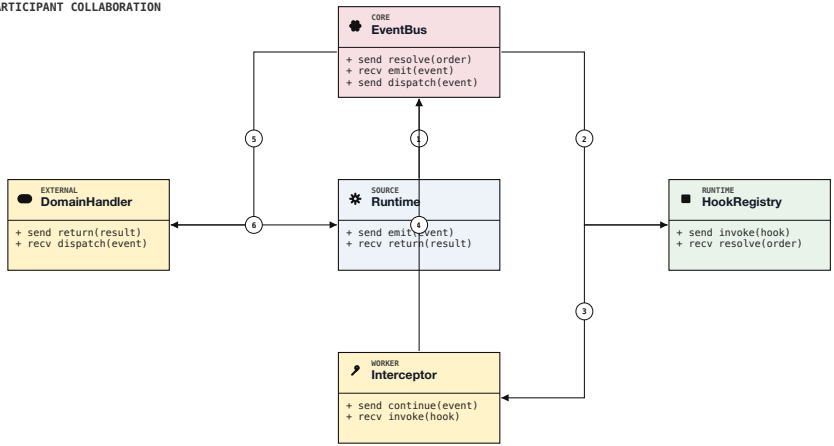
P16 Hooks and event bus

Primitive · A² A1/A3 · hub role collaboration

Extend behavior at named events.

STRUCTURE · PARTICIPANT COLLABORATION



PATTERN INTERFACE

context
Harness lifecycle emits named events or hook points.

trigger
A model, tool, turn, or agent event is published.

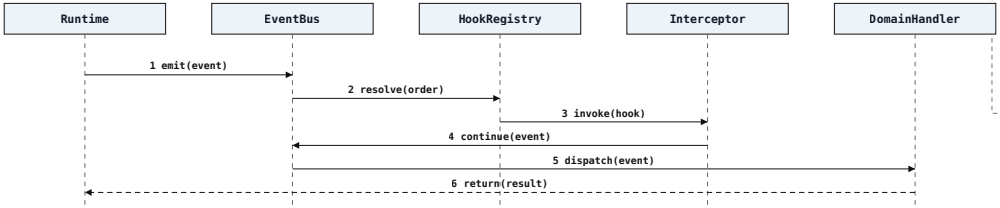
structure
Event schema, registration, handler ordering, and interception result.

effect
Registered handlers observe or transform behavior at the declared point.

CONTRACT ANNOTATIONS

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.

INTERACTION



MESSAGE TRACE `1 emit(event) → 2 resolve(order) → 3 invoke(hook) → 4 continue(event) → 5 dispatch(event) → 6 return(result)`

Evidence: 34/41 repositories, 31/36 families; 34 trajectories (18 multi-checkpoint); exact audit: not sampled.

Variation: Hook registry, event bus, observer, middleware, and priority.

Negative control: A direct logging statement is not an extensible hook.