

Recorded Counterfactual Coupling Test: Detecting When a Counterparty's Silence Moves an Agent's Own Authorization Gate

The recorded counterfactual coupling test is a coercion filter for autonomous semantic agents, disclosed in U.S. Provisional Application No. 64/117,812. It addresses a failure mode of recorded consent: an agent may record itself as deferring to, or as adopting the declared values of, a counterparty whose non-response already moves the agent's own permission to act. The agent writes, at the time each transition of its authorization gate and authorization budget is taken, a trigger-condition record carrying the re-evaluable predicate, its operand references, and each operand's held value or a recorded-absence marker. It later re-runs each predicate from the recorded state alone, substituting a hypothesized receipt for the absence, and designates the transition coupled or inert on the difference.

Silence That Moves a Governor

An autonomous agent able to follow another agent's determinations, or to take up another agent's declared values, faces a question ordinary access control does not ask: is the following voluntary? A record of deference carries the same form whether the deferring party chose it freely or was already structurally dependent on the party it now records itself as following.

U.S. Provisional Application No. 64/117,812 approaches that question through a baseline it recites for non-response. In the filed disclosure, a non-response by a disclosing agent, within any window declared in any policy object of the receiving agent, to a dispatch in an action class enumerated in a withheld action-class enumeration is treated neither as a rejected determination nor as an accepted determination. The filing recites that such a non-response is recorded as a not-determinable outcome identifying the withheld action class as the unavailable input, resolves nothing against either party, and increments no counter of either party, irrespective of the number of such non-responses and of the interval over which they are recorded. Elsewhere the filing recites a non-response path where no acceptance determination is received within the window declared in the signed policy object, the outcome again being recorded as not-determinable.

Against a baseline in which a counterparty's silence is recorded as an unavailable input, a governing quantity that nonetheless moves when that counterparty stays quiet is a property of the agent's own trigger conditions rather than a finding about the counterparty. Section 10.6 of the filing, titled co-residency, delegate floor, and coercion filtering, supplies a mechanism that identifies the condition from records the agent already holds. The filing defines an edge as a persisted dyadic relation between the semantic agent and one counterparty, constituted by that counterparty's counterparty identity record (114) together with each lineage entry recording an interaction with that counterparty.

The Recorded Counterfactual and Its Two Designations

The mechanism has a write-time half and a read-time half.

Writing the transition. The agent (100) records each transition of its own authorization gate (300) and authorization budget (404), at the time the transition is taken, together with a trigger-condition record it writes. That record comprises a re-evaluable predicate; the predicate's operand references into the memory field (102), the

append-only lineage field (104), or a counterparty identity record (114); and, for each operand, the operand's held value, or a recorded-absence marker written where the operand's expected record from a counterparty was absent within a named window.

The absence marker is what distinguishes the record from a value log. It records that an expected record from a counterparty did not arrive within a named window and that this operand entered the predicate that was evaluated at the transition.

Re-evaluating it. The agent thereafter retrieves every such recorded transition and, for each, performs a recorded counterfactual. It re-evaluates the recorded predicate from the recorded state alone, replacing the absence marker for a named record of a named counterparty within a named window with a hypothesized receipt.

Comparison of the two evaluations yields the designation. The transition is designated **non-response-coupled** where the trigger was satisfied in the record but not under the hypothesized receipt, and **non-response-inert** otherwise. The filing recites that the counterfactual writes nothing and produces no determination, and that the re-evaluation proceeds from the recorded state alone.

From transitions to an edge. Individual designations resolve into a designation of the edge under three recited branches. The edge is designated non-response-coupled on any one coupled transition. It is designated non-response-inert only on no coupled transition across at least a declared minimum count of recorded transitions. Otherwise an insufficiency abstention under the conversion bar (502) is appended.

Positive abstention, as the filing defines the term, means a recorded, governed withholding of an action, the semantic agent appending a determination naming the withheld action and the ground relied upon, and withholding dispatch of the action. Under the conversion bar (502), a consuming determination is foreclosed from converting an abstention outcome into a scalar value, into a default value, into an operand of a threshold comparison, or into a consequence adverse to any party, the foreclosure being affirmative rather than an absence of defined behavior.

Effect of a coupled designation. A deference record (900) or an adoption record proposed across an edge bearing a non-response-coupled designation is appended as an attempted record and given no effect. The filing enumerates that effect: the attempted record satisfies no dispatch-authority predicate, decrements no authorization budget (404), enrolls no origin-equivalence class (200), raises no floor, admits no value, and increments no counter. The agent appends its declining as a positive abstention naming the designation.

Curing the coupling. Per the filing, the counterparty cures the coupling from its own side by emitting a liveness observation, being a governed observation bearing its authority credential and continuity hash and naming the record kind, window, and transition addressed. Upon successful continuity verification the agent records that operand as satisfied by a produced record, so the counterfactual redesignates the transition non-response-inert. Issuance of the liveness observation decrements the counterparty's own authorization budget (404) by a declared amount, applied without any determination of whether the designation was well founded.

Declared Bounds and What the Filing Leaves to Policy

Where the filing sets a quantity, it declares it rather than fixing a value. The parameters recited for this mechanism are as follows.

- **Minimum transition count.** The non-response-inert designation is conditioned on no coupled transition across at least a declared minimum count of recorded transitions. The filing states that the count is declared and assigns it no value.
- **Named window.** A recorded-absence marker is written where the operand's expected record from a counterparty was absent within a named window, and the counterfactual replaces that marker with a hypothesized receipt of a named record of a named counterparty within a named window. The window is named rather than fixed by the mechanism.

- **Liveness observation decrement.** Issuance of a liveness observation decrements the counterparty's own authorization budget (404) by a declared amount, applied without any determination of whether the designation was well founded.
- **Governors covered.** The test as filed runs over recorded transitions of the agent's own authorization gate (300) and authorization budget (404).

Those two governors are distinct quantities in the filing. The authorization gate (300) is maintained as a persistent state occupying, for each action class and scope-partition pairing, exactly one of a granting state, a withheld state (310), and a provisional granting state. The authorization budget (404) is replenished by the procedure of the filing's replenishment section and by no other procedure, an entry being written to the replenishment register (402) and the budget replenished where an origin-equivalence class (200) is not already present there for the action class concerned.

Composition With the Rest of the Filing

Section 10.6 collects several mechanisms bearing on what one agent's configuration can do to another agent's authorization. Two are immediate neighbors of this one. Co-residency intersection under dual anti-rollback floors addresses two persistent semantic agents (100) resident concurrently at one stateless execution node, each resolving policy under its own floor and confining execution to the computed intersection. The delegator floor field and its monotone upward ratchet address a delegating agent's carried floor value, from which an admitting delegate computes an effective floor as the maximum of the carried value and its own.

The coupling test draws on structures the filing establishes elsewhere. It reads the memory field (102), the append-only lineage field (104), and counterparty identity records (114) through the operand references its own trigger-condition records carry, and it terminates, in its insufficiency branch and in its refusal branch, in a positive abstention under the conversion bar (502).

Its designation is consumed by the two record kinds named in the coupled-edge refusal: the deference record (900) and the adoption record. Both are records by which an agent takes on another party's judgment or declared values. The filing records the refusal of those two as the agent's own positive abstention naming the designation.

How This Differs From Related Approaches

Three families of technical approach touch adjacent problems, and each is distinguishable structurally.

Liveness and failure detection in distributed systems. Heartbeat protocols, lease expiry, and timeout-driven failover react to a missing message within a window, and some retain a reason for the resulting state change. What such systems compute is a status attributed to the silent node, such as suspected or failed. The filed mechanism produces no determination in the course of the counterfactual, and its designation attaches to a transition of the observing agent's own governors and to the edge, constraining which records that agent may itself give effect to.

Reputation, trust, and behavioral integrity scoring. The filing's own background addresses systems that maintain a reputation value for a computing entity, apply decay and penalty values, and place the entity into a probationary status, and systems that compute an integrity score from observed execution against expected behavior, compare it against a threshold, and modify capability upon the comparison. Those approaches terminate in a scalar attached to the scored party. The coupling test terminates in one of three recorded outcomes, two designations and an abstention, and the conversion bar (502) forecloses converting an abstention outcome into a scalar value, a default value, or an operand of a threshold comparison.

Counterfactual and causal explanation tooling. Explanation systems re-run models with perturbed inputs to attribute an outcome to a feature. The structural difference here lies in what is preserved at write time and in what the re-run may reach.

The predicate, its operand references, and each operand's held value or recorded-absence marker are written when the transition is taken, the re-evaluation proceeds from that recorded state alone, and the counterfactual writes nothing and produces no determination.

None of the above is a statement about any product or party. The categories describe classes of technical approach, and the distinctions rest on structure recited in the filing.

Disclosure Scope

The recorded counterfactual coupling test described here is disclosed in U.S. Provisional Application No. 64/117,812, at Section 10.6, paragraph [0427], within the section titled co-residency, delegate floor, and coercion filtering. The immediately following paragraph, [0428], discloses the coupled-edge refusal of a deference record (900) or an adoption record and the liveness observation by which a counterparty cures the coupling from its own side. The definitions of positive abstention, of edge, and of the conversion bar (502) relied upon above appear in the same filing.

This article is published as a technical disclosure. Statements above are limited to what the filed provisional recites; where the filing declares a quantity to be set by policy without assigning it a value, that is stated rather than supplied. Reference numerals correspond to those used in the filed specification.

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 \(/articles/positive-abstention/withholding-as-a-first-class-outcome\)](/articles/positive-abstention/withholding-as-a-first-class-outcome)

SECONDARY TECHNICAL

- [Relay Non-Execution Attestation With Depth and Cycle Bounds \(/articles/positive-abstention/relay-non-execution-attestation\)](/articles/positive-abstention/relay-non-execution-attestation)
- [The Anti-Amplification Bound on Propagated Determinations \(/articles/positive-abstention/anti-amplification-magnitude-bound\)](/articles/positive-abstention/anti-amplification-magnitude-bound)
- [The Attestation Revocation Object \(/articles/positive-abstention/attestation-revocation-object\)](/articles/positive-abstention/attestation-revocation-object)
- [Empty-Intersection Mutual Positive Abstention \(/articles/positive-abstention/empty-intersection-mutual-abstention\)](/articles/positive-abstention/empty-intersection-mutual-abstention)
- [Curing Counterparty Absence by Introduction Protocol \(/articles/positive-abstention/introduction-protocol-cure\)](/articles/positive-abstention/introduction-protocol-cure)
- **[Recorded Counterfactual Coupling Test: Detecting When a Counterparty's Silence Moves an Agent's Own Authorization Gate \(/articles/positive-abstention/recorded-counterfactual-coupling-test\)](/articles/positive-abstention/recorded-counterfactual-coupling-test)**
- [Self-Execution Intersection Conjunct: Gating Cross-Agent Determination Propagation on the Admitting Agent's Own Per-Partition Execution Record \(/articles/positive-abstention/propagation-admissibility-gate-self-execution-intersection\)](/articles/positive-abstention/propagation-admissibility-gate-self-execution-intersection)
- [Attack-Conditional Cross-Boundary Suspension of Determination Propagation Between Persistent Semantic Agents \(/articles/positive-abstention/propagation-admissibility-gate-attack-conditional-cross\)](/articles/positive-abstention/propagation-admissibility-gate-attack-conditional-cross)
- [Propagation Depth Ceilings for Cross-Agent Determination Records: A Monotonic Anti-Restore-Depth Gate Against Hop-Count Replenishment \(/articles/positive-abstention/propagation-depth-ceiling-anti-restore-depth\)](/articles/positive-abstention/propagation-depth-ceiling-anti-restore-depth)
- [Attestation Staleness Outcome and the Attestation Window Parameter: Bounding the Age of a Carried Withholding Without Recording a Rejection \(/articles/positive-abstention/attestation-staleness-outcome-attestation-window-parameter\)](/articles/positive-abstention/attestation-staleness-outcome-attestation-window-parameter)
- [Evidentiary-Basis Omission for the Receiving Counterparty: Attesting a Withholding Without Naming the Recipient as Its Occasion \(/articles/positive-abstention/evidentiary-basis-omission-receiving-counterparty\)](/articles/positive-abstention/evidentiary-basis-omission-receiving-counterparty)
- [Persistence-Tier Emission Targeting for Non-Execution Attestations: Bounding the Audience of an Agent's Recorded Withholding \(/articles/positive-abstention/non-execution-attestation-emission-targeting-persistence\)](/articles/positive-abstention/non-execution-attestation-emission-targeting-persistence)
- [Restoration Settlement Reference: Releasing a Carried Abstention Entry on a Matched-Pair Settlement Record of Gate Restoration \(/articles/positive-abstention/restoration-settlement-reference-distinct-release-condition\)](/articles/positive-abstention/restoration-settlement-reference-distinct-release-condition)

APPLICATIONS · GENERAL

- [Safety-Critical Autonomy: Recording a Refusal to Act as a First-Class Outcome \(/articles/positive-abstention/safety-critical-autonomy-abstention\)](/articles/positive-abstention/safety-critical-autonomy-abstention)
- [Clinical Decision Support: When the Correct Output Is No Output \(/articles/positive-abstention/clinical-decision-support-abstention\)](/articles/positive-abstention/clinical-decision-support-abstention)

APPLICATIONS · SPECIFIC

- [NIST AI Risk Management Framework: Where Abstention Fits in Agent-to-Agent Conduct \(/articles/positive-abstention/nist-ai-rmf-abstention\)](/articles/positive-abstention/nist-ai-rmf-abstention)

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)