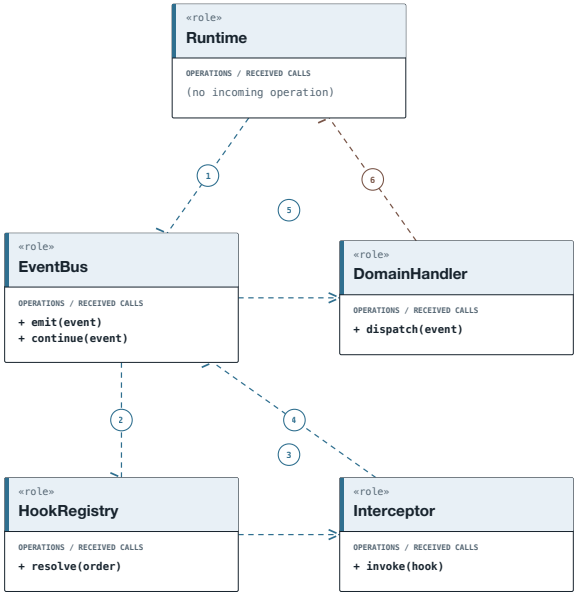
P16 Hooks and event bus

Primitive / UML CLASS VIEW / ANALYTICAL MODEL

Extend behavior at named events.

UML CLASS VIEW

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



POINTCUT / PATTERN INTERFACE

CONTEXT	Harness lifecycle emits named events or hook points.
TRIGGER	A model, tool, turn, or agent event is published.
STRUCTURE	Event schema, registration, handler ordering, and interception result.
EFFECT	Registered handlers observe or transform behavior at the declared point.

CONTRACT / REQUIRED BEHAVIOR

REQUIRES	Event names and payload schemas are stable within a run.
ENSURES	Handler order and whether a result may be modified are explicit.
INVARIANT	A handler cannot create an undetected recursive event storm.
VIOLATION	Handler failure and reentrancy have defined isolation or propagation behavior.

RELATIONSHIPS / ANALYTICAL CALLS

number · caller → callee · message

1 Runtime → EventBus emit(event)
2 EventBus → HookRegistry resolve(order)
3 HookRegistry → Interceptor invoke(hook)
4 Interceptor → EventBus continue(event)
5 EventBus → DomainHandler dispatch(event)
6 DomainHandler ↩ Runtime return(result)

VARIATION / TEST / NEGATIVE CONTROL

VARIATION	Hook registry, event bus, observer, middleware, and priority.
TEST_OBLIGATION	Test order, reentrancy, exception, unsubscribe, and conflicting handlers.
NEGATIVE_CONTROL	A direct logging statement is not an extensible hook.