

The Delegator Floor: A Monotone Upward Ratchet on Delegated Authority

The delegator floor field is a governance structure disclosed in U.S. Provisional Application No. 64/117,812. A delegation record to an independent delegate agent carries, per delegated action class, the delegating agent's own anti-rollback floor value, the canonical alias that value governs, and an attestation over both. On admission the delegate verifies the attestation, computes an effective floor as the maximum of the carried value and its own floor, writes that value as its own anti-rollback floor, and appends a floor-elevation record retaining the prior and new values. The elevation is monotone, is scoped to the named alias and action class, and does not decay on completion, expiry, revocation, or severance of the relation.

1. The Gap

Policy resolution in U.S. Provisional Application No. 64/117,812 runs four ordered steps. A persistent semantic agent (100) resolves its policy reference field (110) by canonical alias to a candidate set, retains a candidate whose validity window encloses the resolution time, discards a candidate recorded as revoked as of that time, and applies an anti-rollback monotonicity constraint held in the memory field (102). That constraint is a monotonically non-decreasing floor over the successor indices admitted under the alias, below which a candidate is discarded, so a policy object superseded before that time is not reinstated.

The floor belongs to one agent and lives in that agent's own memory field (102). Delegation puts two of them in contact. In the embodiments of Section 10.6, the delegate agent is independent: it carries its own signed policy object (112) and its own floor, and it inherits nothing by descent. The delegating agent's floor is not the delegate's.

Section 10.6 adds a field carrying one agent's floor value across that boundary as an input to the other's, and states two limits on the carry. The delegating agent holds no field and no emission that lowers the resulting floor; only the delegate reduces it, and only by rescinding an elevation whose attestation later proves unverifiable. The carried value is also tested against a floor attainability bound before any effective floor is computed, which the filing recites as preventing unbounded exclusion of the delegate by a forged or unattainable floor. Paragraph [0418] states the carry and the ratchet; [0419] and [0420] state the limits.

2. Mechanism

The carried field. A delegation record to an independent delegate agent additionally carries a delegator floor field. Per delegated action class, it enumerates the delegating agent's own anti-rollback floor value, the canonical alias under which that agent resolves the signed policy object (112) governing the class, and an attestation over the value and the alias. Three items: a number, a name, and a signature over the pair.

Verification comes first. Before any effective floor is computed, the delegate performs a floor attestation verification of three ordered conjuncts: that the carried attestation verifies against the delegating agent's authority credential and continuity history held in the delegate's own counterparty identity record (114), the credential being unrevoked at the attestation's recorded time; that the carried value does not exceed the highest successor index the delegate records as published under the named

alias, which is the floor attainability bound, so an elevated floor remains satisfiable by admitting an already-published policy; and that the alias named is the one governing the delegated class.

On any failed conjunct the field is given no effect. The delegate's floor is unchanged, an attested-floor rejection record is appended and returned, and no class is foreclosed.

Upon admission, and upon a satisfied verification, the delegate computes an effective floor for the delegated class as the maximum of the carried value and its own floor for that alias, writes that value as its own anti-rollback floor, and appends a floor-elevation record retaining the prior and the new value. The maximum is the whole of the arithmetic. A delegate already at or above the carried value is elevated not at all.

What survives the delegation. The elevation is monotone and is scoped to the named alias and action class. It does not decay on completion of the delegated action, on expiry, on revocation, or on severance of the relation. The delegate thereafter resolves policy for its own account, and for every future delegation, under the retained floor. The delegating agent holds no field and no emission that lowers it.

The one route down. A single route reduces a retained effective floor, and it belongs to the delegate. Where the delegate, on a later performance of the floor attestation verification against its own records, determines that the attestation upon which an elevation was applied is not verifiable, it appends a floor rescission record naming the rescinded floor-elevation record, the conjunct that failed, and its own prior value recorded there, then writes that prior value as its anti-rollback floor for the named alias and class, provided the value written is not below a value its floor holds for that alias otherwise than by the rescinded elevation. Where its authorization gate (300) stood in the withheld state (310) for that class upon the rescinded elevation alone, the gate write is released and the release appended.

An elevated floor can also outrun the policy the delegate actually holds. The delegate evaluates a floor-satisfaction predicate, satisfied where its in-force signed policy object (112) for the named alias carries a successor index not below the effective floor and meets its validity window and revocation state. Where it is not satisfied for a delegated class, the delegate writes its own authorization gate (300) to the withheld state (310) confined to that class alone, appends the delegation as an attempted-delegation entry given no effect, performs no action of the class, binds the delegating agent to nothing, and emits a governed observation carrying the entry, the effective floor, and its own in-force index. The retained floor survives, and the withheld state persists until the delegate admits a successor policy at or above it satisfying freshness, whereupon the gate write is released and the release appended.

Chains, and where they stop. A delegate that is itself a delegating agent carries its retained effective floor into the delegator floor field of the record it appends, so the elevation propagates along a delegation chain and each downstream delegate computes an effective floor not below every upstream floor. Two bounds apply. Each record carries a chain-depth value one greater than the record it admitted, and a record whose depth exceeds a policy-declared maximum is appended as an attempted-delegation entry with no floor computed. Each record also enumerates the identity of every agent already in the chain; a delegate finding its own identity there appends a chain-cycle record, appends the delegation as attempted, and computes no effective floor, so a cycle elevates no floor of either agent.

Elevation without delegation. A delegator floor field is also presented outside any delegation record, as a standalone floor presentation borne by a governed observation of the presenting agent and enumerating the canonical alias, the action class, the floor value, and an attestation over them. On a satisfied floor attestation verification the receiving agent computes and retains an effective floor by the same maximum and appends a floor-elevation record naming the presentation. Floor elevation is thereby separable from delegation: the presentation creates no delegated action class, no forward capability mask, and no return inheritance mask.

3. Operating Parameters

The filing fixes no numeric value for any of the quantities below. Each is resolved from the agent's own records or declared in the signed policy object (112).

- Effective floor: the maximum of the carried value and the delegate's own floor for the named alias.
- Attainability bound: the highest successor index the delegate records as published under that alias; a carried value above it fails verification.
- Credential state: unrevoked at the attestation's recorded time.
- Scope: per canonical alias and per delegated action class.
- Floor-satisfaction predicate: successor index not below the effective floor, validity window, revocation state.
- Rescission: the prior value recorded in the rescinded elevation record, never below what the floor holds for that alias otherwise.
- Chain bounds: a policy-declared maximum chain-depth value, and the chain identity enumeration that detects a cycle.

4. Composition

Section 10.6 groups this mechanism with co-residency under dual anti-rollback floors. There, two persistent semantic agents (100) reside concurrently at one stateless execution node that holds no governance authority, retains no state of either, and appends nothing to either append-only lineage field (104). Each reads the other's carried policy reference, resolves the named signed policy object (112) under its own anti-rollback floor pinned to its own recorded assertion time, and confines its execution of a common action class to the intersection of the two value-scope tuple sets. Two floors pinned to two recorded times may admit different successor indices, so the agents lawfully compute different intersections from identical presented material. The floor a delegator floor field elevates is that same floor, held in the memory field (102).

Where the computed intersection is empty, the agent executes nothing of the class, produces no determination of the closed set (122, 124, 126, 128), and appends a mutual abstention record, the outcome being a positive abstention under the conversion bar (502).

The mechanism also sits against the delegation-return structures of Section 10.3, which make the return path non-configurable. A return inheritance mask that excludes or attenuates the declared harm-recording field class is recorded as attempted and given no effect; a residue term computed from the delegator's own recorded configuration, and not from delegate conduct or any asserting party (118) attribute, increases the magnitude by which the delegator's scoped integrity vector (106) is modified; and a forward capability mask cannot exclude the fields whose presence conditions abstention. Paragraph [0422] adds the term running alongside the floor: a value the delegator declares and the delegate's in-force policy does not is an unreconciled value, and for a conduct evaluation artifact (116) received during the delegated action whose descriptor implicates such a value, the delegate produces the not-applicable determination (128) and appends an unreconciled-value record, carried in the return record, that modifies the delegating agent's own scoped integrity vector (106) irrespective of any return inheritance mask.

Enforcement reuses machinery already recited. The anti-rollback constraint is the fourth step of policy resolution and is evidenced by the policy stamp of the three-stamp dispatch-authority conjunction, which the agent recomputes at each dispatch request from state then carried in the memory field (102), not from a previously issued token, a cached result, or a session grant. An elevated floor written into the memory field (102) therefore takes effect at the next dispatch request without revocation infrastructure.

5. Prior-Art Distinction

Capability attenuation schemes, macaroons being the familiar example, operate along the forward path: a holder appends caveats narrowing what may be done with a delegated capability, and no holder can widen it. Attenuation acts on the delegated capability and is coextensive with it. The delegator floor field enumerates a floor value, an alias, and an attestation, and its recited effect is a write to the delegate's own anti-rollback floor, which survives completion, expiry, revocation, and severance and governs the delegate's resolution for its own account. A carried value below the delegate's own changes nothing.

External revocation and credential control planes terminate an agent's authority by an act of the controlling authority. The relation recited here runs the other way at both ends: the delegating party holds no field that lowers the delegate's floor, and where the elevated floor cannot be satisfied it is the delegate that writes its own authorization gate (300) to the withheld state (310) on its own append-only lineage field (104).

Policy decision points, including systems implementing the XACML standard, evaluate a request against policy and return a decision to the requester, leaving no persistent state behind in the deciding entity. Admitting a delegator floor field instead produces a durable write to the delegate's own memory field (102) that outlives the request.

Remote attestation architectures locate appraisal in a verifier and the grant of authority in a relying party; here the party performing the verification is the party whose own floor moves, and the result of a satisfied verification is a grant to no one.

Monotonic counters and rollback-protection primitives are a genuine neighboring category, protecting one device against reversion of its own state. They supply no attested field by which one party's floor becomes an input to another's, no attainability condition tying a transferred value to what the receiver records as published, and no rule making an elevation outlast the transaction that carried it. These are structural comparisons, not statements about any product or party.

6. Disclosure Scope

The delegator floor field and the monotone upward ratchet are disclosed in U.S. Provisional Application No. 64/117,812, Section 10.6, at paragraph [0418], with the rescission route at [0419], the floor attestation verification and attainability bound at [0420], the unsatisfiable-floor self-withheld gate at [0421], the unreconciled-value return at [0422], bounded chained propagation at [0423], and the standalone floor presentation at [0432].

What is disclosed is the structure: a delegation record carrying a per-class floor value, canonical alias, and attestation; an ordered verification including an attainability bound; an effective floor computed as a maximum and written as the receiving agent's own anti-rollback floor; a floor-elevation record retaining prior and new values; persistence past completion, expiry, revocation, and severance; the absence of any delegator-held lowering path; and one rescission route belonging to the receiving agent.

What is disclaimed is anything beyond that structure. No numeric floor value, index scheme, signature algorithm, credential format, transport, or record encoding is claimed, and the recitation of embodiments neither limits the mechanism to them nor concedes anything as to subject matter disclosed elsewhere in the same application or in the commonly owned applications it names.

Record-Grounded Conduct Admission (/conduct-admission)

All 49 steps → (/inventive-steps)

Conduct judged against the agent's own record, not an outside authority.

Provisional application

PRIMARY TECHNICAL DISCLOSURE

- [Record-Grounded Conduct Admission: Governing How an Agent Answers an Accusation \(/articles/conduct-admission/record-grounded-conduct-admission\)](/articles/conduct-admission/record-grounded-conduct-admission)

SECONDARY TECHNICAL

- [Value-Scope Resolution: Testing Whether a Declared Value Is Even Implicated \(/articles/conduct-admission/value-scope-resolution\)](/articles/conduct-admission/value-scope-resolution)
- [The Retroactive Narrowing Bar: Why an Agent Cannot Edit Its Values After the Fact \(/articles/conduct-admission/retroactive-narrowing-bar\)](/articles/conduct-admission/retroactive-narrowing-bar)
- [**The Delegator Floor: A Monotone Upward Ratchet on Delegated Authority \(/articles/conduct-admission/delegator-floor-ratchet\)**](/articles/conduct-admission/delegator-floor-ratchet)
- [The Co-Signed Mutual Admission Compact: Two Agents Binding Each Other \(/articles/conduct-admission/co-signed-mutual-admission-compact\)](/articles/conduct-admission/co-signed-mutual-admission-compact)
- [The Inherited Governance Record: Fork- and Clone-Resistant Accountability \(/articles/conduct-admission/inherited-governance-record\)](/articles/conduct-admission/inherited-governance-record)

TERMINOLOGY

- [append-only lineage field \(/glossary#append-only-lineage-field\)](/glossary#append-only-lineage-field)
- [authorization gate \(/glossary#authorization-gate\)](/glossary#authorization-gate)
- [conduct evaluation artifact \(/glossary#conduct-evaluation-artifact\)](/glossary#conduct-evaluation-artifact)
- [principal \(/glossary#principal\)](/glossary#principal)
- [semantic agent \(/glossary#semantic-agent\)](/glossary#semantic-agent)
- [signed policy object \(/glossary#signed-policy-object\)](/glossary#signed-policy-object)

[Record-Grounded Conduct Admission overview → \(/conduct-admission\)](/conduct-admission)