (402) responsive to either record. What deference returns is an enrollment: the followed agent's conformance-filtered corrector classes enter that register as admissible-but-unexercised entries, expressly not counted while the exercise field stands at the unexercised value. Only when an artifact arrives from an enrolled class absent from the register for the declared window is an entry written and the budget replenished.

Identity change is handled at the governance layer. A renewal register that counts origin-equivalence classes (200) toward renewal of an authorization quantity is among the governance attributes bound to descendants, so across every fork, clone, and reconstitution the descendant inherits the parent's register contents under a monotonically non-decreasing discipline.

Distinguishing Quota Refill, Reputation Scores, and Freshness Caches

Several families of art resemble the mechanism at a distance and differ structurally on inspection.

Quota refill and metering windows. Token buckets, leaky buckets, and scheduled refills restore a consumable allowance as time passes. The filing forecloses that path: the authorization budget (404) is not replenished by elapsed time, by expiry of a metering window, by an artifact from a class present in the register, by issuance of further artifacts (116), by an execution, or by a self-assessment. Window expiry restores a class's capacity to occasion a renewal and applies none.

Reputation, rating, and trust-score systems. The filing's background characterizes these as computing a score from ratings supplied by others and locating it at a registry, a scoring authority, or a shared ledger, the scored entity neither holding the score nor participating in its computation. No score exists here to filter or to game: the admission evaluator (120) produces exactly one determination from a closed set of four, and no scalar confidence, probability, or graded weight in its place.

Conformity detectors that restore on incident-free operation. The filing analyzes U.S. Patent No. 12,563,045, computing an integrity score against a baseline of expected behavior and restoring capability upon a ledger-recorded reconciliation, and U.S. Patent No. 12,526,244, applying decay and penalty values to a reputation value and removing a probationary status after sustained standing, an interval of operation without incident. Both read clean elapsed operation as positive evidence; under the filed rule that interval renews nothing.

Sybil resistance resolved against a shared directory. Schemes here resolve identity against a registry, a coordinating authority, or a staking arrangement. The filing draws that distinction directly: the origin-equivalence class (200) is computed by the agent (100) from its own records, without reference to any centralized registry and without coordination with a further execution node.

Cache freshness and deduplication keys. A time-to-live expires a cached datum so a stale read is avoided; a dedupe key suppresses reprocessing of a duplicate. Expiry works the other way here: elapse of an entry restores a class's capacity to renew, while an artifact from a class still in the register is admitted, evaluated, and determined as usual.

Comparisons above are structural, drawn against categories of technique and against art the filing analyzes. Nothing here characterizes the products, services, or conduct of any party.

Disclosure Scope

This article describes subject matter disclosed in U.S. Provisional Application No. 64/117,812, at Section 10.1, paragraph [0344], titled "Uncounted-class renewal gated by a windowed register," together with the elements on which it composes in the same filing: correction-exposure decay of an authorization quantity at [0343], renewal-side replenishment of the authorization budget at [0345], the distinct return path for decay-induced withholding at [0346], the severance-conditioned renewal amount at [0347], and the replenishment procedure of Section 4.5. It is published to establish public, timestamped disclosure of the mechanism and its composition. This is a technical description rather than a claim construction, and the filed application text controls.

Deference and Earned Exposure ([/earn](#) [All 49 steps → \(/inventive-steps\)](#) [ed-exposure](#))

Standing earned through recorded conduct; deference that survives across agents.

Provisional application

PRIMARY TECHNICAL DISCLOSURE

- [Earned Exposure and Deference Records: Standing Built From Recorded Conduct \(/articles/earned-exposure/earned-exposure-and-deference-records\)](#)

SECONDARY TECHNICAL

- [The Valuation-Free Ordinal Standing Quantity \(/articles/earned-exposure/valuation-free-ordinal-standing\)](#)
- [Determination-Invariance Under an Agent's Own Policy Succession \(/articles/earned-exposure/termination-invariance-policy-succession\)](#)
- [Elective Exposure Enrollment Without Deference \(/articles/earned-exposure/elective-exposure-without-deference\)](#)
- [Interventional Attribution by Receipt-Path Control \(/articles/earned-exposure/interventional-attribution-receipt-path\)](#)

- [The Portable Exoneration Record \(/articles/earned-exposure/portable-exoneration-record\)](/articles/earned-exposure/portable-exoneration-record)
- [Attribution, Exoneration, and the Domain Baseline: An Ordered Branch Over the Latency Differential \(/articles/earned-exposure/attribution-versus-exoneration-branch-domain-baseline\)](/articles/earned-exposure/attribution-versus-exoneration-branch-domain-baseline)
- [Bounded Count of Dispatches Per Deference Record: Capping How Many Executions One Counter-Signed Adopted Determination Authorizes \(/articles/earned-exposure/bounded-count-dispatches-deference-record\)](/articles/earned-exposure/bounded-count-dispatches-deference-record)
- [Coarse Lineage-Segment Granularity: Verifying a Tested-Entry Enumeration Without Disclosing Which Lineage Entries Were Tested \(/articles/earned-exposure/coarse-lineage-segment-granularity-tested-entry\)](/articles/earned-exposure/coarse-lineage-segment-granularity-tested-entry)
- [Correction-Exposure Decay: An Authorization Quantity That Depletes With Agent Operation and Renews Only on Recorded External Evaluation \(/articles/earned-exposure/correction-exposure-decay-authorization-quantity\)](/articles/earned-exposure/correction-exposure-decay-authorization-quantity)
- [Cause-Keyed Gate Restoration: A Distinct Return Path for Decay-Induced Withholding of Agent Authorization \(/articles/earned-exposure/distinct-return-path-decay-induced-withholding\)](/articles/earned-exposure/distinct-return-path-decay-induced-withholding)
- [Edge Severance Events and the Three-Valued Survival State: Resolving Whether a Counterparty Relationship Outlived a Payment-Class or Obligation-Class Termination \(/articles/earned-exposure/edge-severance-events-three-valued-survival\)](/articles/earned-exposure/edge-severance-events-three-valued-survival)
- [Emitting the Deference Correction Linkage Record to the Followed Agent: Reporting a Downstream Correction Without Producing a Rating \(/articles/earned-exposure/emission-deference-correction-linkage-record-followed\)](/articles/earned-exposure/emission-deference-correction-linkage-record-followed)
- [The No-Address Omission Branch: What a Deferring Agent Records When an Exposure Dispatch Reaches Nobody \(/articles/earned-exposure/exposure-dispatch-no-address-omission-branch\)](/articles/earned-exposure/exposure-dispatch-no-address-omission-branch)
- [Channel-Baseline Normalization: Taking Channel Overhead Out of the Latency Differential \(/articles/earned-exposure/latency-differential-channel-baseline-normalization\)](/articles/earned-exposure/latency-differential-channel-baseline-normalization)
- [Reason-Type Resolution From Severance-Survival States: Typing an Agent's Relationship Edges Without Asking the Counterparty \(/articles/earned-exposure/reason-type-resolution-survival-states\)](/articles/earned-exposure/reason-type-resolution-survival-states)
- [Reason-Type Retyping by a Superseding-Type Entry: Recomputing an Edge's Reason-Type on Later Severance Evidence Without Disturbing Modifications Already Applied \(/articles/earned-exposure/reason-type-retyping-superseding-type-entry\)](/articles/earned-exposure/reason-type-retyping-superseding-type-entry)
- [Renewal-Side Replenishment of the Authorization Budget: Restoring an Agent's Metered Spending Capacity Only on Exposure to an Uncounted Origin-Equivalence Class \(/articles/earned-exposure/renewal-side-replenishment-authorization-budget\)](/articles/earned-exposure/renewal-side-replenishment-authorization-budget)
- [Following Does Not Count as Being Tested: Retention of the Short Decay Constant When an Agent Defers, and the Action Class That Stays Untested \(/articles/earned-exposure/retention-short-decay-constant-deference-class\)](/articles/earned-exposure/retention-short-decay-constant-deference-class)
- [Standing-Determination Designation: Substituting a Verified Counterparty Determination for One Conjunct of the Dispatch-Authority Predicate \(/articles/earned-exposure/standing-determination-designation-substitution-inside-dispatch\)](/articles/earned-exposure/standing-determination-designation-substitution-inside-dispatch)

- [Uncounted-Class Renewal: Gating Agent Authorization on a Windowed Register of Origin-Equivalence Classes \(/articles/earned-exposure/uncounted-class-renewal-gated-windowed-register\)](/articles/earned-exposure/uncounted-class-renewal-gated-windowed-register).

APPLICATIONS · GENERAL

- [Vendor Qualification Without Ratings: Standing Earned From Recorded Conduct \(/articles/earned-exposure/vendor-qualification-without-ratings\)](/articles/earned-exposure/vendor-qualification-without-ratings).
- [Credentialing Autonomous Practitioners: Deference That Survives Across Agents \(/articles/earned-exposure/professional-credentialing-agents\)](/articles/earned-exposure/professional-credentialing-agents).

APPLICATIONS · SPECIFIC

- [Marketplace Seller Reputation Systems: Presented Scores Versus Earned Admissibility \(/articles/earned-exposure/marketplace-seller-reputation\)](/articles/earned-exposure/marketplace-seller-reputation).

TERMINOLOGY

- [counterparty identity record \(/glossary#counterparty-identity-record\)](/glossary#counterparty-identity-record).
- [deference record \(/glossary#deference-record\)](/glossary#deference-record).
- [edge \(/glossary#edge\)](/glossary#edge).
- [reason-type \(/glossary#reason-type\)](/glossary#reason-type).
- [severance event \(/glossary#severance-event\)](/glossary#severance-event).
- [standing quantity \(/glossary#standing-quantity\)](/glossary#standing-quantity).
- [untested class \(/glossary#untested-class\)](/glossary#untested-class).

[Deference and Earned Exposure overview → \(/earned-exposure\)](/earned-exposure).