

Positive Abstention: Withholding as a First-Class, Non-Convertible Outcome

Every determination stage in a governed agent architecture eventually meets an input it does not have, and the ordinary answer is a default that carries a sign: a missing record becomes a zero, a silent counterparty becomes a failed one, an unresolved policy becomes a denial. Each substitution is a small adverse judgment about a party that was never evaluated. U.S. Provisional Application No. 64/117,812 discloses positive abstention, in which withholding is itself a recorded, first-class outcome. A degradation map (500) associates each determination stage with the input it requires, the abstention outcome produced when that input is unavailable, and the consequence thereby foreclosed. A conversion bar (502) forecloses conversion of such an outcome into a magnitude: an abstention outcome and a magnitude are values of disjoint types, no total function maps the former to the latter, and in an embodiment enforcing the type discipline statically a determination attempting the conversion is not constructible rather than being foreclosed when the conversion is attempted. A non-execution attestation (504) carries a recorded abstention from one semantic agent to another without it ceasing to be an abstention, and without becoming, at the receiver, a scalar, a counter, or an adverse attribute of the agent that disclosed it.

1. Problem and Premise

An agent acting for a principal routinely reaches a decision point without an input the decision requires. The counterparty did not answer inside the window. The policy in force at the recorded assertion time cannot be resolved. The lineage is silent as to the conduct asserted. These are ordinary conditions among independent agents, and the conventional handling of them is seldom recognized as a design choice: the missing input is replaced by a default, and the default carries a sign.

A null becomes a zero, silence within a window becomes a rejection, an unreachable agent becomes an agent with a degraded score. The party bearing the consequence was never evaluated, and by the time a scalar reaches a threshold comparison nothing in its representation records that it was manufactured out of an absence.

Section 5 of U.S. Provisional Application No. 64/117,812 is directed at the conversion rather than at the absence. Its opening statement is that no determination stage of the architecture converts unavailability of a required input into an adverse consequence for any party. A degradation map (500) associates each determination stage with an abstention outcome, a conversion bar (502) forecloses conversion of such an outcome into a magnitude, and a non-execution attestation (504) carries a recorded abstention from one semantic agent (100) to another without it ceasing to be an abstention.

2. Core Primitive: The Abstention Outcome and the Conversion Bar

The invariant of Section 5.1 applies at each determination stage at which an input is required. Where that input is unavailable, incomplete, or unresolvable, the determination emits an **abstention outcome**, an outcome entry of a recorded abstention class identifying the unavailable input, and does not emit an outcome adverse to the semantic agent (100), to an asserting party (118), or to a counterparty. The invariant holds irrespective of the cause of unavailability.

One exception is admitted, at the reason-type-unresolved path, where an unresolvable reason-type produces not an abstention outcome but a modification bounded to the non-zero minimum declared in the signed policy object (112). The consequence foreclosed there is a magnitude of zero rather than an adverse magnitude, and the outcome so produced is itself adverse to no party.

Positive abstention is the recorded, governed withholding of an action: the semantic agent appends a determination naming the withheld action and the ground relied upon, and withholds dispatch of the action.

The **conversion bar** (502) forecloses a consuming determination from converting an abstention outcome into a scalar value, into a default value, into an operand of a threshold comparison (510), or into a consequence adverse to any party. The foreclosure is affirmative: the conversion is barred by the structure of the values themselves and not by an absence of defined behavior, and a determination reaching an abstention outcome emits an abstention outcome rather than proceeding upon a substitute.

3. The Degradation Map and the Per-Stage Foreclosed Consequence

The degradation map (500) enumerates, for each determination stage, the input required, the abstention outcome produced upon unavailability, and the consequence foreclosed, that third element being the adverse result the stage would otherwise have produced.

- **Lineage-unavailable.** Where the append-only lineage field (104) is unavailable, incomplete, or silent as to an asserted conduct, the admission evaluator (120) produces the not-determinable determination (126). The consequence foreclosed is the rejected determination (124), which under Section 1 issues only upon an affirmative contradicting entry.

- **Policy-unresolved.** Where the signed policy object (112) in force at the recorded assertion time cannot be resolved, no determination is produced: the conduct evaluation artifact (116) is appended as pending and a structured inquiry requesting the policy object is generated. The consequence foreclosed is the not-applicable determination (128).
- **Reason-type-unresolved.** Where the reason-type of an edge cannot be resolved, the magnitude of modification is bounded to the non-zero minimum declared in the signed policy object (112), the consequence foreclosed being a magnitude of zero.
- **Non-response.** Where no acceptance determination is received within the window declared in the signed policy object (112), the outcome is recorded as not-determinable and the authorization gate (300) remains in the provisional granting state. The consequence foreclosed is resolution of the matter against the non-responding party.
- **Class-unresolved.** Where an origin-equivalence class (200) cannot be computed under Section 2 for want of a counterparty identity record (114), the asserting party (118) is assigned to a provisional class of one member.
- **Register-unavailable.** Where the replenishment register (402) of Section 4 cannot be read, no replenishment is applied and the authorization budget (404) is held at its current value.
- **Counterparty-absence.** Where a determination requires an admissible counterparty class of which no member is recorded, the third outcome described below is produced.

4. Type-Disjoint Propagation Through Consuming Determinations

An abstention outcome produced under the degradation map is appended to the append-only lineage field (104) as a first-class outcome entry comprising the abstention class, an identifier of the stage that produced it, an identifier of the unavailable input, and a recorded time.

Where a further determination of a multi-stage pipeline consumes such an outcome, it emits an abstention outcome of its own recorded class, not replaced, resolved, or defaulted at any stage of the propagation. A determination consuming several outcomes of which at least one is an abstention emits an abstention outcome identifying the one consumed. The propagation therefore terminates in an abstention outcome, and the identity of the unavailable input is recoverable by following the chain of propagated entries.

An abstention outcome is represented in a form disjoint from the domain of values a consuming determination can consume as a magnitude, the disjointness being realized by a type discipline in which the outcome entry and a magnitude are values of disjoint types and no total function maps the former to the latter. A determination attempting arithmetic upon such an entry emits an abstention outcome rather than a magnitude, a threshold comparison of it emits an outcome of the recorded abstention class and not a Boolean, and an accumulation over a set containing it emits an abstention outcome and not a sum computed over the remaining members of the set.

The consequences are stated as negative limitations: no counter of the architecture is incremented by an abstention outcome, no authorization quantity is decremented by one, no value of the scoped integrity vector (106) is modified by one, and no write of the authorization gate (300) is caused by one. In accordance with a further embodiment, the type discipline is enforced statically upon the instructions of the semantic agent (100) before they are executed, whereby a consuming determination attempting the conversion is not constructible rather than being foreclosed at the time the conversion is attempted.

5. The Third Outcome on Absence of an Admissible Counterparty Class

A determination requires an admissible counterparty class where the signed policy object (112) in force conditions it upon participation, review, acceptance, or receipt by a counterparty of a class enumerated in that policy object, as where the acceptance determination of Section 6 requires the harmed origin-equivalence class (200). Where such a determination is reached and the counterparty identity records (114) held for the scope partition contain no admissible member, the counterparty-absence path produces a third outcome, being neither execution of the action to which the determination is directed, being a first outcome, nor denial of it, being a second outcome.

The outcome is an ordered set of machine acts. First, the semantic agent (100) transitions into the non-executing cognitive mode (302) with respect to that determination and within that scope partition, and there evaluates delegation alternatives without committing state changes. Second, it emits a structured inquiry to the principal, without a write of the authorization gate (300), naming the absent class and enumerating the alternatives that would satisfy the requirement: a delegation to a delegate agent holding an admissible member, or a dispatch admissible within another scope partition whose coupling declaration enumerates the partition concerned. Third, the absence, the determination that required the class, and the alternatives enumerated are appended to the per-partition lineage record.

Fourth, the agent contracts the partition capability envelope of that scope partition, being the action classes, delegation targets, and disclosure scopes admissible within it. The contraction removes the action classes conditioned on the absent class through coupled fields, no field being updated in isolation, and persists until the absence is cured by instantiation of a counterparty identity record (114) of an admissible member.

Two limits are recited. The outcome attaches to the determination reached and to no broader inquiry, nothing being computed from an absence except upon reaching a determination conditioned on the class found absent. And it is adverse to no party: it

moves no value of the scoped integrity vector (106), increments no counter, writes no authorization gate (300), and records no fault against any party. The conversion bar (502) applies to it as it applies to an abstention outcome.

6. Carrying a Withholding Across the Agent Boundary

Everything above operates within one agent. Section 5.6 addresses disclosure of a withholding to the counterparties that dispatch to the withholding agent.

The disclosing agent is a first semantic agent (100) that has written its authorization gate (300) to the withheld state (310) for an enumerated set of action classes and has transitioned into the non-executing cognitive mode (302); the receiving agent holds a counterparty identity record (114) of it and dispatches actions of those classes to it.

Responsive to that write and that transition, the disclosing agent emits a **non-execution attestation** (504), a governed observation within the meaning of Section 6 of the filing bearing its authority credential, continuity hash field, temporal reference field, time-to-live field, and observation lineage field.

The payload carries five elements: the withheld action-class enumeration, each entry naming an action-class identifier and its scope partition, the enumeration being the same set recited in the gate write; an enumerated evidentiary basis, being the lineage entries tested against the conduct evaluation artifact (116) for each accepted determination (122) of the causal set, disclosing no conduct descriptor content; an attested epoch field drawn from the dynamic agent hash chain and not from any node clock; an abstention-class type marker drawn from the closed enumeration declared in the signed policy object (112), carrying a type designation and not a magnitude, its declared type being the abstention type (506); and an express non-determination designation declaring that the attestation is neither a determination of the closed set nor a denial of any dispatch. The emission modifies no value of the disclosing agent's scoped integrity vector (106), and the attestation goes to each counterparty recorded as having dispatched within a declared emission window and to no other.

The receiver verifies three conjuncts: the authority credential and continuity hash field against the continuity history store, under the trust-slope validator; under the successor-continuity test of Section 1, that the attested epoch is a valid successor of the epoch previously attested; and that the type marker resolves within the enumeration declared in the receiver's own policy object and that the withheld enumeration is non-empty. A failing conjunct leaves the attestation appended with the failing element, admitted to no consuming determination and incrementing no counter, and a failed verification is not a denial. Where the failure is for want of a recorded predecessor epoch, the receiver records a predecessor-absence abstention outcome of its own recorded class.

On satisfied verification the attestation is written into the receiver's append-only lineage field (104) as a **carried abstention entry**, referenced from a counterparty abstention register, as a value of the abstention type (506). The entry comprises those payload elements as received, with the identity primitive of the disclosing agent and the recorded time of admission. The designation is adopted as received, the receiver neither computing it from the payload nor assigning it by default.

The conversion bar applies across the boundary through four negative limitations. There is no conversion to a scalar, a default, or a threshold operand, and no availability score, health quantity, suspicion level, or failure rate takes a carried entry as an input. No counter of the disclosing agent is incremented, the refusal counter (304) included, and nothing adverse is appended to its counterparty identity record (114): no attribute recording fault, breach, unreliability, or degraded standing. And subsequent non-response within an enumerated class is treated neither as a rejected determination (124) nor as an accepted determination (122), being recorded as a not-determinable outcome identifying the withheld class as the unavailable input, however often it recurs.

A determination of the receiver consuming an interaction with the disclosing agent in an enumerated class emits an outcome of its own recorded abstention class identifying that class and that agent as its unavailable input, the abstention propagation chain

(508) so formed being recorded in the lineage.

The receiver recomputes its dispatch-authority predicate at each request to dispatch, from state then carried in its memory field (102), and the predicate fails where the requested action is of an enumerated class and the counterparty is the disclosing agent. That failure is a positive abstention and not a denial: a dispatch-authority abstention record is appended naming the withheld dispatch, its action class, and the entry relied upon. It is confined to the enumerated classes and that counterparty, the predicate being unaffected for other classes, for dispatches to others, and for the receiver's own execution of such actions.

A carried entry is released as to an action class upon presentation of an unmarked execution record of the disclosing agent within that class, upon a superseding attestation omitting that class and carrying a successor attested epoch, or upon elapse of the time-to-live field, that elapse being no evidence that the class has been restored. Release is recorded as a release record naming the condition relied upon, and no accumulation of the receiver's own dispatch attempts or non-responses releases an entry.

7. Operating Parameters

Every quantity here is declared rather than fixed, in the signed policy object (112) of the agent bound by it. Section 5 names the non-zero minimum bounding a modification on the reason-type-unresolved path; the window within which an acceptance determination must be received before the non-response path is taken; the closed enumeration of abstention classes from which a type marker must resolve, tested by the receiver against the enumeration in its own policy object; the emission window determining which counterparties receive an attestation; the time-to-live field whose elapse releases a carried abstention entry; the successor relation the receiver tests an attested epoch against; and the propagation depth field of a determination propagation record.

Additional embodiments declare further quantities: an attestation window bounding the interval between an attested epoch and the recorded time of admission; a bound on the count of action classes across which carried entries may be held before a relay attestation issues; a fraction, less than unity, bounding propagated displacement magnitude; an interval and a bound for the abstention-attribution count; a persistence tier at or above which counterparties are eligible to receive an attestation; a declared initial propagation depth; and a bound on the rate of propagation records received within a single scope partition, measured over a window expressed in successor epochs. The filing declares the parameters and their relations, not their values.

8. Alternative Embodiments

Section 10 of the filing extends the primitive along several axes.

Withholding that travels. A receiving agent may emit its own relay non-execution attestation where its dispatch-authority predicate fails by operation of carried abstention entries held across a count of action classes exceeding a declared bound, so a withholding propagates by disclosure across a chain of agents, each hop preserving the abstention type. The emitting agent writes no gate of its own and derives its withheld enumeration from its failing predicate. A related embodiment enumerates at a declared action-class group granularity, so an agent discloses that it withholds within a group without disclosing which member occasioned the write.

Release, supersession, and staleness. A disclosing agent may emit an attestation revocation object bearing a successor attested epoch, upon which the receiver releases the entry; the revocation is not evidence that any released class has been executed. A superseding attestation enumerating a class absent from the entry it supersedes is a widening supersession, the added class admitted only upon fresh verification and written as a further entry. An attestation presented outside the declared attestation window produces a staleness outcome rather than a rejection.

Living with an admitted withholding. Where a dispatch of an enumerated class was transmitted before the entry was admitted and remains outstanding, the receiver neither recalls nor cancels it, appending an in-flight dispatch abstention record, and the predicate fails only upon a subsequent request to dispatch. An abstention-attribution count records, per counterparty, abstention outcomes whose unavailable input was required of that counterparty; it is expressly not adverse and cannot be an operand of an adverse threshold comparison, its effect above a declared bound being a structured inquiry to the principal.

Curing absence. The counterparty-absence path admits a signed introduction protocol: the agent requests an introduction naming the required class from a second agent it holds a record for, and that agent returns an identity primitive of a member party, a signed attestation of that membership, and an identifier of its encounter history. A record failing verification produces the not-determinable determination and appends nothing adverse.

Bounding propagated determinations. Section 5.10 admits an accepted determination (122) across the agent boundary in a determination propagation record carrying a governance object and not a magnitude. Further embodiments keep propagation from amplifying: modification of an admitting agent's scoped integrity vector (106) is bounded above by a declared fraction, less than unity, of a reference displacement magnitude that agent computes itself; a self-execution conjunct requires the carried scope partition to be one in which it has itself executed an action of an implicated class; and a monotonically non-increasing propagation depth ceiling keeps a depleted depth from being restored by re-emission at a raised value.

Positive abstention elsewhere in the filing. A delegate agent whose return inheritance mask excludes the harm-recording field class declared in its own policy object performs no action of the delegated class and appends a declination record naming the delegator, the field class, and the ground, writing no gate and incrementing no refusal counter. From instantiation of an ephemeral-tier record until promotion or

timeout, that record and every artifact from its party occupy a pre-settlement inert state that is neither denial nor rejection, the exchange being opened by a scaffolding observation naming exactly the canonical fields the presentation did not supply. And where an agent's co-residency intersection for a common action class is empty, it neither executes nor determines.

9. Composition With the Rest of the Architecture

Section 5 depends on the chapters around it. Section 1 supplies the closed set of determinations the admission evaluator (120) may produce, including the not-determinable determination (126) and the not-applicable determination (128) the degradation map routes to, and the successor-continuity test a receiver applies to an attested epoch. Section 2 supplies the origin-equivalence class (200), degraded to a provisional class of one member where it cannot be computed and used to gate cross-agent propagation. Section 3 supplies the authorization gate (300), the withheld state (310), the non-executing cognitive mode (302), and the refusal counter (304) whose threshold occasions the withholding an attestation discloses; the cross-boundary conversion bar forecloses a receiving agent from incrementing that counter upon admission. Section 4 supplies the replenishment register (402) and the authorization budget (404) the register-unavailable path holds at its current value, and Section 6 the governed observation form an attestation instantiates.

Underneath sit the persistent semantic agent primitives carried in by reference: the memory field (102) from which the dispatch-authority predicate is recomputed, the append-only lineage field (104) that makes an abstention propagation chain (508) traceable to its origin, the scoped integrity vector (106) that no abstention outcome moves, the signed policy object (112) in which every parameter of this chapter is declared, and the dynamic agent hash chain supplying attested epochs in place of node clocks.

10. Prior-Art Distinctions

Several established categories address adjacent problems, and the distinctions are structural rather than qualitative.

Reputation and rating systems aggregate observed behavior into a score that later decisions consume as a magnitude, and absence of evidence is handled by a prior, a decay, or exclusion from the sample, each a conversion of an unknown into a number. Silence and a low rating remain the same kind of value.

Centralized trust registries and revocation infrastructure publish an authoritative statement about a party to all relying parties. The non-execution attestation (504) inverts the direction and narrows the audience: it is emitted by the withholding agent about its own gate state, to the counterparties recorded as having dispatched to it within a declared emission window and to no other.

Arbitration and dispute-resolution services treat default judgment against a non-appearing party as a standard instrument. The non-response path forecloses it: the authorization gate (300) remains in the provisional granting state, and the matter is not resolved against the non-responding party.

Credit scoring and risk models produce a decision from partial information, which requires imputation: thin files receive defaults, and the resulting score is consumed identically to one computed from complete data. The conversion bar forecloses the operation itself.

Circuit breakers, health checks, and failure detectors are the nearest engineering relatives. A circuit breaker infers unavailability from observed failures and holds state derived from counts. Here the disclosing agent states its own withholding in a signed artifact, and a carried entry is never released by accumulation of the receiver's own dispatch attempts.

Option and result types, and null-safety disciplines, supply the type-level ancestry for the disjointness. What they do not supply is a governance semantics: an abstention class drawn from a closed policy-declared enumeration, an identified unavailable input, a per-stage record of the consequence foreclosed, and a signed carrier preserving the type across a trust boundary.

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," and specifically Section 5 of that specification: the abstention invariant and its single exception, the degradation map (500) and its enumerated paths, propagation to consuming determinations, the conversion bar (502) and its type discipline, the third outcome on absence of an admissible counterparty class, the non-execution attestation (504) with its verification and admission as a value of the abstention type (506), the dispatch-authority predicate and the release conditions for a carried abstention entry, and cross-agent propagation. Section 8 above draws on additional embodiments recited in Section 10 of the same filing; Section 7 reports only parameters the specification declares.

The article is published as a technical disclosure and establishes a public, timestamped description of that subject matter. It is not legal advice or a claim construction, and it makes no assertion about the scope, validity, or infringement of any patent, application, or product. Descriptions of prior-art categories characterize those categories structurally, not any specific implementation. No value, threshold, window, or bound is fixed by this article, and none is asserted beyond what the filing discloses.

Positive Abstention and the Conversion Bar (</positive-abstention>)

[All 49 steps → \(/inventive-steps\)](#)

Refusing to act is a first-class, recorded outcome — and can't be laundered into acting.

Provisional application

PRIMARY TECHNICAL DISCLOSURE

- **Positive Abstention: Withholding as a First-Class, Non-Convertible Outcome** (</articles/positive-abstention/withholding-as-a-first-class-outcome>).

SECONDARY TECHNICAL

- Delegate declination on an excluded return mask
- Scaffolding observation naming exactly the absent canonical fields
- Pre-settlement inert state
- Empty-intersection mutual positive abstention
- Recorded counterfactual coupling test
- Coupled-edge refusal and liveness cure
- Relay non-execution attestation with depth and cycle bounds
- Anti-amplification magnitude bound on propagated determinations
- Propagation admissibility gate: self-execution intersection conjunct
- Propagation admissibility gate: attack-conditional cross-boundary suspension
- Propagation depth ceiling: anti-restore-depth
- Attestation revocation object
- Widening supersession record
- In-flight dispatch abstention record
- Attestation staleness outcome and the attestation window parameter
- Evidentiary-basis omission for the receiving counterparty
- Abstention-attribution count
- Cure of counterparty-absence by introduction protocol
- Propagated displacement magnitude field alternative
- Coarse action-class-group granularity for the withheld enumeration

- Non-execution attestation emission targeting by persistence tier
- Restoration settlement reference as a distinct release condition

TERMINOLOGY

- [abstention outcome \(/glossary#abstention-outcome\)](/glossary#abstention-outcome).
- [conversion bar \(/glossary#conversion-bar\)](/glossary#conversion-bar).
- [non-execution attestation \(/glossary#non-execution-attestation\)](/glossary#non-execution-attestation).
- [positive abstention \(/glossary#positive-abstention\)](/glossary#positive-abstention).

[Positive Abstention and the Conversion Bar overview → \(/positive-abstention\)](/positive-abstention)