

# Proof of Process (PoP): A Verifiable Process Transcript Format

draft-condrey-rats-pop-protocol

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# Motivation

AI-assisted authorship has created an urgent, unresolved trust gap. When a document is produced by a combination of human editing, LLM generation, and automated tooling, there is no interoperable, verifiable way to answer: who or what created this, and how?

This is a security and integrity problem with broad impact. Academic institutions, legal systems, software supply chains, and regulated industries all depend on trustworthy provenance. Without a standard, every platform invents its own proprietary audit log, producing fragmentation, vendor lock-in, and unverifiable claims.

PoP brings RATS-style attestation to document authorship: a tamper-evident, cryptographically bound transcript that attributes every edit to a specific human key or signed tool receipt. Interoperability across editors, platforms, and verifiers requires an open standard. The IETF is the right place to build it.

# What PoP Defines

- Canonical semantic event types: Insert, Delete, Replace, Move
- Hash-chained Provenance DAG ensuring event ordering and integrity
- Tool Receipts: signed statements from AI and automated tools attributing their contributions
- CBOR-encoded Envelope with transcript commitments, chronological anchors, and policy hooks
- Compatible with RATS/EAT: PoP envelope is treated as RATS Evidence
- Content-aware but policy-agnostic: supports diverse use cases including academic integrity, software supply chain, and legal/regulatory authorship verification
- Designed for interoperability across editors, platforms, and verifiers

# Community Engagement & Pointers

Active discussion on the RATS mailing list has engaged participants from Huawei, Linaro, and Intel. A reference implementation exists as **Witnessed** (writerslogic.com). Those most likely to advance this work include academic institutions, AI tool developers, legal and regulatory bodies, and software supply chain stakeholders.



PoP Appraisal Draft



PoP Protocol Draft



RATS WG Thread



Secdispatch Thread

# Hoped dispatching outcome

- ✓ Primary: Direct the work to the RATS WG

PoP is built on RFC9334, uses EAT and CBOR data models, and produces RATS-compatible Evidence. The RATS WG has the right expertise and the work fits naturally within the existing framework. Active discussion has already taken place on the RATS mailing list.

- Alternative: AD-Sponsored Individual Submission

If the work is considered outside the current RATS charter scope, AD sponsorship is preferred over a BOF. The problem space is well understood, the drafts are mature, a reference implementation exists, and community interest has already been demonstrated on the mailing list. A BOF would relitigate questions that are largely already answered. AD Sponsorship provides a faster, more direct path to standards track publication.