

Signal Provenance

Compliance Audit Report

Monitored Directory: /home/kylevines/echology/provenance

Reporting Period: 2026-03-26T15:49:47 to 2026-03-26T20:06:27

Generated: 2026-03-30T00:22:32

Chain Status: VALID

What This Report Proves

Signal Provenance has been continuously monitoring **26 files** and recording every change in a tamper-proof verification chain.

The chain contains **59 verified events** and its integrity is **VALID**.

This means that every file change has been cryptographically recorded and can be independently verified. No file has been altered without detection during the monitoring period.

Verification gaps detected: 0

Executive Summary

Files Monitored	26
Total Events	59
Chain Status	VALID
Verified Events	59
Hash Algorithm	SHA-256
Verification Gaps	0

Compliance Mapping

This report satisfies the following regulatory audit trail requirements:

Regulation	Controls Addressed	Description
FDA 21CFR11	11.10(e), 11.10(b)	Audit trails for electronic records
SOX 404	Record integrity, 7-year retention	Internal controls over financial reporting
CMMC NIST171	AU-2, AU-3, AU-6, AU-9, AU-12	Audit and accountability controls
ISO27001 SOC2	A.8.15, A.5.33	Logging and monitoring controls
HIPAA	164.312(b), 164.312(c)	Audit controls and integrity controls
EU AI ACT	Art. 12 Record-keeping, Annex IV Sec. 2 Data provenance, Art. 11 Technical documentation, Art. 17(1)(f) QMS data management, Art. 9 Risk management	AI system logging, training data provenance, and documentation integrity

Methodology

Hash Chaining: Every event is recorded with a SHA-256 hash that incorporates the previous event's hash, creating a tamper-evident chain. Any modification to any entry invalidates all subsequent hashes.

Chain Verification: The `verify` command recomputes every hash from genesis and compares against stored values. A VALID result means zero tampering detected. A BROKEN result identifies the exact sequence number where the chain diverges.

File Perception: File state is perceived via filesystem metadata (mtime, size) and content hashing (SHA-256). The full content hash is recorded at each observation point, enabling temporal reconstruction of any file's state.

Actor Attribution: Every event records the process or user that caused the change, providing chain-of-custody from creation through every modification.

Event Log

#	Timestamp	Event	File	Hash After	Actor
1	2026-03-26T15:49:47	file_created	README.md	bd8d0ac4f819	harvest
2	2026-03-26T15:49:47	file_created	docs/cloud-storage-adapters.md	904d243c7f86	harvest
3	2026-03-26T15:49:47	file_created	docs/magic-experience.md	81b8e68a89b1	harvest
4	2026-03-26T15:49:47	file_created	pyproject.toml	2cdbcc407653	harvest
5	2026-03-26T15:49:47	file_created	scripts/sync-to-macmini.sh	0f3a7f839251	harvest
6	2026-03-26T15:49:47	file_created	src/signal_provenance/__init__.py	607771d34143	harvest
7	2026-03-26T15:49:47	file_created	src/signal_provenance/cli.py	788da302610d	harvest
8	2026-03-26T15:49:47	file_created	src/signal_provenance/config.py	311c44b7cdc2	harvest
9	2026-03-26T15:49:47	file_created	src/signal_provenance/dashboard.py	2319f9e1f0cc	harvest
10	2026-03-26T15:49:47	file_created	src/signal_provenance/db.py	6ae3d73b5aa8	harvest
11	2026-03-26T15:49:47	file_created	src/signal_provenance/export.py	b1ea807f30d9	harvest
12	2026-03-26T15:49:47	file_created	src/signal_provenance/harvest.py	3f56d3eae0e	harvest
13	2026-03-26T15:49:47	file_created	src/signal_provenance/license.py	5fa6e5afee59	harvest
14	2026-03-26T15:49:47	file_created	src/signal_provenance/providers/__init__.py	2f5d054316a1	harvest
15	2026-03-26T15:49:47	file_created	src/signal_provenance/providers/gdrive.py	320ed33360bd	harvest
16	2026-03-26T15:49:47	file_created	src/signal_provenance/providers/local.py	16c87a513219	harvest
17	2026-03-26T15:49:47	file_created	src/signal_provenance/providers/s3.py	fb9dcc2b777b	harvest
18	2026-03-26T15:49:47	file_created	src/signal_provenance/providers/sharepoint.py	fa3c2fd969e9	harvest

19	2026-03-26T15:49:47	file_created	tests/__init__.py	e3b0c44298fc	harvest
20	2026-03-26T15:49:47	file_created	tests/test_dashboard.py	fe3ff0a83308	harvest
21	2026-03-26T15:49:47	file_created	tests/test_provenance.py	bdf5a4202c13	harvest
22	2026-03-26T15:49:47	file_created	tests/test_providers.py	c7896db859b7	harvest
23	2026-03-26T15:49:47	file_created	tests/test_watch.py	74685e62fb78	harvest
24	2026-03-26T15:49:47	harvest_completed			provenance.harvest
25	2026-03-26T15:56:22	file_modified	src/signal_provenance/dashboard.py	84eb74838f8b	harvest
26	2026-03-26T15:56:22	harvest_completed			provenance.harvest
27	2026-03-26T15:59:26	file_modified	README.md	361db0ee2f36	harvest
28	2026-03-26T15:59:26	file_modified	pyproject.toml	e2b0d1de6263	harvest
29	2026-03-26T15:59:26	file_modified	src/signal_provenance/__init__.py	9bd7ee9a34bb	harvest
30	2026-03-26T15:59:26	file_modified	src/signal_provenance/cli.py	cbe0978968d8	harvest
31	2026-03-26T15:59:26	file_modified	src/signal_provenance/dashboard.py	680db655ff10	harvest
32	2026-03-26T15:59:26	file_modified	src/signal_provenance/license.py	07abdfbef2e9	harvest
33	2026-03-26T15:59:27	harvest_completed			provenance.harvest
34	2026-03-26T16:04:50	file_modified	src/signal_provenance/cli.py	27ad1660291b	harvest
35	2026-03-26T16:04:50	file_modified	src/signal_provenance/dashboard.py	218db19d42fa	harvest
36	2026-03-26T16:04:50	harvest_completed			provenance.harvest
37	2026-03-26T16:20:21	file_modified	src/signal_provenance/cli.py	45afbbc59a0b	harvest
38	2026-03-26T16:20:21	file_modified	src/signal_provenance/config.py	58a72f5a15e2	harvest
39	2026-03-26T16:20:21	file_modified	src/signal_provenance/dashboard.py	92ad2d1a3b6d	harvest
40	2026-03-26T16:20:21	harvest_completed			provenance.harvest
41	2026-03-26T16:32:00	file_modified	src/signal_provenance/dashboard.py	831882d21090	harvest
42	2026-03-26T16:32:00	file_modified	src/signal_provenance/harvest.py	a6ebb33ac91f	harvest
43	2026-03-26T16:32:00	harvest_completed			provenance.harvest
44	2026-03-26T16:45:35	file_modified	src/signal_provenance/cli.py	90994fc68b96	harvest
45	2026-03-26T16:45:35	file_modified	src/signal_provenance/export.py	6c2cd3a3a781	harvest
46	2026-03-26T16:45:35	file_modified	src/signal_provenance/harvest.py	df119952f293	harvest
47	2026-03-26T16:45:35	harvest_completed			provenance.harvest
48	2026-03-26T16:56:24	harvest_completed			provenance.harvest
49	2026-03-26T20:06:27	file_modified	pyproject.toml	d4cf5cd5d478	harvest
50	2026-03-26T20:06:27	file_created	signal-provenance.spec	79bf98819fe4	harvest
51	2026-03-26T20:06:27	file_created	src/signal_provenance/__main__.py	4e6e6a77369d	harvest

52	2026-03-26T20:06:27	file_created	src/signal_provenance/app.py	294ecf564f60	harvest
53	2026-03-26T20:06:27	file_modified	src/signal_provenance/cli.py	dd50ef23f7ac	harvest
54	2026-03-26T20:06:27	file_modified	src/signal_provenance/dashboard.py	34407c5681c3	harvest
55	2026-03-26T20:06:27	file_modified	src/signal_provenance/db.py	d515bb19169c	harvest
56	2026-03-26T20:06:27	file_modified	src/signal_provenance/export.py	5d8574003f58	harvest
57	2026-03-26T20:06:27	file_modified	src/signal_provenance/harvest.py	b7ab5c136bda	harvest
58	2026-03-26T20:06:27	file_modified	src/signal_provenance/license.py	8363a42fc319	harvest
59	2026-03-26T20:06:27	harvest_completed			provenance.harvest

Verification

First Verification Point	e93be4ba8a518f0fc7b7bb71a88ab011d33746c739a26f7b32f89412662e4d3b
Latest Verification Point	d0cabb7448987a73b224e09ecb19e99a161b29996a9a612a4a00c1f136ed633e
Verified Events	59
Verification Result	VALID

File Inventory

File Path	Content Hash	Size	Last Modified	Role
README.md	361db0ee2f36eaca7ad574b1f033441eba24f12f51b93e2d3dbb02c4a7fa3c86	2.7 KB	2026-03-26T15:58:28	doc
docs/cloud-storage-adapters.md	904d243c7f86392326aa904dff692d90f5c3ff6c4cede446d1027a90de1940c1	8.8 KB	2026-03-26T15:23:34	doc
docs/magic-experience.md	81b8e68a89b12a6ab0a3bdc3f77c8318739ddedbb5f346c203ae456c83939b2	7.1 KB	2026-03-26T15:36:02	doc
pyproject.toml	d4cf5cd5d478a9ce62338bc0901f52f9b22b3e1458e52b5eadbe6f080724c406	1.3 KB	2026-03-26T18:43:05	config
scripts/sync-to-macmini.sh	0f3a7f839251abe8006250e5314c4903fb2217ef5c5fc010e4d92b97815ff39	378 B	2026-03-26T07:58:05	code
signal-provenance.spec	79bf98819fe41dd2f43042f6ef292a1b3a5bea773617a257850462814154005b	1.6 KB	2026-03-26T17:24:16	other
src/signal_provenance/__init__.py	9bd7ee9a34bb0c5c9d6588676a6fef30b3dea6524b04cf62192d50c0cfcbf602	98 B	2026-03-26T15:58:41	code
src/signal_provenance/__main__.py	4e6e6a77369d8502863c1c01d652df7fb1762f3d83afd a2eadb4b662bde3de0a	100 B	2026-03-26T18:47:45	code
src/signal_provenance/app.py	294ecf564f605fc3e429c6b5b023128062a3a618ffd1671e9c3faa0693f098c3	9.9 KB	2026-03-26T18:20:12	code
src/signal_provenance/cli.py			2026-03-26T18:42:43	code

	dd50ef23f7ac0afd9bb915fb97566425e3b539adad48e5924c5b953d619d34d3	23.0 KB		
src/signal_provenance/config.py	58a72f5a15e2a9d7f7bb6cd0d5133b35dccaec78ffffc5ff641ce282a74f4b1	1.2 KB	2026-03-26T16:12:33	code
src/signal_provenance/dashboard.py	34407c5681c34d99c2a36ea0d0512bab4237ac4e21b19e49fffe043037bc76cd	68.9 KB	2026-03-26T20:02:32	code
src/signal_provenance/db.py	d515bb19169c253feb0a50a637429ff59c86e402ea8cd0100d9aa6db79f46af3	17.8 KB	2026-03-26T18:42:43	code
src/signal_provenance/export.py	5d8574003f589235fad3a9467a379e02954d706f375bb5b1616d6193d31c09f1	14.2 KB	2026-03-26T18:42:44	code
src/signal_provenance/harvest.py	b7ab5c136bda8482af691861a987f9fa145e513c0205eabbaa5bfb609d92943f	9.8 KB	2026-03-26T18:42:41	code
src/signal_provenance/license.py	8363a42fc319326c4d5f140b0af441bcfaf2f921eb05d19b9a0763e59fb7cec	7.6 KB	2026-03-26T18:42:45	code
src/signal_provenance/providers/__init__.py	2f5d054316a110c6d2470d3b5312e26fff20e13fd1542046eef3b57a4bc7382	6.9 KB	2026-03-26T15:38:40	code
src/signal_provenance/providers/gdrive.py	320ed33360bdc74734d99156b937ed6bc327d8bfe2576e0b2535c525c78a2eaa	5.0 KB	2026-03-26T15:27:53	code
src/signal_provenance/providers/local.py	16c87a5132194c69550037591f8ca8553d4c0e338e36b6ab4e0af2340ff190b5	3.4 KB	2026-03-26T15:38:22	code
src/signal_provenance/providers/s3.py	fb9dcc2b777bcbecad6b26645eaf656d4a7222d4b690bba87ba26ddb929e6fd1	4.3 KB	2026-03-26T15:27:05	code
src/signal_provenance/providers/sharepoint.py	fa3c2fd969e9f55039d84e3b1d05f64fff7590dd05c67dda233735ec4ed555b45	6.6 KB	2026-03-26T15:27:32	code
tests/__init__.py	e3b0c44298fc1c149afb4c8996fb92427ae41e4649b934ca495991b7852b855	0 B	2026-03-26T07:05:58	test
tests/test_dashboard.py	fe3ff0a833088da53a9bf96760bcfac3bc944a94562168a123b4dc58775b7654	1.6 KB	2026-03-26T15:48:44	test
tests/test_provenance.py	bdf5a4202c1360a90eb277860b025fe063ffdfefc7e78737531ec5b8ca23fc7a	5.4 KB	2026-03-26T07:07:48	test
tests/test_providers.py	c7896db859b723b6f51063ede43949fdd8ee7eaf408242a71b14a4aefc40f4cc	5.5 KB	2026-03-26T15:29:34	test
tests/test_watch.py	74685e62fb785a151861b384c1b0023a3a54ca603ba47108f8dbe524ff40a6bb	5.4 KB	2026-03-26T15:41:47	test

How to Verify This Report

Step 1: Install Signal Provenance on any machine: `curl -sL https://echology.io/install.sh | sh`

Step 2: Point it at the same directory: `signal-provenance verify /home/kylevines/echology/provenance`

Step 3: Compare the First Verification Point and Latest Verification Point hashes in the output with the values in this report. If they match, the chain is intact and no records have been tampered with.

The verification is fully deterministic and runs entirely on your machine. No data is sent to any external service.

System-Generated Attestation

This report was generated by Signal Provenance v1.0.0 at 2026-03-30T00:22:32.

The hash chain was verified at generation time. Result: **VALID**.

No human intervention was involved in the generation of this report.