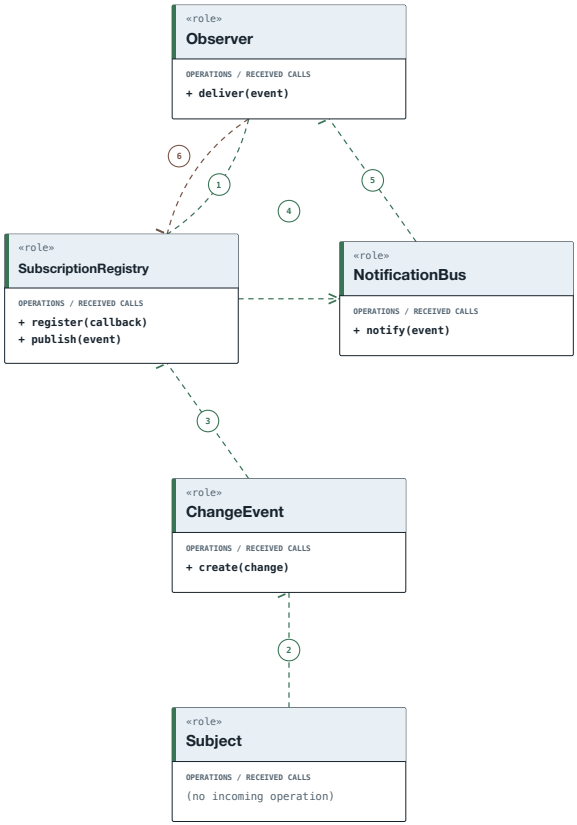
C02 Observer

Communication / UML CLASS VIEW / ANALYTICAL MODEL

Notify registered dependents of changes.

UML CLASS VIEW

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



POINTCUT / PATTERN INTERFACE

CONTEXT	A subject changes state or emits lifecycle information.
TRIGGER	The subject publishes a change notification.
STRUCTURE	Subscription registry, event payload, and observer callbacks.
EFFECT	Currently registered observers are notified under declared ordering semantics.

CONTRACT / REQUIRED BEHAVIOR

REQUIRES	Observer identity and subscription lifetime are defined.
ENSURES	Notification follows the event and unsubscribed observers no longer receive it.
INVARIANT	Observer failure does not corrupt subject state.
VIOLATION	Callback errors and cascades are isolated or propagated by explicit policy.

RELATIONSHIPS / ANALYTICAL CALLS

number · caller → callee · message

1 Observer → SubscriptionRegistry register(callback)
2 Subject → ChangeEvent create(change)
3 ChangeEvent → SubscriptionRegistry publish(event)
4 SubscriptionRegistry → NotificationBus notify(event)
5 NotificationBus → Observer deliver(event)
6 Observer ↩ SubscriptionRegistry acknowledge(result)

VARIATION / TEST / NEGATIVE CONTROL

VARIATION	Event emitter, listener, hooks, and stream observers.
TEST_OBLIGATION	Test subscribe, unsubscribe, ordering, callback error, and reentrancy.
NEGATIVE_CONTROL	Polling the subject rather than notification is not the observer pointcut.