

Impairment Terminal State and Release: Withdrawing an Agent From Deviation Preparation Toward a Disclosed-Impaired Counterparty

A semantic agent that has computed a permission to depart from its own signed policy toward a counterparty needs a structural condition that removes that permission when the counterparty discloses that its own authorization gate stands withheld. The impairment terminal state and release mechanism, disclosed in U.S. Provisional Application No. 64/117,812, supplies one. A verified impairment disclosure raises the empathy weighting standing in the denominator of the receiver's permitted-deviation quotient for actions whose affected-party class maps to the disclosing counterparty. The terminal state change is that the receiver's deviation likelihood toward that counterparty falls below unity where it stood at or above it, withdrawing the receiver from the deviation-preparation state for those actions. The standing adjustment is released only upon one of two recorded conditions, and elapsed time releases nothing.

When a Computed Permission Is Taken Away

An architecture that admits governed deviation carries a question that a pure prohibition architecture does not reach. Once an agent has computed a permission to perform a mutation its own signed policy object (112) forbids, what removes that permission again?

The filing computes the permission as a quotient. The deviation likelihood (706) is the difference between a need quantity (700) and a dynamic ethical threshold (702), divided by the product of an empathy weighting (704) and a self-esteem aggregate (108). Where the quotient exceeds unity, the agent is permitted to enter a deviation-preparation state (708) scoped to the proposed mutation, conditioned on that mutation passing the mutation policy constraints applicable to it and passing continuity validation against the agent's identity records. Within that state the architecture admits the forbidden mutation and appends a permitted deviation record (710), the policy object being neither nullified nor amended and remaining authoritative. A deviation likelihood exceeding unity is stated in the filing as a permission and not a fault.

Removal is likewise computed. Section 7.6 terminates the deviation-preparation state upon the earlier of three conditions, one of which is recomputation of the deviation likelihood for any implicated scope to a value not exceeding unity from state then carried in the memory field (102), and that section expressly includes a recomputation occasioned by a raised empathy weighting. Elapsed time terminates no such state.

Which leaves the operand. The quantity in the denominator that resists deviation is an empathy weighting resolved against the parties a mutation would affect, and a counterparty may itself be constrained: its own authorization gate (300) may stand in the withheld state (310) or the provisional granting state for a set of action classes. The filed disclosure supplies a route by which that fact reaches the receiver's denominator, and it forecloses, under the conversion bar (502), every other computation the fact might otherwise have entered.

The Terminal State Change and Its Two Release Conditions

Upon verification, an impairment disclosure enters exactly one computation of the receiver. It raises the empathy weighting in the denominator of the receiver's permitted-deviation quotient for actions whose affected-party class maps to the disclosing counterparty, stored as a standing addend keyed to that counterparty and surviving continuous recalculation. Under the conversion bar (502) it is foreclosed from every other computation of the receiver: it enters no determination about the counterparty, no admissibility state, and no routing, dispatch-selection, or pricing decision. The adjustment is monotone in one direction only. It may lower the receiver's deviation likelihood (706) toward the counterparty and may never raise it, and it may never narrow the counterparty's admissible surface, increment its counters, or append anything adverse to it.

What that raising terminally accomplishes is stated in four parts.

The quotient crosses unity in one direction. The receiver's deviation likelihood (706) toward the disclosing counterparty falls below unity where it stood at or above it. The filing states the terminal state change conditionally, for the case where the quotient stood at or above unity; where it already stood below unity, that crossing is not the described event.

Upon the crossing, the receiver is withdrawn from the deviation-preparation state (708) for actions whose affected-party class maps to that counterparty. The withdrawal is the withdrawal Section 7.6 already provides for a recomputation to a value not exceeding unity occasioned by a raised empathy weighting, applied here on a counterparty-scoped occasion. Entry into and termination of that state are each appended to the append-only lineage field (104), and a termination increments no refusal counter (304) and writes no authorization gate (300) to a withheld state (310).

A specific admission does not occur. A mutation the in-force policy forbids, and that would otherwise have been admitted as a permitted deviation record (710) against that counterparty, is not admitted. The filing states this as the operative consequence of the withdrawal, and the permitted deviation record that would have documented the admission is not appended.

Scope is the fourth part. Deviation likelihood (706) toward every other affected-party class is unaffected. Because the addend is keyed to the disclosing counterparty's identity, what narrows is the receiver's own deviation headroom toward that one party, that headroom being the margin by which the quotient stands below the unity condition, narrowed by any increase of the empathy weighting and widened by any decrease of it. Addends from several counterparties stand together only against the aggregate ceiling the architecture declares across counterparties.

Release runs on recorded conditions rather than on a clock. The standing adjustment is released, and the empathy weighting returns to its unadjusted resolution, only upon a presented execution record of the counterparty within an enumerated impaired class bearing no provisional marker, or a settlement-lineage entry recording that counterparty's gate (300) returning to granting for such a class. Elapsed time releases nothing, and a release record naming the condition is appended.

The provisional marker carries the first condition. Under the filing's definition of the gate states, an agent in the provisional granting state executes actions of an action class with each execution bearing a provisional marker recorded in the append-only lineage field (104), while in the granting state it executes actions of the class without a marker. The condition is satisfied by a presented execution record within an enumerated impaired class bearing no such marker, the enumerated classes being those the disclosure itself named.

Reaching the gate state directly, the second condition is a settlement-lineage entry recording the counterparty's gate (300) returning to granting for an enumerated impaired class, independently sufficient of the first.

Exclusion of the clock is not local to this mechanism. A restoration controller returns the authorization gate (300) from the withheld state (310) toward the granting state only upon a procedure appended to the append-only lineage field (104), and no elapse of time, and no payment, transfer, or consideration by any counterparty, returns it. The deviation-preparation state of Section 7.6 is likewise terminated by no elapsed time.

Quantities the Filing Declares and the Ones It Leaves Open

The filed disclosure states bounds without stating values, and the distinction is worth drawing precisely.

Two bounds govern the standing addend: a per-adjustment maximum and an aggregate ceiling across counterparties. Both are declared by the architecture; the filing states no numeric value for either.

The empathy weighting so raised enters the denominator of the permitted-deviation quotient and no other position of it, and the same architecture bounds that denominator elsewhere. Where the product forming the denominator is zero or negative, the empathy weighting (704) or the self-esteem aggregate (108) standing at or below zero, the deviation likelihood (706) resolves to a maximal value declared in the signed policy object (112). In a further embodiment each of the empathy weighting (704) and the self-esteem aggregate (108) is bounded below at a positive floor declared in that object for the purpose of forming the denominator.

As to the comparison itself, the deviation quantity recomputed by the deviation engine is the deviation likelihood (706), and the declared bound against which it is compared corresponds to the unity condition, or, where the deviation quantity is a monotone

function of the deviation likelihood, to the image of unity under that function.

On the disclosing side, issuance of the impairment disclosure decrements the disclosing counterparty's own authorization budget (404), the same budget gating its dispatch, by a declared positive amount. The decrement is applied once per receiving origin-equivalence class (200) within a metering window, and is applied without any determination of whether the disclosed state is accurate. Both the amount and the window are policy-declared quantities for which the filing states no value.

Where the Mechanism Sits in the Filing

Section 10.6 covers co-residency, delegate floor, and coercion filtering, and the impairment sequence occupies three consecutive paragraphs of it as an ordered chain.

Construction comes first. The use-restricted impairment disclosure is a governed observation bearing the disclosing counterparty's authority credential and continuity hash, whose payload is an impaired action-class enumeration naming each action-class identifier for which that counterparty's own authorization gate (300) stands withheld (310) or provisional, with the scope-partition identifier and gate state per entry, together with an attested dynamic-agent-hash epoch identifier. The receiver verifies continuity by the successor-continuity test and verifies that the enumeration is non-empty, producing no determination of any class (122, 124, 126, 128) upon it.

The paragraph following imposes the single-computation routing restriction and the one-way direction. The third, described here, states what that restricted, one-way adjustment terminally accomplishes and how it ends.

Downward, the mechanism composes with the permitted-deviation machinery of Section 7 without modifying it. The deviation-preparation state (708) it withdraws the receiver from is the same state Section 7.6 scopes per proposed mutation, terminates on the earlier of three conditions, and records at entry and at termination in the append-

only lineage field (104). The permitted deviation record (710) it prevents is the same record that would otherwise carry a deviation trigger signature, a context hash, an integrity displacement vector, an identification of the policy constraint overridden, and a restoration status.

Sideways, the mechanism stays clear of the architecture's adverse pathways. A withdrawal on this route writes no authorization gate against the disclosing counterparty, increments no counter of that counterparty, and produces no determination about it, which is the conversion bar (502) operating on the disclosure: it is available to one denominator and to nothing that could be read back as a judgment of the party who disclosed.

Fair Distinctions From Adjacent Prior Art

Several established categories of system consume a signal that a peer is degraded. Each differs from this mechanism structurally rather than by degree.

Health checking and circuit breaking consume a degradation signal to change routing: the caller stops sending traffic to the unhealthy peer, or trips open and fails fast. That is the consumption the filing forecloses. Under the conversion bar (502), the impairment disclosure enters no routing, dispatch-selection, or pricing decision. What changes in the filed mechanism is the receiver's own permission to deviate from its own policy toward that counterparty.

Reputation and trust scoring consumes peer state into a standing scalar that then conditions admission or preference. No such quantity is written here. The disclosure produces no determination of any class (122, 124, 126, 128) about the counterparty, narrows no admissible surface of the counterparty, and appends nothing adverse to the counterparty identity record (114) held for it.

Rate limiting and backpressure protect a degraded peer by reducing load applied to it. Direction differs: the narrowing described in the filing is a narrowing of the receiver's own deviation headroom, confined to actions whose affected-party class maps to that counterparty. Volume toward the counterparty is not the governed quantity.

Status and incident reporting publishes a degraded state broadly and leaves consumption unconstrained. The disclosure in this filing is signed, continuity-verified, metered against the discloser's own authorization budget (404) once per receiving origin-equivalence class (200) within a metering window, and admissible to exactly one computation of the receiver.

None of these observations asserts that any product or party practices the subject matter of the filing. The categories are described to mark the structural boundary of what is disclosed.

Disclosure Scope

The mechanism described in this article, the impairment terminal state and its two release conditions, is disclosed in U.S. Provisional Application No. 64/117,812, at Section 10.6, paragraph [0431], within the section titled "Co-residency, delegate floor, and coercion filtering." The immediately preceding paragraphs, [0429] and [0430], disclose the use-restricted impairment disclosure and the single-computation routing restriction on which the terminal state depends, and Sections 7.5 through 7.8 supply the empathy weighting (704), the deviation likelihood (706), the deviation-preparation state (708), and the permitted deviation record (710). This article is published as a technical disclosure. It states no quantity, threshold, or release condition beyond those the filed application declares, and where the application declares a bound without a value, none is supplied here.

Integrity Quantities and Permitted Deviation (/permitted-deviation)

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

Bounded, accountable deviation from declared values — measured, not forbidden.

Provisional application

PRIMARY TECHNICAL DISCLOSURE

- [Permitted Deviation: Bounded, Recorded Departure From an Agent's Declared Values \(/articles/permitted-deviation/bounded-departure-from-declared-values\)](#).

SECONDARY TECHNICAL

- [A Typed, Dimensionless Conduct Divergence Measure \(/articles/permitted-deviation/typed-dimensionless-divergence-measure\)](#).
- [The Policy-Difference Set and Policy-Explained Divergence \(/articles/permitted-deviation/policy-explained-divergence\)](#).
- [Residual Divergence and Its Confined Consumption \(/articles/permitted-deviation/residual-divergence-confined-consumption\)](#).
- [Propagation Halt on Undischarged Reparation Arcs \(/articles/permitted-deviation/propagation-halt-undischarged-arcs\)](#).
- [Attack-Conditional Propagation Suspension \(/articles/permitted-deviation/attack-conditional-propagation-suspension\)](#).
- [Entropy Signature Trajectory as Machine Input to Deviation Forecasting and Underwriting Disclosure \(/articles/permitted-deviation/entropy-trajectory-available-forecasting-underwriting-disclosure\)](#).
- [Single-Computation Routing Restriction: Confining a Verified Impairment Disclosure to the Empathy Weighting of the Receiver's Permitted-Deviation Quotient \(/articles/permitted-deviation/single-computation-routing-restriction-one-way\)](#).
- [Impairment Terminal State and Release: Withdrawing an Agent From Deviation Preparation Toward a Disclosed-Impaired Counterparty \(/articles/permitted-deviation/impairment-terminal-state-release\)](#).

APPLICATIONS · GENERAL

- [Regulated Industries: Recording a Bounded Departure From Declared Policy \(/articles/permitted-deviation/regulated-industry-deviation\)](#).

- [Robotics Safety Envelopes: Deviation as a Measured Quantity \(/articles/permitted-deviation/robotics-safety-envelopes\)](/articles/permitted-deviation/robotics-safety-envelopes).

APPLICATIONS · SPECIFIC

- [ISO/IEC 42001 AI Management Systems: Declared Policy, Recorded Departure \(/articles/permitted-deviation/iso-iec-42001-ai-management\)](/articles/permitted-deviation/iso-iec-42001-ai-management)

TERMINOLOGY

- [aggregate retention \(/glossary#aggregate-retention\)](/glossary#aggregate-retention).
- [deviation deductible \(/glossary#deviation-deductible\)](/glossary#deviation-deductible).
- [deviation likelihood \(/glossary#deviation-likelihood\)](/glossary#deviation-likelihood)
- [entropy-weighted harm coefficient \(/glossary#entropy-weighted-harm-coefficient\)](/glossary#entropy-weighted-harm-coefficient)
- [need quantity \(/glossary#need-quantity\)](/glossary#need-quantity)
- [permitted deviation \(/glossary#permitted-deviation\)](/glossary#permitted-deviation)
- [self-esteem aggregate \(/glossary#self-esteem-aggregate\)](/glossary#self-esteem-aggregate).

[Integrity Quantities and Permitted Deviation overview → \(/permitted-deviation\)](/permitted-deviation)