

AXION PROVENANCE

ENGLISH MASTER — Draft v1

1. What is Axion Provenance?

Axion does not use a traditional visible watermark. Instead, it creates cryptographically verifiable provenance information for files that it creates or materially modifies.

The purpose of provenance is to provide a verifiable record of whether a particular file version is associated with an origin record created and digitally authenticated by Axion.

2. Content Fingerprint

When a file is created, Axion calculates its unique SHA-256 content fingerprint (hash). The fingerprint is associated with the contents of that particular version of the file.

If the contents of the file change, the fingerprint of the modified file may also differ from the fingerprint of the previous version. This allows provenance verification to relate to a specific file version.

3. Provenance Record

Axion creates a provenance record associated with the content fingerprint. The record contains information relating to the origin of the file and the operation performed within Axion.

As part of Axion's provenance registry, the provenance record links the particular file version to its associated origin information.

4. Digital Signature

Axion authenticates the provenance record using an Ed25519 digital signature.

Verification of the digital signature is used to determine whether the provenance record being checked carries valid Axion authentication.

5. Versions and Revision Chain

If a file is subsequently modified within Axion, the new version receives its own content fingerprint and provenance record.

The new provenance record may be linked to the previous version. Where such links are available, this can form a verifiable revision chain recording the relationship between successive file versions created within Axion.

6. How Does Verify Origin Work?

The Verify Origin feature compares the content fingerprint of an uploaded file against Axion's provenance registry.

If a corresponding record is found, the system verifies the associated digital signature and, where available, the revision chain.

A successful verification confirms that the particular file version is associated with an authentic Axion provenance record.

7. What Verification Does - and Does Not - Establish

A successful provenance verification establishes that Axion can associate the verified file version with its own cryptographically authenticated provenance record.

Axion provenance is not a general-purpose AI detector and is not designed to determine whether an arbitrary file was created with the assistance of artificial intelligence.

If no valid Axion provenance information is found for a file, this does not by itself prove that the file was not created with AI assistance. It means only that Axion cannot verify its own authentic provenance record for the file version being checked.

8. Limitations of Provenance

Verification relates to the content fingerprint of a particular file version and the corresponding Axion provenance record. Modification of the file outside Axion may produce a new fingerprint that no longer matches the previously recorded file version.

Provenance verification does not replace separate assessment of the accuracy, lawfulness, copyright status, professional reliability or other characteristics of the content.

Axion's provenance functionality is limited to cryptographic verification of Axion's own provenance records.

9. Related Information

Axion's provenance functionality may evolve as the Service develops. The current published version of this document describes the operating principles that Axion makes publicly available.

Contact: support@axionaiapp.com

Last updated: [DATE]

Version: [VERSION]