

Multi-Descriptor Aggregation and Determination-Class Ordering

One conduct evaluation artifact can carry a plurality of conduct descriptors, and the determinations produced for them need not be of one determination class. Multi-descriptor aggregation and determination-class ordering, disclosed in U.S. Provisional Application No. 64/117,812, fixes what such an artifact does to the metering. The admission evaluator produces one determination per conduct descriptor. Where the determinations produced are not of one class, the conduct evaluation artifact contributes at most one increment to the refusal counter, the contributed class being the highest-ranked determination class present among the determinations produced, under a determination-class ordering enumerated in the signed policy object in force at the recorded assertion time. The per-class increment register is consulted once for the artifact and the run accumulator advanced or reset once, and each determination produced is appended to the append-only lineage field irrespective of which determination contributed the increment.

1. The Gap

Metering in this architecture is charged per source of assertion rather than per assertion. The refusal counter (304) of a persistent semantic agent (100) is incremented per origin-equivalence class (200) rather than per conduct evaluation artifact (116), so the contribution of a single origin to the withholding of an action is bounded irrespective of the number of identities that origin presents, and no registry, directory, or shared scoring service is consulted.

That bound is applied by an ordered increment procedure whose third step computes the origin-equivalence class (200) of the asserting party (118) and consults the per-class increment register (312), terminating without incrementing the rate accumulator where that class has already contributed within the current window.

A conduct evaluation artifact (116) need not carry only one conduct descriptor. Each descriptor comprises an action-class identifier, a scope-partition identifier, and an affected-party class, and identifies conduct by reference to structural elements recorded in the append-only lineage field (104) rather than by natural-language characterization. Under the further foundational embodiment of Section 10.11, a plurality of such descriptors is carried by one artifact and the admission evaluator (120) produces one determination per conduct descriptor.

Whether those determinations agree is not fixed by the artifact, because each class carries its own recited condition. A descriptor implicating no declared value yields the not-applicable determination (128). One that implicates a value drives retrieval of entries bearing on the conduct identified, reaching the rejected determination (124) only on affirmative contradiction by a recorded field of a retrieved entry, and the not-determinable determination (126) where no bearing entry is retrieved or a retrieved entry does not resolve the descriptor or is incomplete. Paragraph [0481] states the rule for an artifact whose descriptors resolve into more than one of those classes.

2. Mechanism

One determination per conduct descriptor. For an admitted artifact, the admission evaluator (120) produces determinations drawn from the closed set of the accepted determination (122), the rejected determination (124), the not-determinable determination (126), and the not-applicable determination (128), and produces no scalar confidence, no probability, and no graded weight in place of a determination. Each is produced by the semantic agent (100) over its own record and against the declared value set of the signed policy object (112) in force at the recorded assertion time, and not by an external authority, an arbitrator, a registry, or a scoring service.

Where the classes differ. The Section 10.11 rule engages where the determinations produced are not of one class. That artifact then contributes at most one increment to the refusal counter (304), the contributed class being the highest-ranked determination class present, under a determination-class ordering enumerated in the signed policy object (112) in force at the recorded assertion time. Selection runs over classes, not over values, consistent with the bar on any scalar, probabilistic, or graded output in place of a determination.

Where the ordering comes from. The signed policy object (112) is authored by a principal to which the semantic agent (100) is bound and covered by that principal's signature; the agent does not author it and modifies it only by admitting a successor. Which object applies is settled by an ordered procedure keyed to the recorded assertion time: the policy reference field (110) resolves by canonical alias to a set of candidates, a candidate whose validity window encloses that time is retained, a candidate revoked as of that time is discarded, and an anti-rollback monotonicity constraint holding a non-decreasing floor over successor indices discards a candidate below that floor. The filed disclosure fixes that an ordering is enumerated and where; it enumerates no rank order over the closed set.

Once, not per descriptor. For the artifact, the per-class increment register is consulted once and the run accumulator advanced or reset once. Consequence by class is what the increment procedure already recites at its second step. An accepted determination (122) resets the run accumulator to zero for the action class identified by the descriptor and applies no increment; a not-applicable determination (128) applies no increment and does not reset it; a rejected determination (124) applies an increment; and a not-determinable determination (126) applies an increment only where the append-only lineage field (104) records at least one prior not-determinable determination (126) for the same asserted conduct event. Identity of that event is fixed by an identifier the semantic agent (100) computes over the three components of the descriptor together with an occurrence reference, neither declared by the asserting party (118) nor derived from any further content of the artifact. At the third step the origin-equivalence class (200) is computed and the register consulted; where that class has not contributed within the window, the rate accumulator, the register, and the run accumulator are each advanced.

Nothing drops out of the record. Each determination produced is appended to the append-only lineage field (104) irrespective of which one contributed the increment, whereby the aggregation of contributions does not suppress a determination. An appended entry carries the artifact, the entries retrieved, and the class produced, together with the ground of the determination: for the rejected determination (124), the retrieved entry that contradicted the artifact and the field on which the contradiction was found; for the not-applicable determination (128), the value-scope tuples tested and the failing element of each; and for the not-determinable determination (126), whether no bearing entry was retrieved, a bearing entry did not resolve the descriptor, or a bearing entry was incomplete.

No merits are consulted. Negative limitations attaching to the increment procedure attach here unchanged. It does not consult the merits of the rejected determination (124), does not compare the retrieved entries against a record held by a party other than the semantic agent (100), does not solicit, receive, or await an adjudication by any

party, and does not weight the increment by any measure of the strength of the contradiction found. No field of the refusal counter (304) holds a merits outcome, and no threshold retrieved from the signed policy object (112) is expressed in terms of one.

3. Operating Parameters

The filed disclosure declares the following.

- **The determination-class ordering** is enumerated in the signed policy object (112) in force at the recorded assertion time. Its existence and its source are recited; a rank order over the closed set is not.
- **The contribution bound** is at most one increment to the refusal counter (304) for an artifact whose determinations are not of one class.
- **The state operations for the artifact** number one apiece: one consultation of the per-class increment register and one advance or reset of the run accumulator.
- **The rate threshold** is an integer greater than one, and **the run threshold** an integer greater than one and not greater than the rate threshold.
- **The window** over which the rate counter (306) accumulates is expressed as an interval of wall-clock time, as a count of conduct evaluation artifacts (116) received, or as a count of successor epochs of a dynamic agent hash chain, the last not advanced by any other party or by manipulation of a clock available to the execution node.
- **The rate compared against the rate threshold** is the sum of the integer count in the rate accumulator and the value in the weighted contribution register rounded down to the nearest integer.
- **By way of non-limiting illustration**, the filed disclosure gives a policy object declaring a rate threshold of five and a run threshold of three over a window of one hundred successor epochs.

4. Composition

Section 10.11 operates inside the path the disclosure names the inverse coupling: from the admission evaluator (120) through the refusal counter (304) to the authorization gate (300), by which determinations produced by the semantic agent (100) act upon the authorization of that same agent.

Aggregation appears twice in the filed architecture, and the guarantee attached to each is stated in the same terms. Under origin-equivalence normalization, an artifact from an asserting party (118) assigned to a class already recorded in the register produces a determination and is appended, and applies no increment, only the contribution to the refusal counter (304) being aggregated; normalization suppresses no determination and withholds no adjudication, governing the metering alone. Section 10.11 states the corresponding rule for descriptors within one artifact, closing with the same whereby clause.

Downstream of either, a write of the authorization gate (300) withholds the faculty of execution alone. The faculty of refusal is not withheld, not reduced, and not conditioned by the write, and the semantic agent (100) continues in the withheld state (310) to receive artifacts, retrieve entries, produce determinations of the closed set, and append them. A determination produced while the gate stands in that state decrements neither accumulator and does not write the gate to the granting state.

On the issuing side, assertion-cost symmetry prices the emission of an artifact against the authorization budget (404) of the issuing semantic agent (100), the issuance decrement remaining one and the same for any resolution, with a further decrement at a multiple specified in the issuer's own signed policy object (112) where the receiving agent subsequently produces the rejected determination (124).

5. Prior-Art Distinction

Policy decision engines returning a four-valued decision. Systems implementing the XACML standard return a decision drawn from permit, deny, not-applicable, and indeterminate, engines of that family evaluating the applicable rules and returning one decision to the requester. That result is directed at the request: not-applicable and indeterminate are target-match outcomes of a single access decision, are returned to the requesting party, produce no persistent state in the deciding entity, impose no cost on any party, and constrain no subsequent operation of the decider. What collapses under Section 10.11 is the metering contribution alone; every constituent determination persists in the deciding agent's own append-only lineage field (104) with its ground, and the contribution acts on that agent's own authorization to execute.

Accountability regimes for unfounded assertions. Article 23(2) of Regulation (EU) 2022/2065 directs suspension of the processing of notices from a notifier that frequently submits manifestly unfounded notices, the manifest unfoundedness being adjudicated by the platform. Section 623(a)(8)(F) of the Fair Credit Reporting Act permits a furnisher to decline to investigate a dispute reasonably determined to be frivolous or irrelevant. Model unfair-claims-practices provisions of the National Association of Insurance Commissioners condition consequences for assertive conduct on an institutional finding of unfair practice, and bonded challenge procedures forfeit a challenger's stake upon a determination that the challenge failed. In each, consequence attaches only after a merits determination performed by an institution other than the penalized party, and the faculty suspended is the faculty exercised.

Score-based reduction of multiple labels. Where several labels attach to one item and reduce to a single enforcement outcome, the reduction is commonly a numeric operation over classifier confidences. This architecture performs no inference of the state, intent, or affect of the asserting party (118) from content of the artifact, and

performs no classification of that content by a language model or by a sentiment classifier; the artifact is consumed by reference to its enumerated fields alone, and no scalar confidence, probability, or graded weight is produced.

Volume controls that collapse or throttle. Mechanisms folding many events into one record for notification, and request meters bounding a requesting party's throughput as enforced by the serving system, act outward on a party other than the one operating the mechanism. The refusal counter (304) is resident in the memory field (102) of the metered party and written by that party's own determinations, and does not silence, rate limit, or disable the refusing party.

These categories are described as generally understood and for structural distinction alone. Nothing here characterizes the conduct of any named party or product.

6. Disclosure Scope

Multi-descriptor aggregation and determination-class ordering is disclosed in U.S. Provisional Application No. 64/117,812, at Section 10.11 (Further foundational embodiments), paragraph [0481], together with the supporting disclosure of Sections 1.6 through 1.9 (the conduct evaluation artifact, admissibility, the closed set of determination classes, and recording of the determination), Section 2.4 (aggregation of refusal contributions), and Sections 3.1 through 3.7 (the refusal counter and its increment procedure, merit independence, the gate write and cross-faculty split, and the self-clearing bar).

What is disclosed is the structure: one determination per conduct descriptor; the at-most-one-increment bound upon an artifact whose determinations are not of one class; selection of the contributed class as the highest-ranked class present, under an ordering enumerated in the signed policy object (112) in force at the recorded assertion time; one consultation of the per-class increment register and one advance or reset of the run accumulator for the artifact; and the append of each determination produced.

What is disclaimed is any particular rank order over the closed set, the filed disclosure enumerating none; any adjudication of whether a determination was well founded, at any step; any scalar, probabilistic, or graded output in place of a determination; and any reading in which collapsing the metering contribution licenses suppression of a determination from the record. This publication is a technical disclosure. It grants no license and confers no permission under any patent, application, or other right of the applicant.

Merit-Independent Metering (</merit-independent-metering>) [All 49 steps → \(/inventive-steps\)](#)

A refusal costs the refuser — in a different faculty, without judging who was right.

Provisional application

PRIMARY TECHNICAL DISCLOSURE

- [Merit-Independent Metering: Pricing an Agent's Refusals Without Adjudicating Merit \(/articles/merit-independent-metering/pricing-refusal-without-adjudicating-merit\)](/articles/merit-independent-metering/pricing-refusal-without-adjudicating-merit).

SECONDARY TECHNICAL

- [The Prospective Narrowing Bar and Deflection Scoring \(/articles/merit-independent-metering/prospective-narrowing-bar-deflection-scoring\)](/articles/merit-independent-metering/prospective-narrowing-bar-deflection-scoring).
- [The Continuous-Function Cost Multiplier \(/articles/merit-independent-metering/continuous-function-cost-multiplier\)](/articles/merit-independent-metering/continuous-function-cost-multiplier).
- [The Renunciation Record: Relinquishing an Adopted Value on the Record \(/articles/merit-independent-metering/renunciation-record\)](/articles/merit-independent-metering/renunciation-record).
- [Lapse Scoring During Pendency \(/articles/merit-independent-metering/lapse-scoring-during-pendency\)](/articles/merit-independent-metering/lapse-scoring-during-pendency).
- [Multi-Descriptor Aggregation and Determination-Class Ordering \(/articles/merit-independent-metering/multi-descriptor-aggregation-ordering\)](/articles/merit-independent-metering/multi-descriptor-aggregation-ordering).

TERMINOLOGY

- [merit-independent metering \(/glossary#merit-independent-metering\)](/glossary#merit-independent-metering).
- [non-executing cognitive mode \(/glossary#non-executing-cognitive-mode\)](/glossary#non-executing-cognitive-mode).
- [refusal counter \(/glossary#refusal-counter\)](/glossary#refusal-counter)

[Merit-Independent Metering overview → \(/merit-independent-metering\)](/merit-independent-metering).