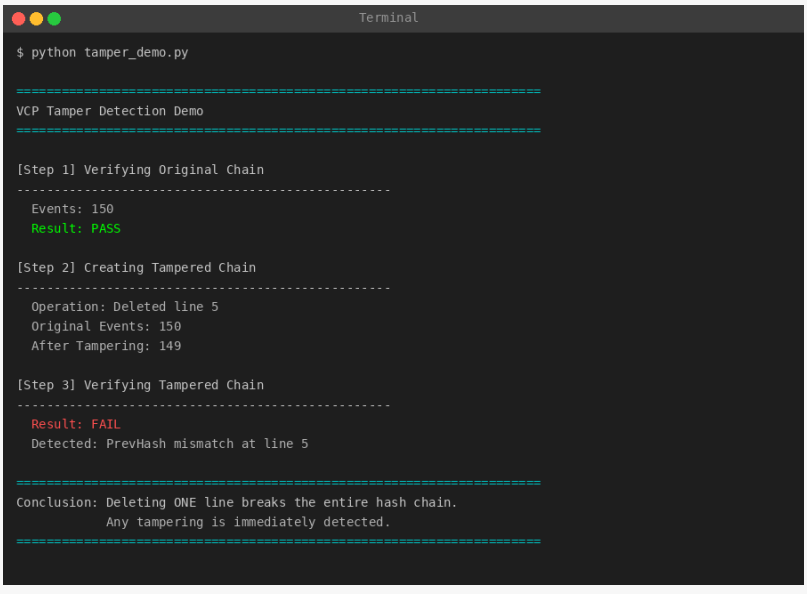
VeritasChain Releases VCP Reference Trading Agent for Verifiable AI Trading Audit Trails

Open reference implementation demonstrates tamper-evident, cryptographically verifiable logs for AI-driven trading systems

TOKYO, JAPAN, December 29, 2025 /EINPresswire.com/ -- VeritasChain today announced the public release of the VCP Reference Trading Agent (VCP-RTA), an open, non-certified reference implementation demonstrating how AI-driven trading systems can generate cryptographically verifiable, tamper-evident audit trails in line with the VeritasChain Protocol (VCP) v1.0 Silver Tier specification.

Logo of the VeritasChain Standards Organization (VSO), a neutral standards body developing cryptographic audit and provenance frameworks for AI systems.

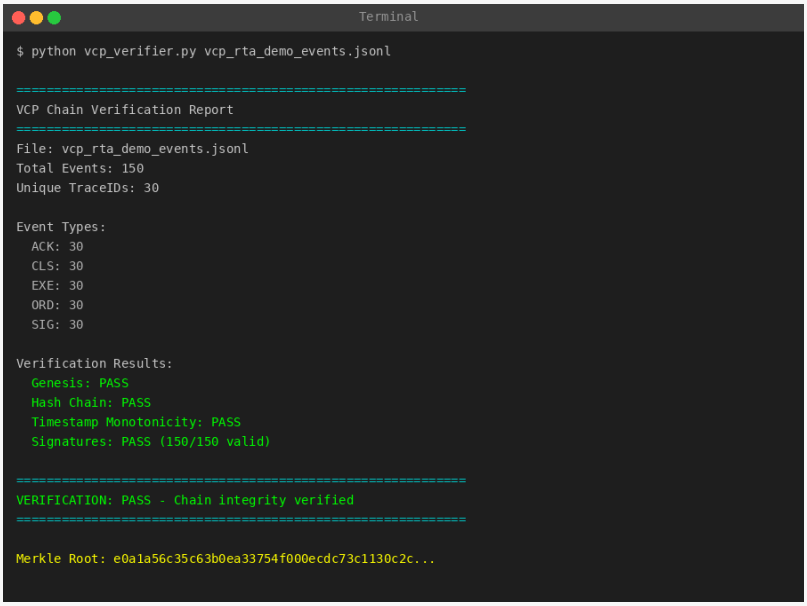


screenshot_tamper_demo

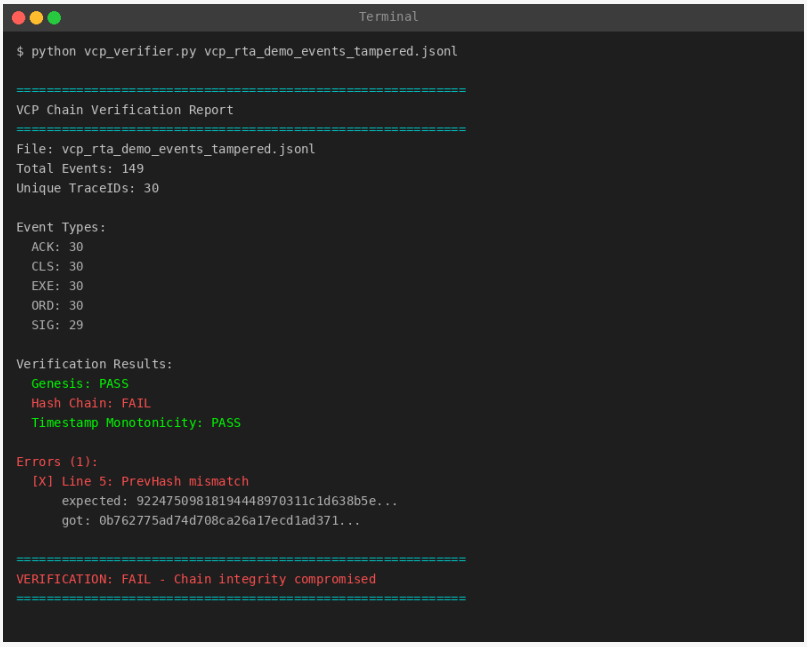
The VCP-RTA is designed to address a growing regulatory and operational challenge: while AI and algorithmic trading systems increasingly influence financial markets, their internal decision processes typically remain opaque and difficult to audit after the fact. VCP-RTA demonstrates how such systems can record what decisions were made, when they were made, and how they were executed, in a form that can be independently verified without trusting the system operator.

At the core of the reference implementation is a structured event chain that records the full trading lifecycle — from AI-generated consensus signals through order submission, acknowledgment, execution, and position close. Each event is cryptographically linked using SHA-

256 hash chaining and digitally signed with Ed25519, forming an immutable sequence in which any modification, deletion, or reordering is immediately detectable. The corresponding public key is included in the evidence pack, enabling independent third-party signature verification. A Merkle tree is constructed over the event hashes, allowing efficient integrity verification and external timestamp anchoring.



Terminal showing successful VCP hash chain verification with 150 events



Terminal showing VCP verification failure after tampering - PrevHash mismatch detected

To illustrate tamper resistance, the public evidence pack includes an automated demonstration showing that deleting just a single line from the log causes verification to fail, with the exact point of inconsistency clearly identified. All verification procedures can be performed entirely offline using standard tooling, reinforcing the protocol's core principle: Verify, Don't Trust.

The reference implementation also highlights AI governance transparency. For each signal event, VCP-RTA records consensus inputs from multiple AI models, including their directional outputs and confidence levels, preserving an auditable record of how AI-driven decisions were formed. Sensitive details such as account identifiers and execution prices are anonymized or synthesized for public release, while maintaining full structural and cryptographic integrity.

Importantly, VCP-RTA is not a product, certification, or compliance determination. It is provided solely as an educational and technical reference to demonstrate how VCP can be implemented in practice. No claims are made regarding trading performance, regulatory approval, or live market deployment.

By releasing a complete, reproducible evidence pack — including sample logs, verification

scripts, tamper-detection demonstrations, Merkle root anchoring, digital signatures, and execution environment specifications — VeritasChain aims to provide regulators, auditors, financial institutions, and developers with a concrete, inspectable example of what verifiable AI auditability can look like in real systems.

The VCP Reference Trading Agent repository is publicly available on GitHub:
https://github.com/veritaschain/vcp-rta-reference

VeritasChain believes that practical, transparent reference implementations are essential for building trust in AI-driven financial infrastructure and for supporting emerging regulatory requirements around traceability, accountability, and post-hoc verification.

TOKACHI KAMIMURA
VeritasChain Co., Ltd.
kamimura@veritaschain.org
Visit us on social media:
LinkedIn
Facebook
YouTube
X
Other
