

SAMPLE EVIDENCE PACK • MONTH-END SAVINGS INTEREST • COBOL → PYTHON

The proof your risk committee will ask for.

WHAT THIS RUN CAUGHT

The migrated code ran without a single error. It would have underpaid every senior customer's interest, every month.

Montora replayed ten recorded accounts against the new code, caught the two that differed, traced them to three missing lines, blocked the merge, and proved the fix on all ten.

10

recorded accounts replayed

2

differences caught before merge

100%

of the program's behaviours covered

10/10

accounts matching after the fix

Engineering

The exact account, field and lines of code behind every difference.

Risk

No unexplained difference on a critical field can merge. Overrides need a reason.

Audit

Who decided what and when, what was covered, and fingerprints for every result.

INSIDE

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Built from a public demo COBOL program and ten synthetic accounts, run through the real Montora engine. No customer data. The reviewer decision in Part 4 is illustrative.

PROGRAM	UNIT	MIGRATION	RECORDED RUNS
Month-end savings interest	2000-CALC-INTEREST	COBOL → Python	10 accounts

PART 1

Verdict

Blocked: 2 of 10 accounts disagree.

The migrated code returned different interest and closing balances for two accounts. Both are critical fields, so the change cannot merge until the difference is resolved.

■	Every critical field matches 2 accounts differ on interest paid and closing balance	FAILED
■	No critical path diverges Control flow matched on every account	PASSED
■	Coverage above the 90% floor 100% of the program's behaviours exercised	PASSED
■	Critical fields confirmed by your team Closing balance, interest paid, fee charged, account status	PASSED
□	Usable as final sign-off evidence Not yet: development run against an independent model of the program	NOT YET

PART 2

Account by account

Each recorded account was run through the original program and the migrated code, and every output field compared with exact decimals.

ACCOUNT	AGE	INTEREST · ORIGINAL	INTEREST · NEW	CLOSING · ORIGINAL	CLOSING · NEW
■ ACC001	40	0.21	0.21	500.21	500.21
■ ACC002	40	5.21	5.21	5,005.21	5,005.21
■ ACC003	40	33.33	33.33	20,033.33	20,033.33
■ ACC004	70	6.25	5.21	5,006.25	5,005.21
■ ACC005	40	0.13	0.13	295.13	295.13
■ ACC006	40	0.00	0.00	0.00	0.00
■ ACC007	68	10.00	8.33	8,005.00	8,003.33
■ ACC008	40	1.04	1.04	1,001.04	1,001.04
■ ACC009	40	16.67	16.67	10,016.67	10,016.67
■ ACC010	40 dormant	0.00	0.00	2,500.00	2,500.00

PART 3

Why they differ

Both accounts belong to customers aged 65 or over. The original program adds a senior bonus to the interest rate; the migrated code leaves it out. The difference was traced to one unit of the program:

ORIGINAL PROGRAM · LINES 101-103 · MISSING FROM THE NEW CODE

```
IF LK-ACCT-AGE >= WS-SENIOR-AGE
  ADD WS-SENIOR-BONUS TO WS-APPLIED-RATE
END-IF
```

Business rule affected: savings customers aged 65 or over earn a 0.25% bonus on top of their tier rate.

Reviewer decision

Changes requested

“Senior bonus missing from 2000-CALC-INTEREST. Re-migrate the unit and replay before approval.”

Recorded with the reviewer, the time and the reason. (Example)

After the fix

10 of 10 accounts match.

The re-migrated code was replayed against the same recorded accounts.
Every critical field is identical, so the change can go to a reviewer for approval.

■ Every critical field matches	PASSED
10 of 10 accounts identical on every critical field	
■ No critical path diverges	PASSED
Control flow matched on every account	
■ Coverage above the 90% floor	PASSED
100% of the program's behaviours exercised	
■ Critical fields confirmed by your team	PASSED
Closing balance, interest paid, fee charged, account status	
□ Usable as final sign-off evidence	NOT YET
Next step: the same replay against runs recorded on your real system	

The last check stays open on purpose. Montora will not present a development run as final sign-off evidence; that needs the same replay against runs recorded on your real system.

Coverage

The ten recorded accounts exercised all ten of the program's behaviours, so the result speaks for every path through it, not just the common ones.

- | | |
|---|---|
| ■ Tier 1 rate (balance under 1,000) | ■ Tier 2 rate (balance under 10,000) |
| ■ Tier 3 rate (balance 10,000 and over) | ■ Senior bonus applied (65+) |
| ■ No senior bonus | ■ Low-balance fee charged |
| ■ Fee capped at the balance | ■ No fee |
| ■ Active account | ■ Dormant account (no interest, no fee) |

Integrity

Both results are signed with Montora's Ed25519 key, and every version of the code is fingerprinted. Anyone can check that this evidence is exactly what was run, and that it came from Montora, using only the public key: no login, no access to our systems, no trust required.

Original COBOL program	sha256:77c4e534229da9dd2a77ad327ae8441b
Migrated code, first run	sha256:9e1ee94066d2af0f73cc29bbce0d1e78
Migrated code, after the fix	sha256:f26a95d5dba149794d44177616bf825e
Signature, first run	ed25519:49eaf693dc8459d71e10be2f6039e564...
Signature, after the fix	ed25519:4159e64bec22a3c0ecffa7350c338e5c...
Signing key	ed25519-721ed1a9292adfc9

VERIFY IT YOURSELF

1. Download the signed results, the public key and the verifier:

First run (signed result)

montoralabs.com/evidence/replay-result-first-run.json

After the fix (signed result)

montoralabs.com/evidence/replay-result-after-fix.json

Montora public signing key

montoralabs.com/.well-known/montora-replay-signing-key.json

Verifier script (Python, 1 dependency)

montoralabs.com/evidence/verify_replay_result.py

2. Run the verifier (Python with the cryptography package):

```
python verify_replay_result.py replay-result-first-run.json \
  --public-key d4a5ed99ff2250f32fccc15839cd285ec5cbc6bbcec8bca387c427dd9a10cf37
```

It prints **VALID** for each result. Change a single number in either file and it reports the result as tampered.

Get this for your own code.

A four-to-six-week design-partner pilot: Montora migrates one contained COBOL application or batch job with your team and ends with an evidence pack like this one.

- Your system migrated to Java, Python or C#, approved change by change by your own people
 - An evidence pack for every change, like the one in this document
 - Your business rules written down, linked to the code and confirmed by your experts
 - A forecast for the rest of your estate, measured on your own code
 - A fixed fee, scoped with you before anything starts. You keep the code and the evidence.
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HOW A PILOT WORKS

montoralabs.com/pilot

START A CONVERSATION

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Montora. Legacy modernisation, verified.