

Mathematical Framework

Three equations that govern every record.

The complete behaviour of the NextXus verification pipeline is expressible in three statements: the truth gate, the graded consensus, and the append-only ledger update. These are not aspirational — they describe exactly what the implementation does on every submission.

TRUTH GATE

$$T_{\text{filtered}} = \{ t \in T \mid V_{\text{AgentZero}}(t) \geq 0.95 \}$$

The filtered set T_{filtered} contains only submissions whose Agent Zero verifiability score meets or exceeds 0.95.

GRADED CONSENSUS

$$C_{\text{graded}} = (1 / 12) \times \sum G_i, i = 1 \dots 12$$

The Ring of 12 returns twelve independent grades. C_{graded} is their arithmetic mean — the public, auditable consensus value.

APPEND-ONLY LEDGER

$$R_{\text{final}} = R_{\text{prev}} \cup \{ (t, C_{\text{graded}}, \text{timestamp}, \text{audit_trail}) \}$$

Every accepted record is the union of the prior ledger with a new tuple. Prior entries are never modified; amendments are appended and reference their parent.

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