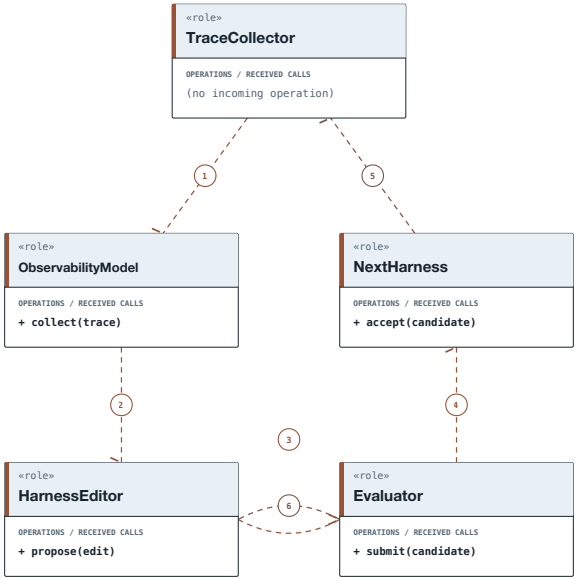
E10 Observability-driven harness evolution

Evolution / UML CLASS VIEW / ANALYTICAL MODEL

Use traces to guide candidate changes.

UML CLASS VIEW

dashed arrow: call dependency · brown: return/failure · analytical, not an observed trace



POINTCUT / PATTERN INTERFACE

CONTEXT	Harness traces and evaluation results are available for improvement.
TRIGGER	Analysis identifies a failure or opportunity and proposes a harness change.
STRUCTURE	Trace schema, analyzer, authorized edit scope, evaluation gate, and regression suite.
EFFECT	The harness change is trace-linked and accepted only after evaluation.

CONTRACT / REQUIRED BEHAVIOR

REQUIRES	Trace links compare runs and identify the affected harness component.
ENSURES	Accepted changes retain observation, hypothesis, diff, and evaluation provenance.
INVARIANT	A changed harness still passes regression and security checks.
VIOLATION	Non-reproducible traces or regressions reject or quarantine the change.

RELATIONSHIPS / ANALYTICAL CALLS

number · caller → callee · message

1 TraceCollector → ObservabilityModel collect(trace)
2 ObservabilityModel → HarnessEditor propose(edit)
3 HarnessEditor → Evaluator submit(candidate)
4 Evaluator → NextHarness accept(candidate)
5 NextHarness ↩ TraceCollector observe(trace)
6 Evaluator ↩ HarnessEditor revise(failure)

VARIATION / TEST / NEGATIVE CONTROL

VARIATION	Trace-guided edits, observability loops, automated diagnosis, and transfer tests.
TEST_OBLIGATION	Test diagnosis, accepted change, rejected regression, and cross-task transfer.
NEGATIVE_CONTROL	Logging without a trace-to-change decision is not E10.