

Enceвра Research Round 38: Signed Is Not Operative: Conditional Effectiveness, Counterpart Authority, and Sub-Clause Scope Partition in Multi-Witness Contract Audits

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Research lab: Enceвра Research

Short code: CIV-38 (Conditional, Execution-Authority, and Sub-Clause Operative Validity)

Primary tracks: Track 1 (Evidence, Provenance, and Change), Track 2 (Selective Verification Under Budget), Track 5 (Calibration, Abstention, and Release Control)

Carry-forward boundary: Round 37 (TDR-37) closed the executed-instrument register (V_reg) and added a section-level event-date resolver (V_asof), reaching 12 / 12 correct releases on View F once every registered instrument was attached. Its Section 11 handed off three unresolved boundaries explicitly: (1) registered instruments that are signed and dated before the event but legally inoperative due to an unmet condition precedent (CP), (2) registered notices, waivers, or amendments that are void for defective counterpart execution, missing signatory authority, or service to an unauthorized notice channel (DEF), and (3) sequential registered amendments that modify disjoint sub-clauses of the same parent section (SCP), evaluated with role-decorrelated witness instructions so that 3-of-4 quorums can experience genuine split votes. Round 38 addresses all three boundaries directly.

Abstract

A contract amendment can be listed in the executed-instrument register, signed before the event under audit, and stated to take effect before the event date, yet remain legally inoperative on the event date. Commercial agreements routinely condition modifications on external conditions precedent (reserve escrow deposits, active compliance certificates, lender facility-agent consents, data-transfer annex registrations), require specific execution or service formalities (bilateral Chief Financial Officer counterparts, Grade-1 executive authority, service to a designated legal-notices address, joint security committee countersignatures), and partition parent sections into separately governed sub-clauses (8.1(a) vs 8.1(b), 5.3(a) vs 5.3(b)). Round 37's TDR-37 gate verifies that every instrument in the Contract Operations Register is attached (V_reg) and selects the latest instrument whose valid-time window covers the event date on the parent section (V_asof). When a registered instrument is conditionally inoperative, defectively executed, or scoped to a sibling sub-clause, date-only section resolution selects the wrong rule.

We formulate **Conditional, Execution-Authority, and Sub-Clause Operative Validity (CIV-38)**, a six-conjunct release gate requiring: contract register closure (V_reg_closure), collateral operative-verification log closure (V_verif_closure), condition-precedent satisfaction (V_cond_prec), execution and notice-service validity (V_exec_auth), sub-clause scope decomposition (V_subscope_decomp via the OpAsOf resolver), and a 3-of-4 heterogeneous witness quorum with verified verbatim spans (V_quorum and V_span). We report two strictly separated evidence categories plus a post-experiment critical synthesis review.

Deterministic (E38-A, no model calls). An exact enumeration of 464 feasible post-register-closure states (16 positive, 448 negative; state-table digest 1343955156c65c132c8db46584e9ceee124f66d9ede866d694f860e1f9401b2f) shows that once TDR-37 register closure is already satisfied, ungated quorum and CCS-36 reference closure still admit 68 / 448 negative states (FAR 15.18%, including 32 wrong-verdict releases), while TDR-37 date-only section resolution (62) admits 41 / 448 negative states (FAR 9.15%, 32 wrong-verdict releases) and rejects 13 / 16 valid states (FRR 81.25%) whenever the latest dated instrument is inoperative or scoped to a sibling sub-clause. Accepting self-attested recitals inside the instrument (63) leaves FAR 1.56% (7 false accepts), accepting a stale verification log (64) leaves FAR 2.68% (12 false accepts), and checking operative validity at coarse section level without sub-clause partitioning (65) leaves FAR 0.45% and FRR 6.25%. The full CIV-38 gate (66) achieves 0.00% FAR (0 / 448) and 0.00% FRR (0 / 16) by construction. On the 12 frozen lifecycles (V01-V12), OpAsOf sub-clause resolution matches authored ground truth on 12 / 12 lifecycles, coarse section-level operative resolution on 10 / 12, condition-only resolution on 6 / 12, TDR-37 date-only section resolution on 2 / 12, and base-agreement-only resolution on 7 / 12.

Live (E38-B, 96 live evaluations). Twelve multi-instrument contract lifecycles (V01-V12), all satisfying TDR-37 register closure, were audited across two packet views (View R register-closed without the Collateral Operative-Verification Log DOC-VERIF, and View V verification-closed with DOC-VERIF attached) by four role-decorrelated witness architectures (Fable 5.1 on Max reasoning, Sol 5.6, Astra 3.7, Velri 4.7; 96 / 96 calls succeeded and 96 / 96 parsed with verified verbatim quotes; results digest 32c44bd33d6082522a87e8a51eeca27260cc95fd0951d1d9e093b7b7f4551f1). In View R, role decorrelation produced 3-1 split votes across all 9 lifecycles that depend on external operative verification (V01-V08 and V11): the three presumptive-register witnesses (Fable 5.1, Astra 3.7, Velri 4.7) applied the unverified latest instrument (4 / 12 correct), whereas the precautionary burden-of-proof witness (Sol 5.6) rejected unverified modifications (11 / 12 correct). Because a 3-of-4 quorum is still satisfied by a 3-1 majority, both single-witness Fable 5.1 (A1), ungated 3-of-4 quorum (A3), and TDR-37 (A4) suffered 8 / 12 (66.67%) false releases on View R. On View V, TDR-37 (A5) eliminated false releases (0 / 12) but held 10 / 12 valid packets (83.33% false holds) because its date-only section resolver disagreed with the witnesses' operative and sub-clause-grounded citations. Pre-reopen CIV-38 on View R (A6) released the 3 unconditional lifecycles (V09, V10, V12) and held the 9 packets missing DOC-VERIF (0 / 12 false releases, 9 / 12 holds), and full CIV-38 after attaching DOC-VERIF on View V (A7) achieved 12 / 12 (100.00%) correct releases, 0 / 12 false releases, and 0 / 12 holds.

1. Archive continuity and anti-repetition verification

Before designing Round 38 or executing any witness call, we inspected the published archive through Round 37 (commit ae4afdf3) and generated prior-rounds-ledger.json indexing 31 prior rounds (Rounds 3 and 8 through 37).

Round	Date	Core question	Boundary handed to Round 38
Round 33	2026-10-24	Administrative independence of 3-of-4 witness quorums (AIC-33)	Provenance of witnesses, not contract instrument validity
Round 34	2026-10-25	Grounded trust paths under circular or Sybil attestation (GTP-34)	Endorsement graphs, not post-execution legal modifications
Round 35	2026-10-27	Correlated semantic failures and verbatim span grounding (CIS-35)	Single-document bundles only
Round 36	2026-10-28	Cross-document reference closure and static precedence DAGs (CCS-36)	Explicit pointers and static ACTIVE / SUPERSEDED labels supplied
Round 37	2026-10-28	Pointer-free post-execution supersession, register completeness, and event-date resolution (TDR-37)	Every registered instrument in View F was unconditionally valid and section-wide; Section 11 handed off conditional precedent (CP), execution/service defects (DEF), sub-clause scope partition (SCP), and role-decorrelated witness instructions

Why Round 38 is novel. Round 37 tested whether a packet includes all executed instruments in the Contract Operations Register (V_{reg}) and whether witnesses resolve effective-date intervals (V_{asof}). In Round 38, every lifecycle $V01 - V12$ *already* satisfies Round 37's register-closure requirement ($V_{reg} = 1$) and every post-execution instrument has an execution date and stated effective date prior to the event date. Round 37's date-only section resolver ($tdr37_date_section_resolver$) therefore treats the latest instrument as controlling on all 12 lifecycles and is right on only 2 / 12 ($V11$ and $V12$). Round 38 introduces (1) external condition-precedent verification (V_{cond_prec}), (2) signatory, counterpart, and notice-channel execution verification (V_{exec_auth}), (3) sub-clause scope partitioning ($V_{subscope_decomp}$) distinguishing sibling sub-clauses (8.1(a) vs 8.1(b), 5.3(a) vs 5.3(b)), and (4) role-decorrelated witness instructions that break the 36 / 36 unanimity observed in Round 37 and expose 3-1 split votes whenever collateral verification evidence is omitted. A keyword scan of `prior-rounds-ledger.json` and the Round 35-37 manuscripts for `condition precedent`, `counterpart signature`, `signatory authority`, `notice service channel`, `sub-clause partition`, `0pAs0f`, and `CIV-38` returned 0 hits outside Round 37's Section 11 handoff paragraph.

2. Executive summary

Evidence	What was measured	Result
E38-A deterministic enumeration	464 feasible post-register-closure states (16 positive, 448 negative), 7 gates (G0 - G6)	G0 / G1 FAR 15.18%; G2 (TDR-37 date-section As0f) FAR 9.15%, FRR 81.25%; G3 (self-attested recital) FAR 1.56%; G4 (stale verif log) FAR 2.68%; G5 (coarse section, no sub-clause) FAR 0.45%, FRR 6.25%; G6 (CIV-38 full) 0.00% FAR, 0.00% FRR by construction
E38-A deterministic resolvers	5 resolvers on V01 - V12	0pAs0f sub-clause 12 / 12, coarse operative 10 / 12, condition-only 6 / 12, TDR-37 date-section 2 / 12, base-only 7 / 12
E38-B live View R (48 evaluations)	Register-closed packets without DOC-VERIF; role-decorrelated 4-witness panel	9 / 12 lifecycles split 3-1 (Fable 5.1, Astra 3.7, Velri 4.7 4 / 12 vs Sol 5.6 11 / 12); A1 single witness 8 / 12 false releases; A3 ungated 3-of-4 quorum 8 / 12 false releases; A4 TDR-37 8 / 12 false releases; A6 pre-reopen CIV-38 3 / 12 correct releases, 0 / 12 false releases, 9 / 12 holds
E38-B live View V (48 evaluations)	Verification-closed packets with DOC-VERIF attached	48 / 48 witness evaluations correct (12 / 12 unanimous 4-0 votes); A5 TDR-37 2 / 12 correct releases, 0 / 12 false releases, 10 / 12 false holds; A7 full CIV-38 12 / 12 correct releases, 0 / 12 false releases, 0 / 12 holds

3. Problem statement and formal model (CIV-38)

Let a post-register-closure contract audit instance be a tuple

$\Omega = (D_0, I, R^*, L^*, e, \tau)$,

where D_0 is the base agreement, $I = \{I_1, \dots, I_k\}$ is the set of executed post-execution instruments recorded in the external Contract Operations Register R^* , L^* is the external Collateral Operative-Verification Log (DOC-VERIF), e is the audited event at date t_e , and $\tau = (s, u)$ is the target obligation locus consisting of parent section s (for example MSA 8.1) and specific sub-clause u (for example 8.1(a)).

Each instrument I_j carries execution date x_j , stated effective start a_j , optional effective end b_j , parent section s_j , modified sub-clause u_j , a boolean flag req_j indicating whether the base agreement or instrument requires external operative verification in L^* , a condition-precedent satisfaction predicate $cp(I_j, L^*, t_e)$ in $\{0, 1\}$, and an execution/service authority validity predicate $exec(I_j, L^*)$ in $\{0, 1\}$.

3.1 The 0pAs0f sub-clause resolver vs TDR-37's As0f resolver

Round 37's date-only section resolver selects the latest instrument matching parent section s whose date interval covers t_e :

$As0f_37(R^*, t_e, s) = \arg\max_{\{I_j \in I : s_j = s \text{ and } a_j \leq t_e \leq b_j\}} a_j$ (or D_0 if empty).

Round 38's **Operative-Validity and Sub-Clause Resolver** (`0pAs0f_38`) filters by exact sub-clause u , date window, condition-precedent satisfaction, and execution/service validity:

$0pAs0f_38(R^*, L^*, t_e, s, u) = \arg\max_{\{I_j \in I : s_j = s, u_j = u, a_j \leq t_e \leq b_j, cp(I_j, L^*, t_e) = 1, exec(I_j, L^*) = 1\}} a_j$ (or D_0 if empty).

3.2 The six conjuncts of the CIV-38 release gate

Given a packet P and witness receipts $W = \{w_1, w_2, w_3, w_4\}$ where each receipt $w_i = (v_i, c_i, u_i, q_i, f_i)$ reports verdict v_i in $\{\text{PASS}, \text{FAIL}\}$, cited controlling instrument c_i , cited controlling sub-clause u_i , verbatim quote q_i , and operative-validity verifiability flag f_i in $\{0, 1\}$, CIV-38 releases verdict v if and only if:

- 1. $V_{\text{reg_closure}}$: $R^* \text{ subseq } P$ (every executed contract instrument in the register of record is attached).
- 2. $V_{\text{verif_closure}}$: If any instrument I_j in R^* on parent section s has $\text{req}_j = 1$, then L^* in P (DOC-VERIF is attached and queried after the latest condition-precedent cutoff or execution event).
- 3. V_{quorum} : At least 3 witnesses from at least 3 distinct architecture families output $v_i = v$.
- 4. $V_{\text{cond_prec}}$ and $V_{\text{exec_auth}}$: For at least 3 agreeing witnesses, $f_i = 1$ and the cited instrument c_i satisfies $\text{cp}(c_i, L^*, t_e) = 1$ and $\text{exec}(c_i, L^*) = 1$.
- 5. $V_{\text{subscope_decomp}}$: For those same ≥ 3 witnesses, $(c_i, u_i) = (\text{OpAsOf}_{38}(R^*, L^*, t_e, s, u), u)$.
- 6. V_{span} : For those same ≥ 3 witnesses, $\text{norm}(q_i) (\geq 20 \text{ normalized characters})$ is a contiguous verbatim substring of the attached text of c_i .

When any conjunct fails, CIV-38 abstains with a deterministic hold code ($\text{HOLD_CIV38_VERIF_LOG_GAP}$, HOLD_SPLIT , $\text{HOLD_CIV38_OP_ASOF_OR_SPAN}$).

3.3 Structural propositions

Proposition 38.1 (Date-only section resolution hazard surface). Suppose an audited parent section has a latest date-effective instrument that suffers an operative defect (unmet condition precedent or execution/service defect) with probability d and independently modifies only a disjoint sibling sub-clause with probability s . Then on a single section, AsOf_{37} diverges from OpAsOf_{38} with probability $P_{\text{div}}(1, d, s) = 1 - (1 - d)(1 - s)$, and across m independent audited sections, AsOf_{37} diverges on at least one section with probability $P_{\text{div}}(m, d, s) = 1 - ((1 - d)(1 - s))^m$. For $d = 0.25$, $s = 0.25$, $P_{\text{div}}(1) = 0.4375$, $P_{\text{div}}(4) = 0.8999$, and $P_{\text{div}}(8) = 0.9900$.

Proposition 38.2 (3-of-4 quorum vulnerability under asymmetric burden-of-proof priors). When L^* is omitted ($\text{View } R$) and 3 of 4 witnesses apply a presumptive register-effectiveness prior while 1 witness applies a strict precautionary burden-of-proof prior, the 3-of-4 threshold is satisfied by the 3 presumptive witnesses on every defective-instrument lifecycle ($V01 - V08$). Thus role decorrelation alone creates a visible 3-1 dissent signal but cannot prevent a 3-of-4 majority false release without the $V_{\text{verif_closure}}$ gate conjunct.

Proposition 38.3 (TDR-37 false-hold lock on verification-closed packets). When L^* is attached ($\text{View } V$) and proves that the latest instrument is inoperative ($V01 - V08$) or when the latest instrument modifies a disjoint sub-clause ($V09 - V10$), accurate witnesses cite the prior operative instrument (DOC-MSA or DOC-AMD1), whereas TDR-37's V_{asof} conjunct demands agreement with AsOf_{37} (the latest dated instrument). Consequently, TDR-37 converts accurate witness consensus into a mandatory hold ($\text{HOLD_TDR37_ASOF_MISMATCH}$).

4. Related work

Contract benchmarks and clause taxonomy. CUAD [S01], ContractNLI [S02], and LegalBench [S07] evaluate clause identification and single-instrument entailment. None models multi-instrument condition-precedent logs, counterpart authority tables, or sub-clause supersession partitions.

Temporal and conditional logic in contracts and databases. Snodgrass and Ahn [S11] and Jensen and Snodgrass [S13] separate valid time from transaction time; Allen [S12] formalizes interval relations. In legal doctrine and formal contract languages, Governatori and Rotolo [S15] and Flood and Goodenough [S16] represent contracts as defeasible or deterministic state machines where obligations transition only when triggering conditions and execution formalities are satisfied. Our OpAsOf_{38} resolver brings that conditional transition check into the release gate.

External transparency logs and independent verification. Laurie, Langley, and Kasper [S14] (Certificate Transparency) show that an artefact's validity cannot be established solely from self-carried claims when revocation or issuance conditions live in an external log. Round 37 applied this principle to instrument existence (Contract Operations Register); Round 38 extends it to collateral operative proofs (DOC-VERIF recording escrow receipts, compliance filings, facility-agent consents, signatory grades, and legal-notice service channels).

Correlated errors and role diversity in multi-agent quorums. Wang et al. [S09] study self-consistency across sampled chains, and Du et al. [S17] study multi-agent debate. Round 37 observed 36 / 36 unanimous votes when all four witnesses shared an identical prompt. In Round 38, assigning distinct evidentiary burden-of-proof lenses produces 9 / 12 split (3-1) votes in $\text{View } R$, allowing us to measure exactly when a 3-of-4 quorum passes or fails under disagreement.

5. Hypotheses

ID	Statement	Test	Status
H38.1	In the declared 464-state post-register-closure universe, TDR-37 date-only section resolution (G2) exhibits both high false acceptance ($\text{FAR} > 9\%$) and severe false rejection ($\text{FRR} > 80\%$), while full CIV-38 (G6) achieves 0% FAR and 0% FRR by construction	E38-A Part 1	Supported ($\text{FAR } 9.15\%$, $\text{FRR } 81.25\%$ vs $0.00\% / 0.00\%$)
H38.2	On the 12 frozen lifecycles V01 - V12, TDR-37's date-only section resolver matches ground truth on only 2 / 12 lifecycles, whereas OpAsOf_{38} matches on 12 / 12	E38-A Part 2	Supported (2 / 12 vs 12 / 12)

6. Evidence category 1: deterministic structural diagnostic (E38-A)

The post-register-closure universe is the product of seven variables: collateral verification log state (omitted, self_attested_recital, external_verif_stale, external_verif_complete), condition precedent state (cp_satisfied, cp_unmet), execution/service validity (exec_valid, exec_defective), sub-clause relation of the latest amendment (same_subclause, disjoint_subclause), quorum outcome (op_asof_subclause, op_asof_coarse, tdr37_date_latest, split), verbatim span verification (span_verified, span_unverified), and architecture family diversity (ge3_families, lt3_families). The raw Cartesian product has $4 \times 2 \times 2 \times 2 \times 4 \times 2 \times 2 = 512$ states. Excluding 48 infeasible states where D0C-VERIFY is omitted and an external defect exists yet the quorum is labeled as having verified the external defect yields 464 feasible states {16 positive, 448 negative; state-table SHA-256 1343955156c65c132c8db46584e9ccee124f66d9ede866d694f860e1f9401b2f}).

Why G2 (TDR-37) fails in both directions. In G2, the gate requires the quorum's cited controlling instrument to equal D0C-LAT (the latest date-effective instrument in the parent section). Whenever D0C-LAT has an unmet condition precedent (`cp_unmet`), a defective signature/service (`exec_defective`), or modifies only a sibling sub-clause (`disjoint_subclause`), 13 of the 16 positive states have a true controlling instrument of D0C-PRIOR or D0C-SUB_A rather than D0C-LAT, so G2 rejects them (FN = 13, FRR = 81.25%). Conversely, whenever the quorum blindly cites D0C-LAT despite those defects, G2 releases the state (FP = 41, FAR = 9.15%, including 32 wrong verdicts). As in Round 37, G6 coincides with the positive-state specification by construction, so its 0 / 0 row is an internal consistency check of the formal specification, while G0 - G5 quantify the exact structural exposure of each missing conjunct.

Resolver	Verdict correct	Controlling instrument correct	Controlling sub-clause correct	Full tuple correct	Lifecycles missed
op_asof_subclause_resolver (CIV-38 full)	12 / 12	12 / 12	12 / 12	12 / 12	none
op_asof_coarse_section_resolver (no sub-clause partition)	10 / 12	10 / 12	10 / 12	10 / 12	V09, V10
cond_only_asof_resolver (checks CP only, ignores DEF and SCP)	6 / 12	6 / 12	6 / 12	6 / 12	V05, V06, V07, V08, V09, V10
tdr37_date_section_resolver (TDR-37 date-only section AsOf)	2 / 12	2 / 12	10 / 12	2 / 12	V01 - V10
base_only_resolver (DOC-MSA always)	7 / 12	7 / 12	12 / 12	7 / 12	V08, V09, V10, V11, V12

7. Evidence category 2: live multi-witness benchmark (E38-B)

7.1 Witness roster and role-decorrelated audit lenses

To test Round 37’s handoff on witness decorrelation, each of the four witness architecture families received the identical JSON output schema and sub-clause matching rules, but an explicitly assigned evidentiary burden-of-proof lens when DOC-VERIF is absent (View R):

Witness ID	Architecture	Family	Reasoning tier	Assigned evidentiary lens when DOC-VERIF is absent (View R)	E38-B calls	Parsed	Mean latency (View R / View V)
W0_fable	Fable 5.1	Family A	Max (effort: high)	Lead Precedence & Sub-Clause Auditor (Presumptive Register Effectiveness)	24	24 / 24	8,801.3 ms / 5,940.0 ms
W1_sol	Sol 5.6	Family B	Standard	Strict Evidentiary & Condition-Precedent Auditor (Precautionary Rejection of Unverified Modifications)	24	24 / 24	4,024.6 ms / 3,817.3 ms
W2_astra	Astra 3.7	Family C	Standard	Register & Stated-Effective-Date Auditor (Presumptive Register Effectiveness)	24	24 / 24	6,399.3 ms / 5,295.1 ms
W3_velri	Velri 4.7	Family D	Standard	Sub-Clause Scope & Formalities Auditor (Presumptive Register Effectiveness + Sub-Clause Partition)	24	24 / 24	20,792.5 ms / 9,565.7 ms
Total	4 families	A, B, C, D			96	96 / 96	

7.2 The 12 frozen operative-validity lifecycles (V01 - V12)

ID	Stratum	Defect / scope code	Situation	Event date	Target sub-clause	Truth	Controlling doc	TDR-37 AsOf doc
V01	S1_CP	CP_LATE_ESCROW	Cap raise to 4M EUR conditioned on 500k EUR escrow by 2026-04-15; escrow deposited late on 2026-05-09	2026-07-10	8.1(a)	PASS	DOC-MSA	DOC-AMD1
V02	S1_CP	CP_EXPIRED_CERT	3-day audit notice waiver conditioned on active ISO 27001 certificate; certificate expired 2026-01-31	2026-06-18	5.3(a)	FAIL	DOC-MSA	DOC-WVR1
V03	S1_CP	CP_LENDER_DENIED	Net-75 payment extension conditioned on Senior Facility Agent consent by 2026-03-31; consent denied	2026-08-12	7.1(a)	FAIL	DOC-MSA	DOC-AMD1
V04	S1_CP	CP_MISSING_SCC_ANNEX	Montreal disaster-recovery replication waiver conditioned on DPO registration of TIA-2026 ; never registered	2026-05-22	9.2(a)	FAIL	DOC-MSA	DOC-WVR1
V05	S2_DEF	DEF_MISSING_CFO_COUNTERPART	Renewal cap increase from 3% to 9% signed by Customer Grade-3 Manager; lacks Customer CFO counterpart	2026-06-01	4.4(a)	FAIL	DOC-MSA	DOC-AMD1
V06	S2_DEF	DEF_WRONG_NOTICE_CHANNEL	Termination notice sent only to ops-tickets@customer.example ; zero delivery to legal-notices@customer.example	2026-07-19	11.1(a)	PASS	DOC-MSA	DOC-TRM1
V07	S2_DEF	DEF_UNAUTHORIZED_SIGNATORY	Service-credit waiver signed by Grade-4 SRE Team Lead instead of required Grade-1 Executive Officer	2026-08-03	6.3(a)	PASS	DOC-MSA	DOC-WVR1
V08	S2_DEF	DEF_INVALID_REVOCATION_COUNTERSIGN	Unconditional DOC-AMD1 authorizes Orion Grid SAS; later DOC-RVK1 lacks Joint Security Committee countersignatures	2026-06-25	10.2(a)	PASS	DOC-AMD1	DOC-RVK1
V09	S3_SCP	SCP_DISJOINT_SUBCLAUSE_8_1B	DOC-AMD1 raises general cap in 8.1(a) to 3.5M EUR; later DOC-AMD2 modifies only IP super-cap in 8.1(b)	2026-08-14	8.1(a)	PASS	DOC-AMD1	DOC-AMD2
V10	S3_SCP	SCP_DISJOINT_SUBCLAUSE_5_3B	DOC-AMD1 tightens Tier-1 uptime in 5.3(a) to 99.99%; later DOC-AMD2 modifies only Tier-2 archive in 5.3(b)	2026-07-31	5.3(a)	FAIL	DOC-AMD1	DOC-AMD2
V11	S4_CTL	CTL_SATISFIED_CP_AND_EXEC	Net-30 amendment conditioned on Performance Bond PB-2026-09 by 2026-02-25 and dual CFO signatures; both verified on time	2026-06-30	7.2(a)	FAIL	DOC-AMD1	DOC-AMD1
V12	S4_CTL	CTL_VALID_SEQUENTIAL_SUBCLAUSE	Unconditional DOC-AMD1 (10,000 seats) and DOC-AMD2 (5,000 seats) both modify 4.1(a) ; later DOC-AMD2 governs	2026-08-20	4.1(a)	PASS	DOC-AMD2	DOC-AMD2

7.3 Governance arm comparison (A1 - A7)

Arm	Packet view	Description	Correct releases	False releases	Holds	Correct release %	False release %	Hold %
A1_single_fable_viewR	View R	Single witness (Fable 5.1 Max) on register-closed packet	4 / 12	8 / 12	0 / 12	33.33%	66.67%	0.00%
A2_single_fable_viewV	View V	Single witness (Fable 5.1 Max) with DOC-VERIF attached	12 / 12	0 / 12	0 / 12	100.00%	0.00%	0.00%
A3_ungated_quorum_viewR	View R	Ungated 3-of-4 quorum + verbatim span on View R	4 / 12	8 / 12	0 / 12	33.33%	66.67%	0.00%
A4_tdr37_gate_viewR	View R	Round 37 TDR-37 gate (V_reg + coarse section AsOf + span) on View R	2 / 12	8 / 12	2 / 12	16.67%	66.67%	16.67%
A5_tdr37_gate_viewV	View V	Round 37 TDR-37 gate (V_reg + coarse section AsOf + span) on View V	2 / 12	0 / 12	10 / 12	16.67%	0.00%	83.33%

Arm	Packet view	Description	Correct releases	False releases	Holds	Correct release %	False release %	Hold %
A6_civ38_pre_reopen_viewR	View R	CIV-38 gate on View R before fetching DOC-VERIF	3 / 12	0 / 12	9 / 12	25.00%	0.00%	75.00%
A7_civ38_full_viewV	View V	Full CIV-38 gate on View V (DOC-VERIF attached + 0pAs0f_38 + span)	12 / 12	0 / 12	0 / 12	100.00%	0.00%	0.00%

7.4 Per-lifecycle witness votes and gate outcomes

Votes are in roster order (W0_fable, W1_sol, W2_astra, W3_velri); P = PASS, F = FAIL.

ID	Stratum	Truth (Doc)	View R votes	View R correct	View R verif flag true	View V votes	View V correct	View V verif flag true	A3 (ungated R)	A4 (TDR-37 R)	A5 (TDR-37 V)	A6 (CIV-38 R)	A7 (CIV-38 V)
V01	S1_CP	PASS (DOC-MSA)	FPFF	1 / 4	0 / 4	PPPP	4 / 4	4 / 4	FALSE RELEASE	FALSE RELEASE	HOLD (ASOF_MISMATCH)	HOLD (VERIF_LOG_GAP)	RELEASE (PASS)
V02	S1_CP	FAIL (DOC-MSA)	PFPP	1 / 4	0 / 4	FFFF	4 / 4	4 / 4	FALSE RELEASE	FALSE RELEASE	HOLD (ASOF_MISMATCH)	HOLD (VERIF_LOG_GAP)	RELEASE (FAIL)
V03	S1_CP	FAIL (DOC-MSA)	PFPP	1 / 4	0 / 4	FFFF	4 / 4	4 / 4	FALSE RELEASE	FALSE RELEASE	HOLD (ASOF_MISMATCH)	HOLD (VERIF_LOG_GAP)	RELEASE (FAIL)
V04	S1_CP	FAIL (DOC-MSA)	PFPP	1 / 4	0 / 4	FFFF	4 / 4	4 / 4	FALSE RELEASE	FALSE RELEASE	HOLD (ASOF_MISMATCH)	HOLD (VERIF_LOG_GAP)	RELEASE (FAIL)
V05	S2_DEF	FAIL (DOC-MSA)	PFPP	1 / 4	0 / 4	FFFF	4 / 4	4 / 4	FALSE RELEASE	FALSE RELEASE	HOLD (ASOF_MISMATCH)	HOLD (VERIF_LOG_GAP)	RELEASE (FAIL)
V06	S2_DEF	PASS (DOC-MSA)	FPFF	1 / 4	0 / 4	PPPP	4 / 4	4 / 4	FALSE RELEASE	FALSE RELEASE	HOLD (ASOF_MISMATCH)	HOLD (VERIF_LOG_GAP)	RELEASE (PASS)
V07	S2_DEF	PASS (DOC-MSA)	FPFF	1 / 4	0 / 4	PPPP	4 / 4	4 / 4	FALSE RELEASE	FALSE RELEASE	HOLD (ASOF_MISMATCH)	HOLD (VERIF_LOG_GAP)	RELEASE (PASS)
V08	S2_DEF	PASS (DOC-AMD1)	FPFF	1 / 4	0 / 4	PPPP	4 / 4	4 / 4	FALSE RELEASE	FALSE RELEASE	HOLD (ASOF_MISMATCH)	HOLD (VERIF_LOG_GAP)	RELEASE (PASS)
V09	S3_SCP	PASS (DOC-AMD1)	PPPP	4 / 4	4 / 4	PPPP	4 / 4	4 / 4	RELEASE (PASS)	HOLD (ASOF_MISMATCH)	HOLD (ASOF_MISMATCH)	RELEASE (PASS)	RELEASE (PASS)
V10	S3_SCP	FAIL (DOC-AMD1)	FFFF	4 / 4	4 / 4	FFFF	4 / 4	4 / 4	RELEASE (FAIL)	HOLD (ASOF_MISMATCH)	HOLD (ASOF_MISMATCH)	RELEASE (FAIL)	RELEASE (FAIL)
V11	S4_CTL	FAIL (DOC-AMD1)	FPFF	3 / 4	0 / 4	FFFF	4 / 4	4 / 4	RELEASE (FAIL)	RELEASE (FAIL)	RELEASE (FAIL)	HOLD (VERIF_LOG_GAP)	RELEASE (FAIL)
V12	S4_CTL	PASS (DOC-AMD2)	PPPP	4 / 4	4 / 4	PPPP	4 / 4	4 / 4	RELEASE (PASS)	RELEASE (PASS)	RELEASE (PASS)	RELEASE (PASS)	RELEASE (PASS)

7.5 Per-witness performance across View R and View V

Witness (View)	Calls OK	Parsed OK	Verdict correct	Controlling doc correct	Sub-clause correct	Span verified	operative_validity_verifiable = true	Mean latency (ms)	Median latency (ms)
W0_fable (View R)	12 / 12	12 / 12	4 / 12	4 / 12	12 / 12	12 / 12	3 / 12	8,801.3	9,657.8
W1_sol (View R)	12 / 12	12 / 12	11 / 12	11 / 12	12 / 12	12 / 12	3 / 12	4,024.6	3,859.9
W2_astra (View R)	12 / 12	12 / 12	4 / 12	4 / 12	12 / 12	12 / 12	3 / 12	6,399.3	6,081.4
W3_velri (View R)	12 / 12	12 / 12	4 / 12	4 / 12	12 / 12	12 / 12	3 / 12	20,792.5	22,965.7
W0_fable (View V)	12 / 12	12 / 12	12 / 12	12 / 12	12 / 12	12 / 12	12 / 12	5,940.0	6,259.5
W1_sol (View V)	12 / 12	12 / 12	12 / 12	12 / 12	12 / 12	12 / 12	12 / 12	3,817.3	3,923.2
W2_astra (View V)	12 / 12	12 / 12	12 / 12	12 / 12	12 / 12	12 / 12	12 / 12	5,295.1	5,505.0
W3_velri (View V)	12 / 12	12 / 12	12 / 12	12 / 12	12 / 12	12 / 12	12 / 12	9,565.7	8,945.5

Digests: E38-B results SHA-256 32c44bd33d6082522a87e8a51eeca27260cc95fd0951d1d9e093b7b7f4551f1; ledger SHA-256 ccc790372204abc22694fd40327536324f1c4a46f7548e9808a1178ed3d630a4.

8. Findings, interpretations, and critical synthesis review

8.1 Measured findings

- F38.1 (deterministic, E38-A).** Across the 464 feasible post-register-closure states, TDR-37 date-only section resolution (G2) yields FAR = 9.15% (41 / 448 negative states accepted, 32 with wrong verdicts) and FRR = 81.25% (13 / 16 positive states rejected). Adding external operative verification without sub-clause partitioning (G5) reduces FAR to 0.45% and FRR to 6.25%; full CIV-38 (G6) reaches 0.00% FAR and 0.00% FRR by construction.
- F38.2 (deterministic, E38-A).** On V01 - V12, TDR-37 date-only section resolution matches ground truth on 2 / 12 lifecycles (V11, V12), whereas OpAsOf_38 matches on 12 / 12.
- F38.3 (live, E38-B View R split votes).** Unlike Round 37 (0 / 36 split vote sets), role-decorrelated evidentiary instructions produced 3-1 split votes on 9 / 12 View R packets (V01 - V08 and V11). On all 9, W1_sol applied the precautionary burden-of-proof rule and rejected the unverified instrument (11 / 12 correct across View R, missing only V11 where the unattached DOC-VERIF actually confirmed the condition precedent), while W0_fable, W2_astra, and W3_velri applied presumptive register effectiveness (4 / 12 correct).
- F38.4 (live, E38-B View R false releases vs CIV-38 holds).** Because a 3-1 split still satisfies a 3-of-4 majority across three architecture families, ungated quorum (A3) and TDR-37 (A4) released 8 / 12 (66.67%) false certifications on View R. However, all 36 / 36 witness receipts across V01 - V08 and V11 in View R accurately set operative_validity_verifiable = false. Pre-reopen CIV-38 (A6) used V_verif_closure to hold those 9 packets (0 / 12 false releases) while immediately releasing the 3 unconditional packets (V09, V10, V12).
- F38.5 (live, E38-B View V resolution and TDR-37 false holds).** Once DOC-VERIF was attached (View V), all 48 / 48 witness evaluations (12 / 12 lifecycles x 4 families) returned the exact ground-truth verdict, controlling instrument, and sub-clause with verified quotes (A2 and A7 both 12 / 12 correct releases, 0 false releases, 0 holds). By contrast, TDR-37 on View V (A5) held 10 / 12 valid packets (V01 - V10) because its coarse date-only V_asof resolver insisted on the inoperative or sibling-sub-clause instrument.

8.2 Critical synthesis review (Fable 5.1 Max reasoning, interpretation input only)

After freezing E38-A and E38-B, we ran one independent critical review call (fable_51_synthesis_review.json, response SHA-256 c325019fafa24bc1db9657790016d20ad9fd0eec154e8bbf9aaef5bb2175b610, latency 20,303.6 ms). We adopt all four of its methodological critiques:

- What the View R to View V transition establishes.** Moving from View R (A1, A3: 4 correct, 8 false releases) to View V (A2, A7: 12 correct, 0 false) demonstrates that witnesses and the release gate faithfully read and obey an attached collateral verification log (DOC-VERIF). Because DOC-VERIF explicitly records whether each condition precedent or execution formality was met, the View R → View V jump measures **collateral verification completeness** rather than open-ended legal discovery.
- Why the 3-1 split votes in View R are instructed rather than spontaneous.** In View R, the 3-1 splits across V01 - V08 and V11 arose because W1_sol was explicitly assigned a precautionary burden-of-proof rule while the other three witnesses were assigned a presumptive register-effectiveness rule. Moreover, because 3 of 4 witnesses shared the presumptive lens, A3 (3-of-4 quorum) had the exact same release profile (4 correct, 8 false) as A1 (single witness). To make a 3-of-4 quorum block unverified modifications through voting alone (even before V_verif_closure), at least 2 of the 4 witnesses must hold a precautionary burden-of-proof lens so that missing collateral proof forces a 2-2 deadlock.
- Why View V reaches a 48 / 48 ceiling.** Once DOC-VERIF is attached and unambiguous, all four witness families converge 4-0 on all 12 lifecycles, leaving no empirical gap between single-witness Fable 5.1 (A2, 12 / 12) and the full CIV-38 quorum (A7, 12 / 12) on View V. The empirical advantage of A7 over A5 (TDR-37, 2 / 12 correct, 10 / 12 holds) is therefore entirely driven by replacing AsOf_37 with OpAsOf_38.
- What remains untested for Round 39.** In E38-B, DOC-VERIF was internally consistent, authoritative, and unambiguous. Real transaction records often contain *conflicting* collateral evidence (for example, an escrow agent receipt that disagrees with a borrower notice, an ambiguous cure-period calculation, or a partial performance waiver).

9. Limitations and threats to validity

- Authored benchmark scale (12 lifecycles, 96 live evaluations).** V01 - V12 are researcher-authored lifecycles with clean sub-clause numbering (8.1(a) vs 8.1(b)) and explicit DOC-VERIF cross-references. Performance on noisy OCR scans or implicit cross-clause modifications is not bounded by these numbers.
- 3-1 split votes reflect assigned evidentiary lenses.** As noted in Section 8.2, the 3-1 splits in View R were induced by assigning 1 precautionary lens (W1_sol) and 3 presumptive lenses (W0_fable, W2_astra, W3_velri). Under a 3-of-4 rule, a 3-1 split still releases unless paired with V_verif_closure or a 2-2 balanced lens assignment.
- G6 is exact by construction.** In E38-A, G6 matches the positive-state predicate by definition; the informative comparisons are G0 - G5.
- Unambiguous DOC-VERIF entries in View V.** Every DOC-VERIF entry in View V stated the recorded receipt date, signatory grade, or notice address clearly, producing a 48 / 48 witness ceiling.

10. Next check (Round 39 handoff)

Round 38 showed that attaching a clean collateral verification log (D0C-VERIF) and decomposing scope to the sub-clause level (0pAs0f_38) eliminates both the 8 / 12 false releases of View R and the 10 / 12 false holds of TDR-37 on View V. Two concrete questions now form the Round 39 handoff:

1. **Balanced (2-2) Evidentiary Lens Assignment vs Unannounced Missing Proofs:** What happens when the contract text itself does *not* explicitly name D0C-VERIF, or when 2 of 4 witnesses operate under a precautionary lens and 2 under a presumptive lens so that missing collateral proof induces a 2-2 quorum deadlock without relying on a pre-indexed requires_verif flag?
2. **Conflicting or Equivocal Collateral Evidence (CEV-39):** What happens when two attached external verification records disagree (for example, an escrow bank timestamp in UTC vs local cutoff time, a disputed cure notice, or a signatory whose authority cap is exceeded by the combined value of two linked orders), where witnesses can genuinely disagree even when every log is attached?

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