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OMP Domain Profile: Cross-Sector High-Risk AI Accountability Under the  
Colorado Artificial Intelligence Act (SB 24-205) and Alignment with NIST  
AI RMF 1.0  
draft-veridom-omp-coloai-00

## Abstract

This document defines a domain profile of the Operating Model Protocol (OMP) for high-risk AI systems subject to the Colorado Artificial Intelligence Act (SB 24-205, effective June 1, 2026), which requires deployers of high-risk AI systems in consequential decisions affecting Colorado consumers to implement risk management programmes, provide consumer disclosures, conduct impact assessments, and implement discrimination mitigation measures.

The profile -- designated ColoradoMark -- specifies how OMP's deterministic routing invariant, Watchtower enforcement framework, and three-layer cryptographic integrity architecture satisfy the Colorado AI Act's per-decision accountability obligations and align with the NIST AI RMF 1.0, providing a unified cross-sector accountability evidence architecture for the six Colorado AI Act consequential decision domains.

The OMP core specification is defined in the Operating Model Protocol Internet-Draft (draft-veridom-omp).

## Status of This Memo

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## 1. Introduction

This document specifies the ColoradoMark domain profile for OMP, covering high-risk AI systems under the Colorado Artificial Intelligence Act (SB 24-205) [CO-SB-24-205], which requires deployers of high-risk AI in consequential decisions to implement risk management programmes aligned with the NIST AI RMF 1.0 [NIST-AI-RMF]. The full specification is provided in the plain-text version of this Internet-Draft.

ColoradoMark addresses the six Colorado AI Act consequential decision domains, including employment (see also [I-D.veridom-omp-employ]), housing finance (see also [I-D.veridom-omp-fhfa]), healthcare (see also [I-D.veridom-omp-clinical]), and cross-jurisdiction EU AI Act obligations (see also [I-D.veridom-omp-euaia]). Audit Trace payloads are canonicalized per [RFC8785]. Audit Traces are timestamped per [RFC3161]. Sealed Audit Traces are verifiable using the OMP Reference Validator [OMP-OPEN-CORE]. The OMP specification is also archived at [ZENODO-OMP].

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC2119] [RFC8174].

## 2. Profile Specification

The complete profile specification -- including all terminology, regulatory framework analysis, routing state definitions, Watchtower definitions, Audit Trace schema extensions, deployment category mappings, invariant definition, and security considerations -- is provided in the companion plain-text specification for this Internet-Draft. This XML rendition provides the structured metadata, references, and IANA considerations for the IETF Datatracker and xml2rfc processing pipeline.

## 3. The Profile Invariant

Implementations of this profile MUST satisfy the two-property invariant specified in the plain-text companion document: (1) every consequential AI decision generates a sealed Audit Trace documenting the decision, human oversight applied, and applicable regulatory evidence fields; and (2) the Audit Trace is sealed with the three-layer integrity architecture defined in [I-D.veridom-omp] Section 7, detectable as modified by any third party without access to the operator's infrastructure.

## 4. Security Considerations

The security considerations of [I-D.veridom-omp] apply in full. Operators MUST implement appropriate access controls and data protection measures for Audit Trace storage, access, and disclosure consistent with applicable jurisdiction law.

## 5. IANA Considerations

This document has no IANA actions.

## 6. References

### 6.1. Normative References

[I-D.veridom-omp]

Adebayo, T., Apalowo, O., and F. Mekanjuola, "Operating Model Protocol (OMP): A Deterministic Decision-Enforcement Protocol with Externalized Proof-of-Integrity", Work in Progress, Internet-Draft, draft-veridom-omp-00, March 2026, <<https://datatracker.ietf.org/doc/html/draft-veridom-omp-00>>.

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## 6.2. Informative References

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[I-D.veridom-omp-fhfa]

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[NIST-AI-RMF]

National Institute of Standards and Technology, "Artificial Intelligence Risk Management Framework (AI RMF 1.0)", 2023.

[OMP-OPEN-CORE]

Veridom Ltd, "OMP Open Core: Reference Validator and Schema Library", Apache 2.0, <https://github.com/veridomltd/omp-open-core>, 2026.

[ZENODO-OMP]

Adebayo, T., Apalowo, O., and F. Makanjuola, "OMP -- Operating Model Protocol", Zenodo DOI 10.5281/zenodo.19140948, March 2026.

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