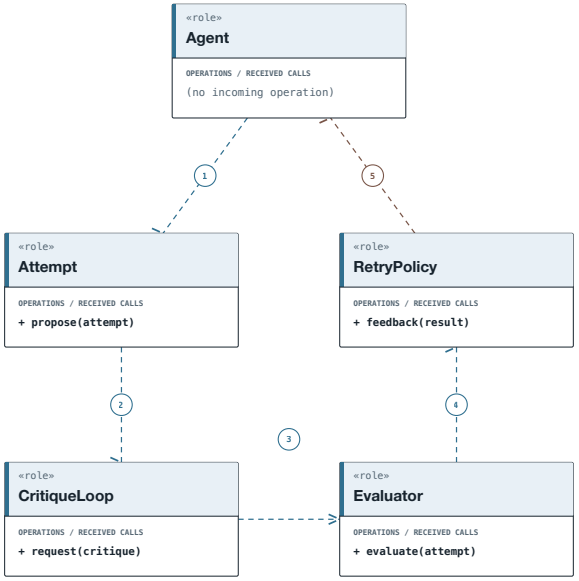
P20 Reflection-augmented loop

Primitive / UML CLASS VIEW / ANALYTICAL MODEL

Use feedback to revise attempts.

UML CLASS VIEW

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



POINTCUT / PATTERN INTERFACE

CONTEXT	An attempt can be evaluated before a further attempt.
TRIGGER	The attempt fails or receives a critique.
STRUCTURE	Attempt record, feedback producer, revision input, and retry bound.
EFFECT	A revised attempt uses recorded feedback while preserving attempt lineage.

CONTRACT / REQUIRED BEHAVIOR

REQUIRES	Failure evidence and remaining retry budget are available.
ENSURES	Feedback is attached to the attempt that produced it and is visible to revision.
INVARIANT	Self-critique is not represented as independent verification.
VIOLATION	Empty, contradictory, or exhausted feedback terminates or escalates.

RELATIONSHIPS / ANALYTICAL CALLS

number · caller → callee · message

1 Agent → Attempt propose(attempt)
2 Attempt → CritiqueLoop request(critique)
3 CritiqueLoop → Evaluator evaluate(attempt)
4 Evaluator → RetryPolicy feedback(result)
5 RetryPolicy ↩ Agent revise(retry)

VARIATION / TEST / NEGATIVE CONTROL

VARIATION	Self-critique, external evaluator, memory injection, and iterative refinement.
TEST_OBLIGATION	Test useful feedback, contradictory feedback, exhaustion, and repeated error.
NEGATIVE_CONTROL	A static system prompt asking the model to reflect is not enough.