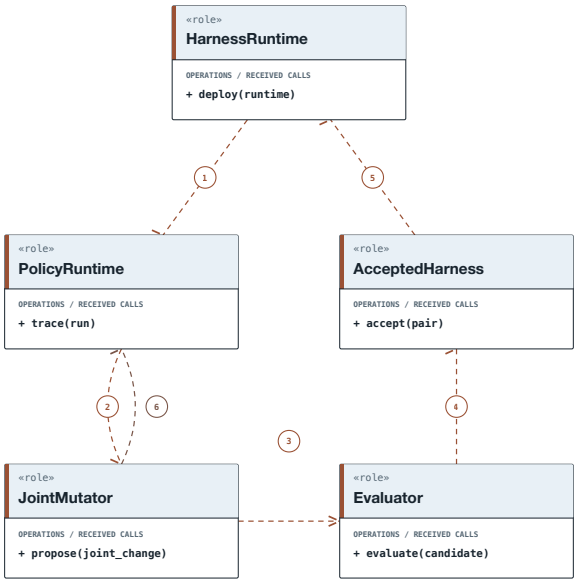
E06 Joint harness-policy evolution

Evolution / UML CLASS VIEW / ANALYTICAL MODEL

Adapt runtime structure and policy together.

UML CLASS VIEW

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



POINTCUT / PATTERN INTERFACE

CONTEXT	Runtime harness and model policy can both change.
TRIGGER	An evolution round evaluates task behavior and proposes changes to either or both.
STRUCTURE	Task interface, harness representation, policy representation, and joint evaluator.
EFFECT	The selected pair is evaluated as a pair with attribution for harness and policy changes.

CONTRACT / REQUIRED BEHAVIOR

REQUIRES	Policy and harness variants are versioned jointly.
ENSURES	Results identify the evaluated pair and separate objective contributions where possible.
INVARIANT	A policy gain is not reported as a harness gain without an ablation.
VIOLATION	Failed candidates or incompatible pairs are excluded with reason.

RELATIONSHIPS / ANALYTICAL CALLS

number · caller → callee · message

1 HarnessRuntime → PolicyRuntime trace(run)
2 PolicyRuntime → JointMutator propose(joint_change)
3 JointMutator → Evaluator evaluate(candidate)
4 Evaluator → AcceptedHarness accept(pair)
5 AcceptedHarness → HarnessRuntime deploy(runtime)
6 JointMutator ↩ PolicyRuntime rollback(policy)

VARIATION / TEST / NEGATIVE CONTROL

VARIATION	Curated pairs, coevolution, alternating optimization, and ablation controls.
TEST_OBLIGATION	Test pair compatibility, harness-only, policy-only, joint, and transfer.
NEGATIVE_CONTROL	Retraining only the model with a fixed harness is not joint evolution.