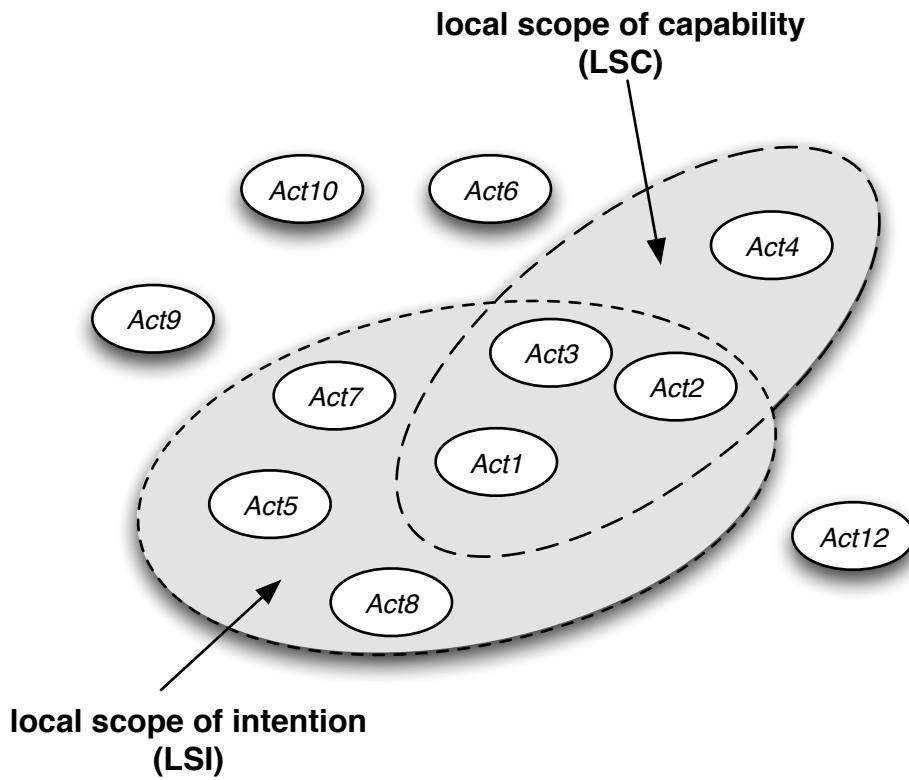
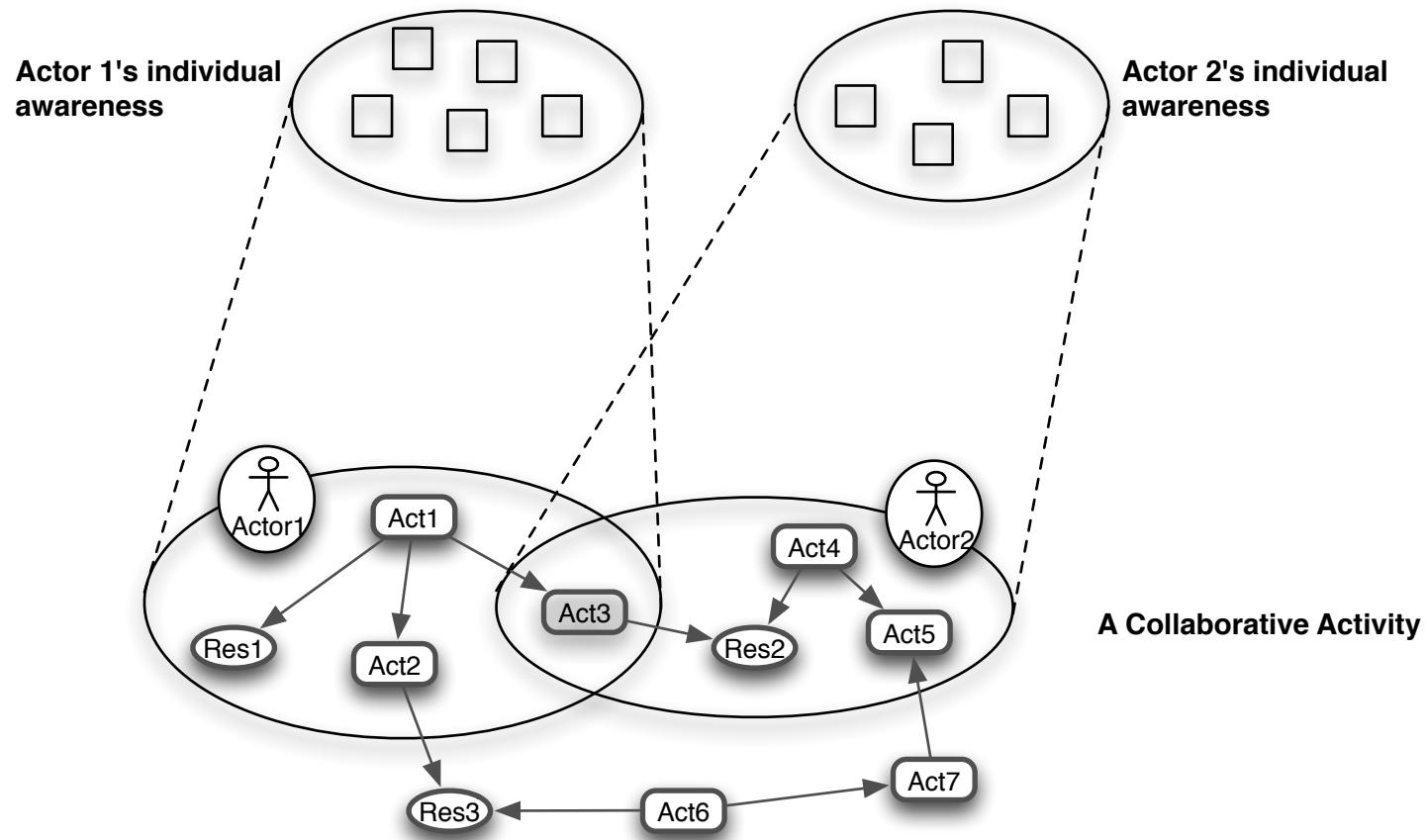
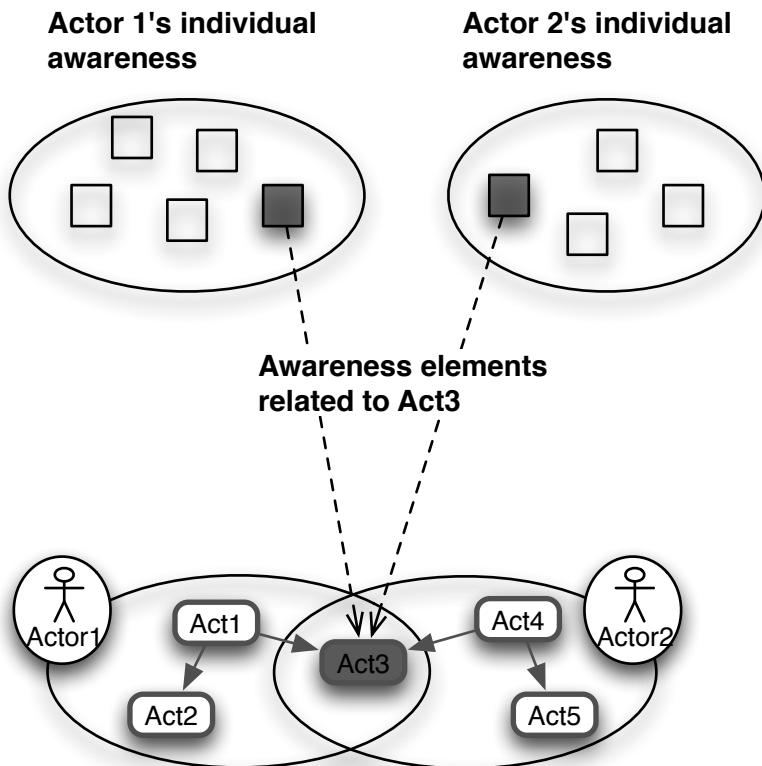


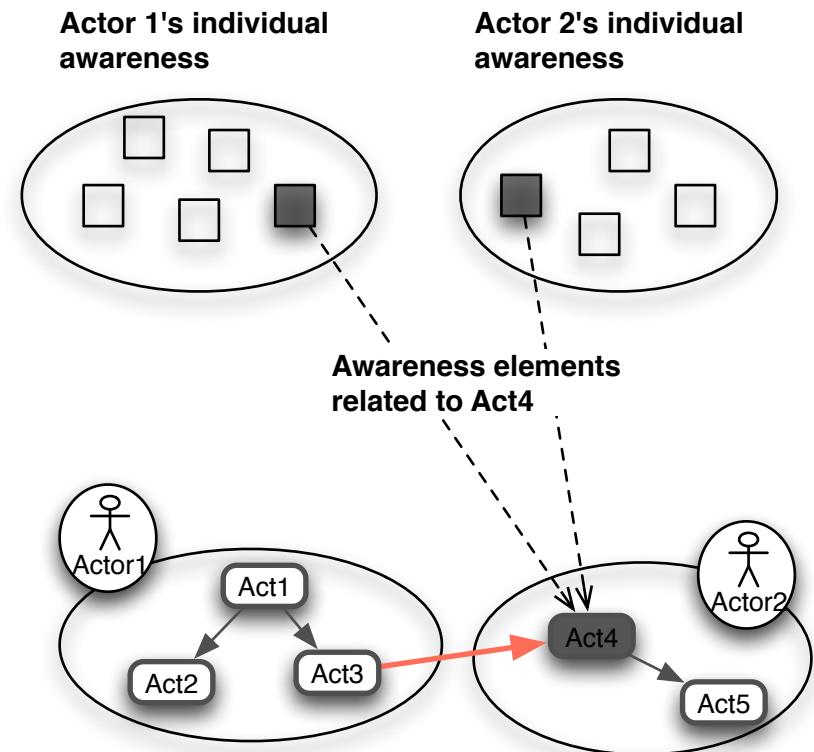
 action
 resource
 actor
 local scope of work
 → dependency



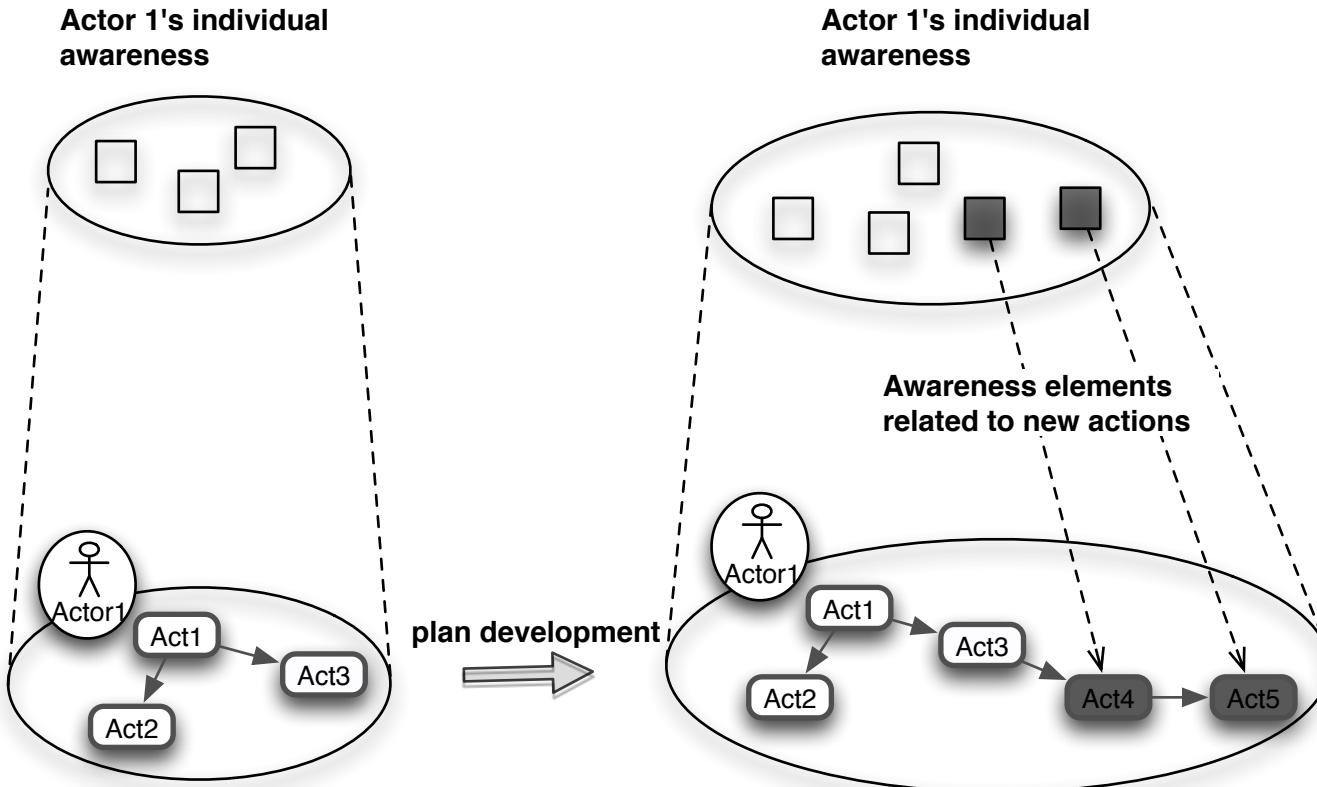


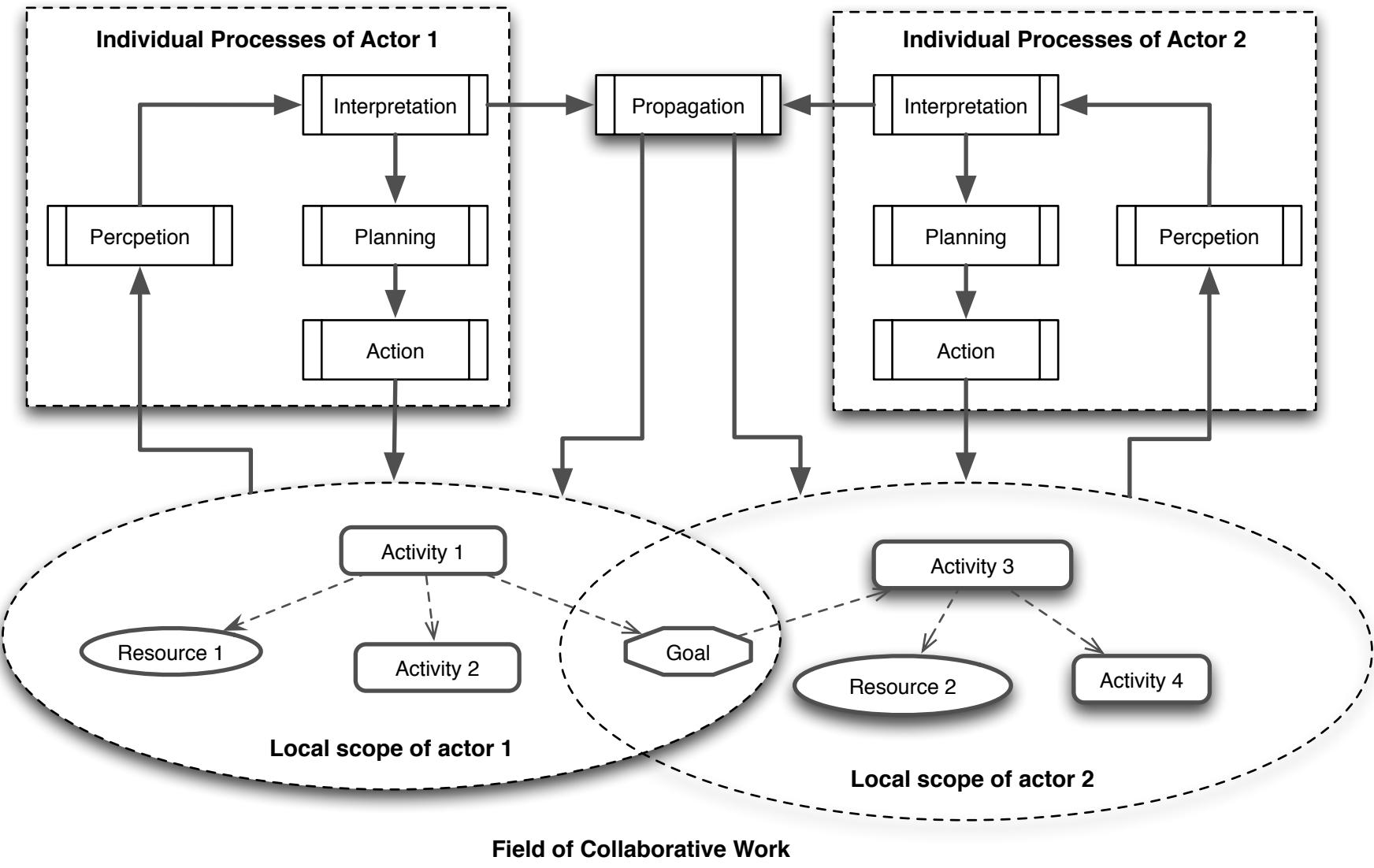


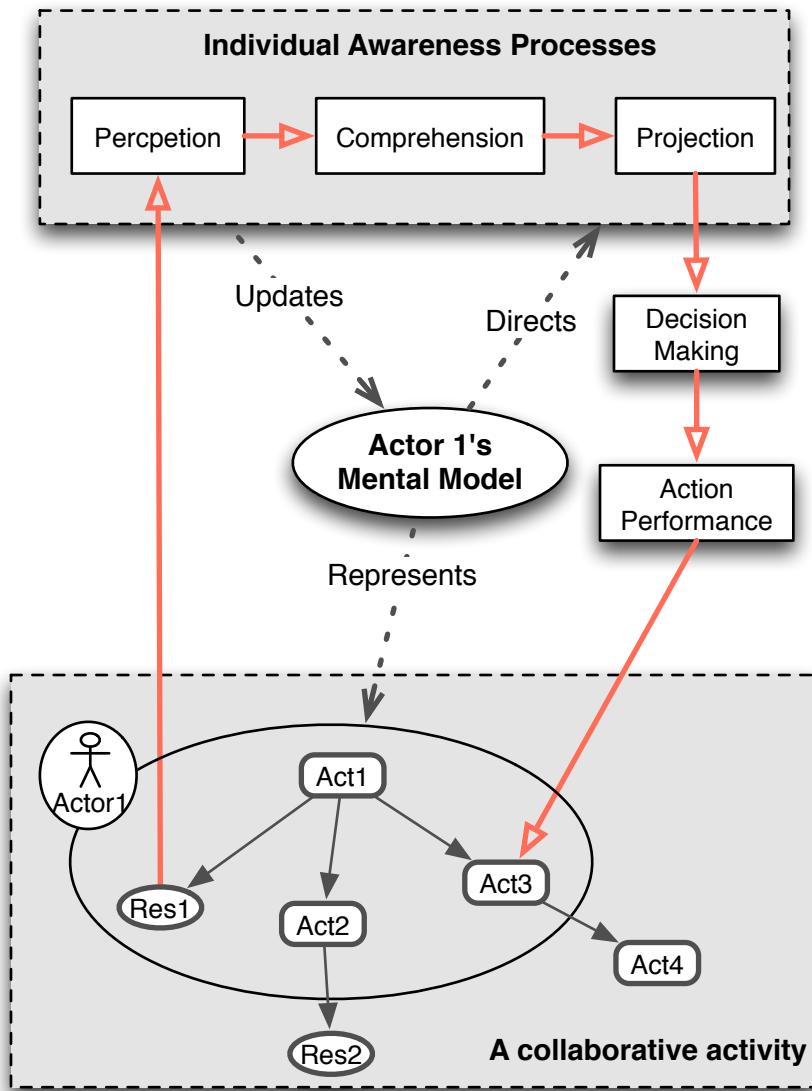
(1) Overlaps between local scopes

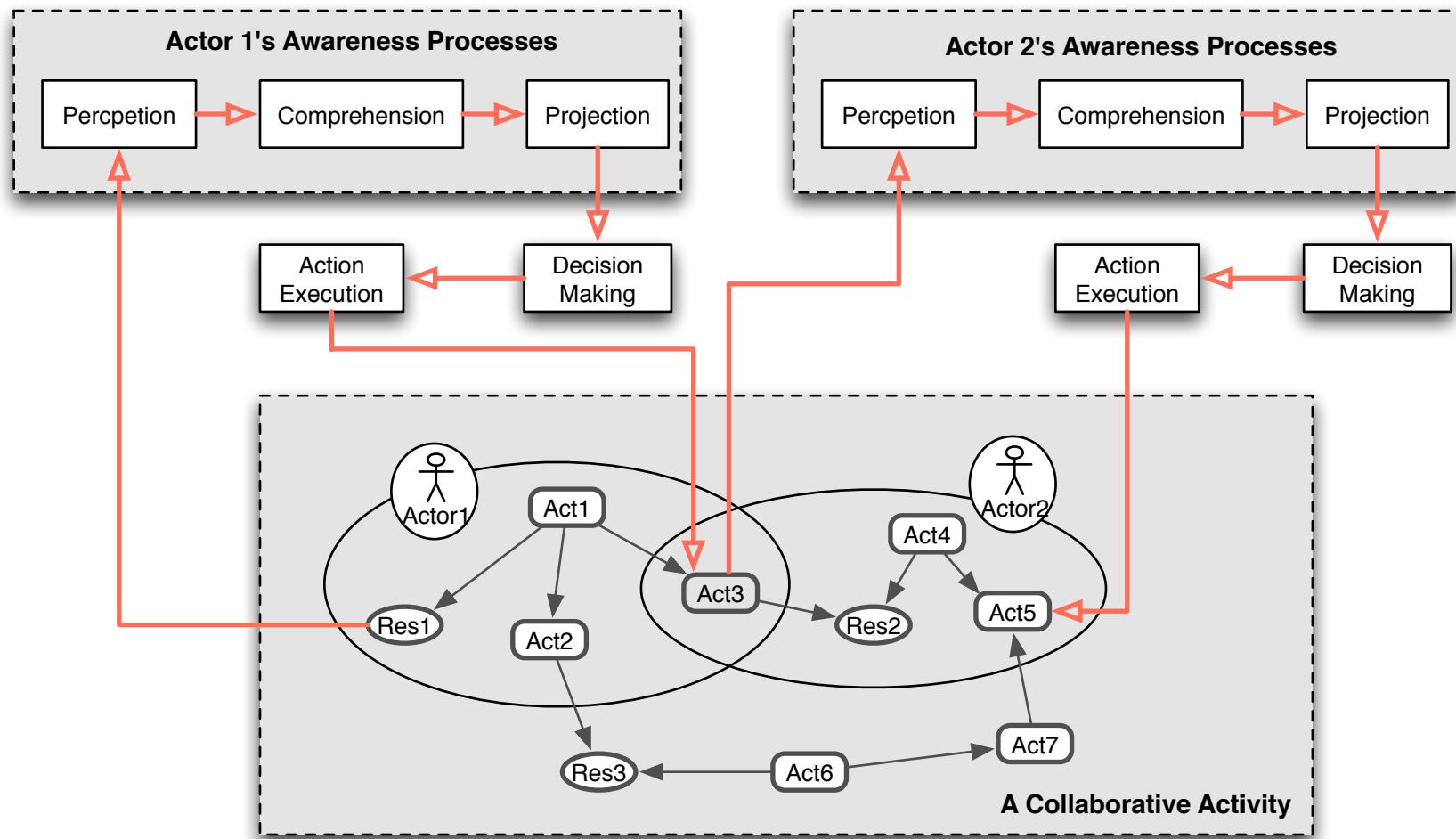


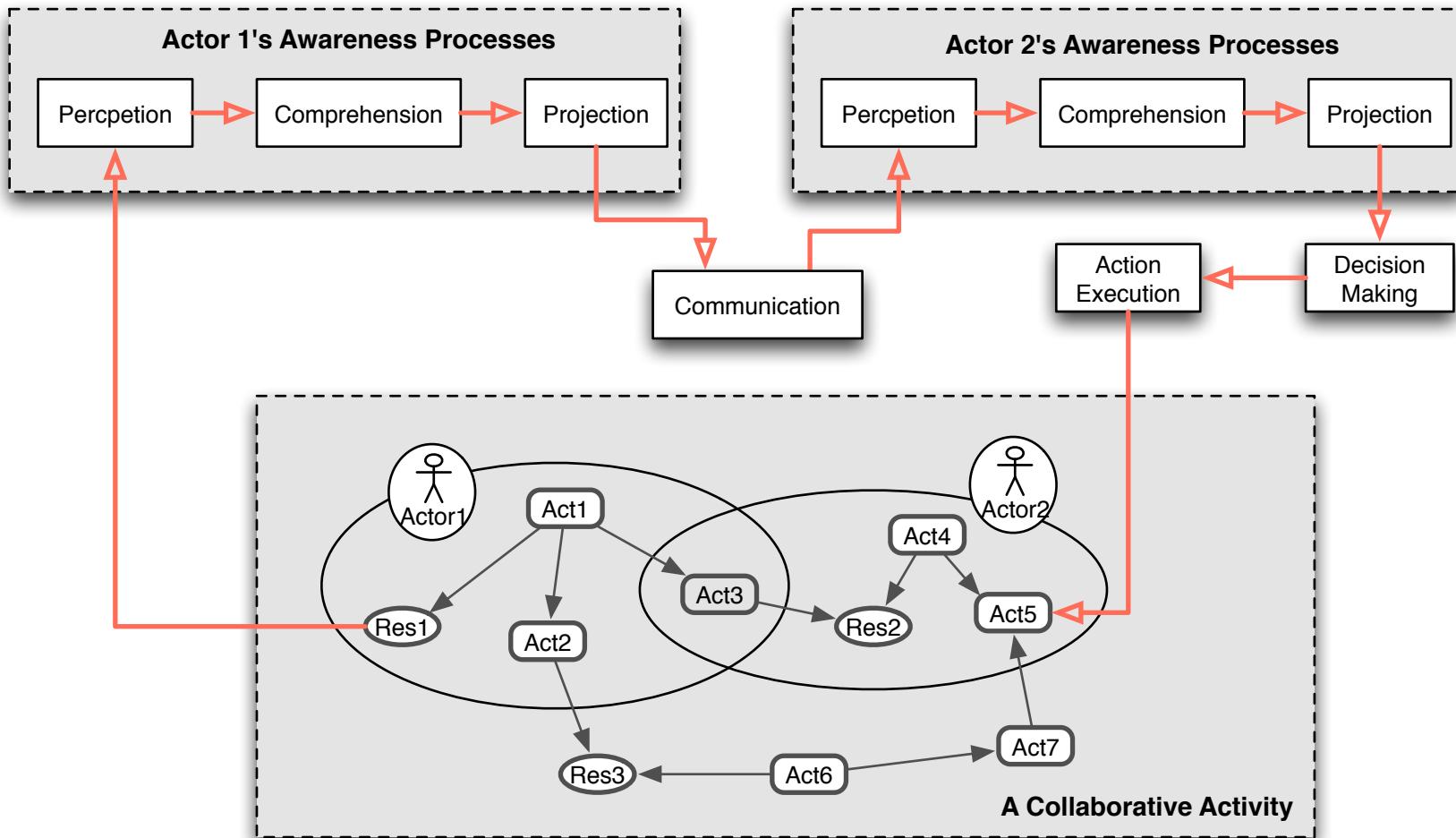
(2) Dependencies across local scopes

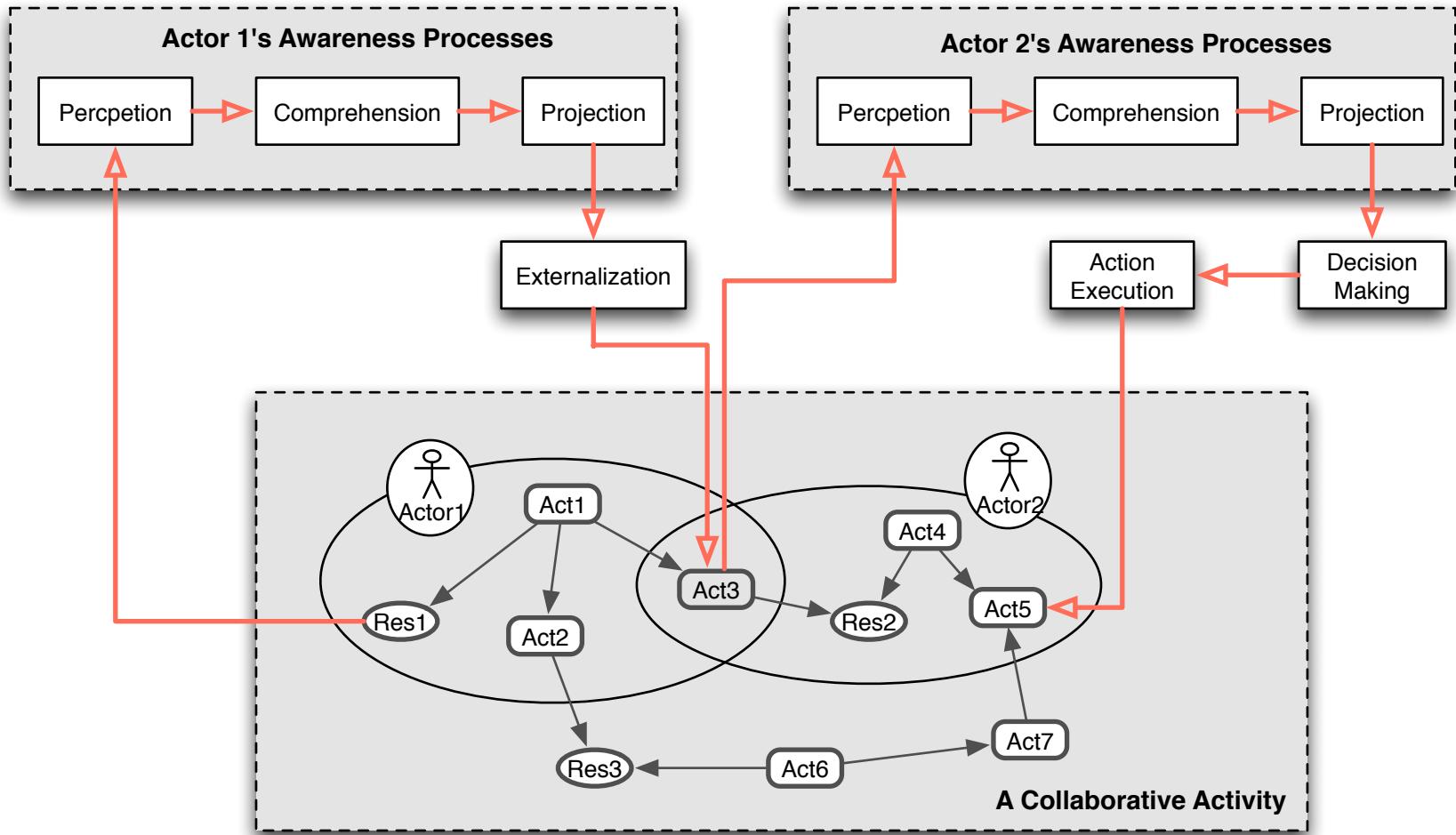


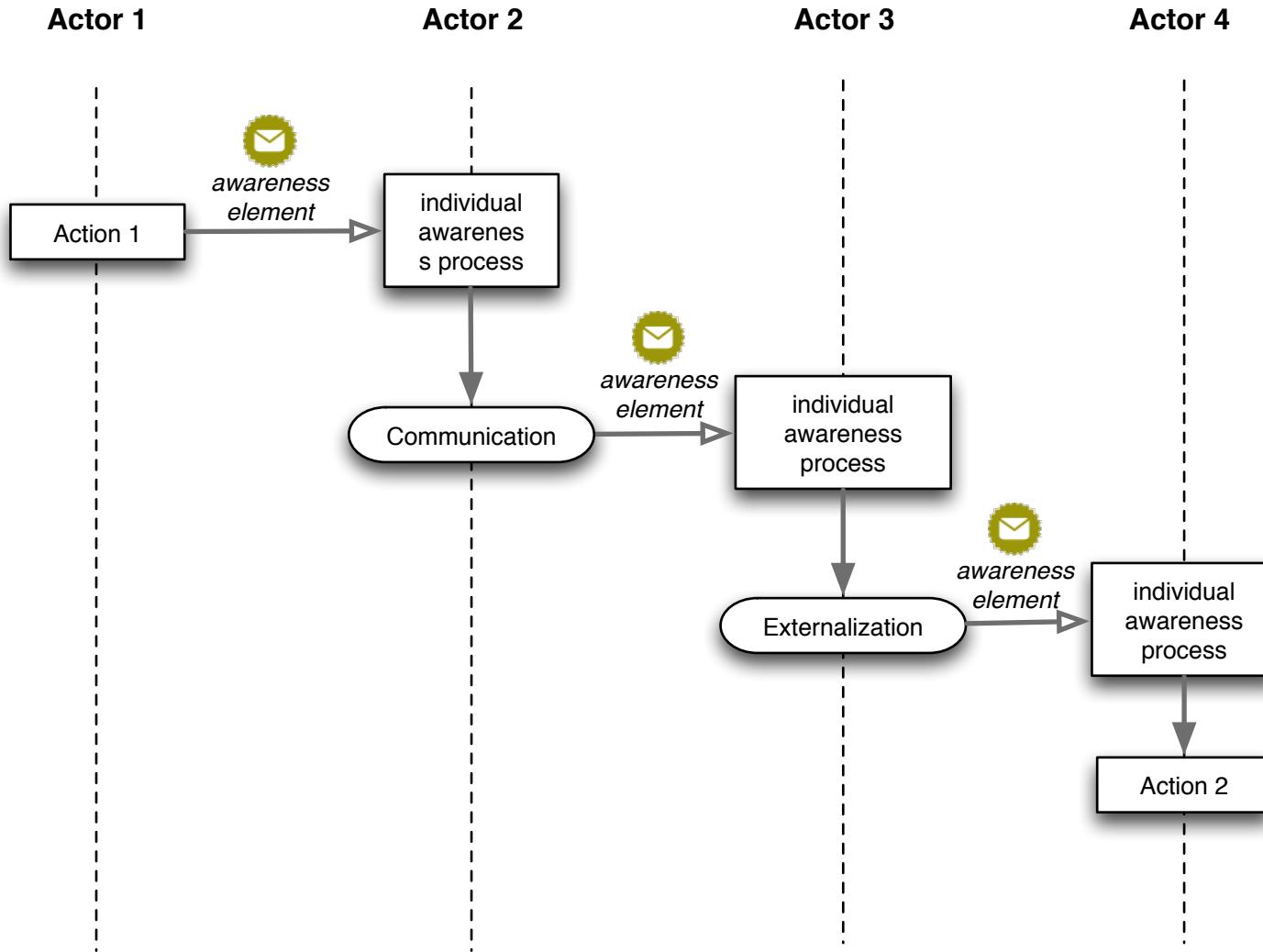


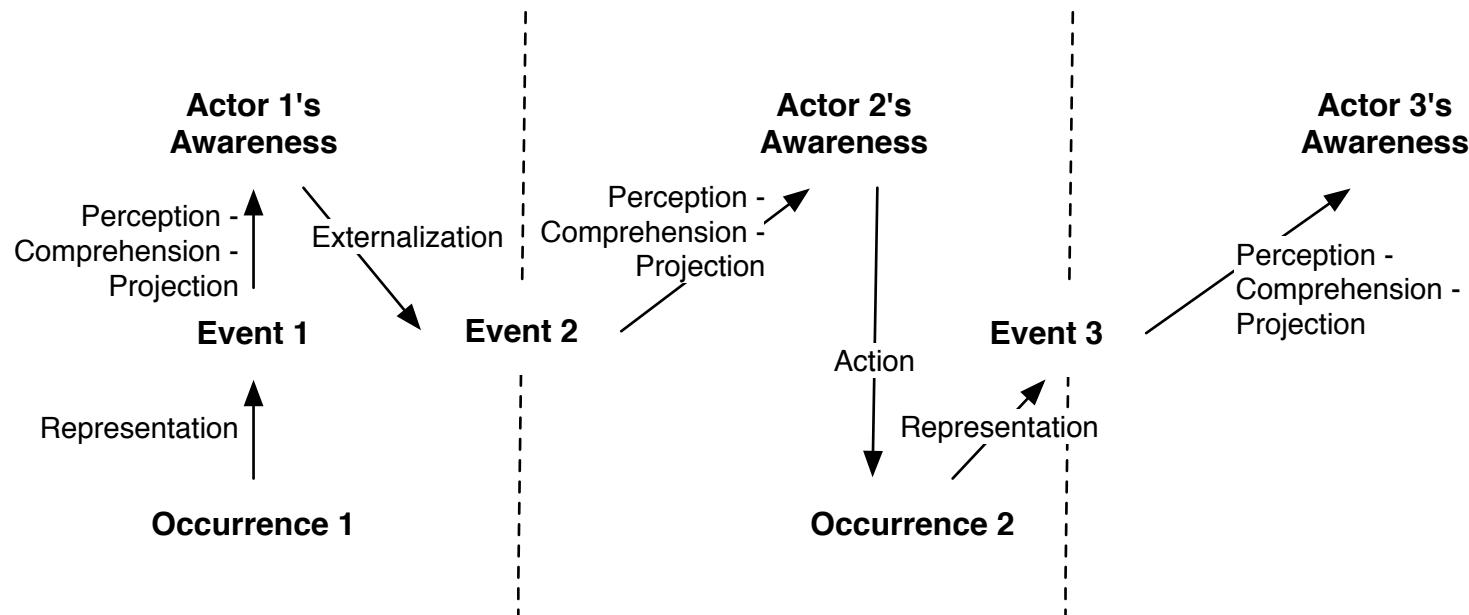
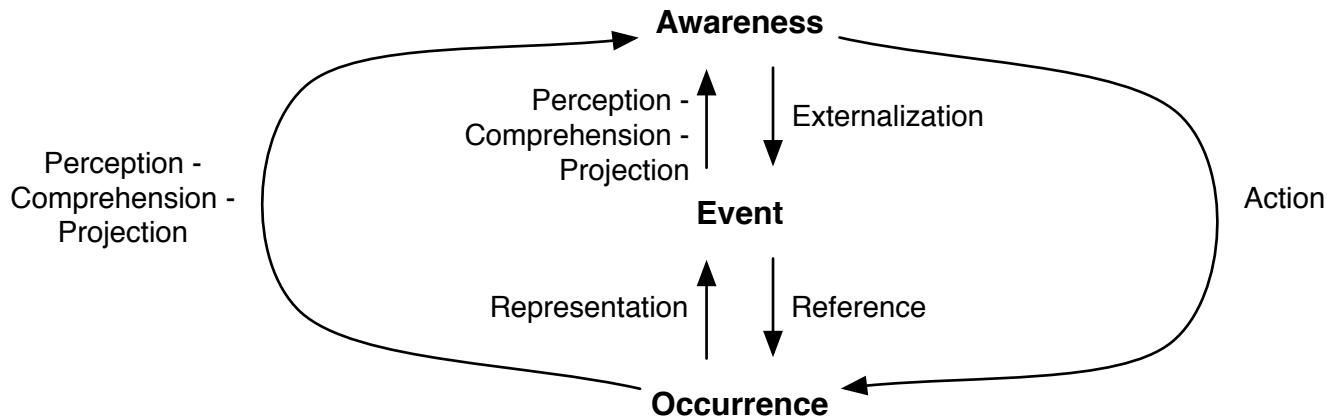


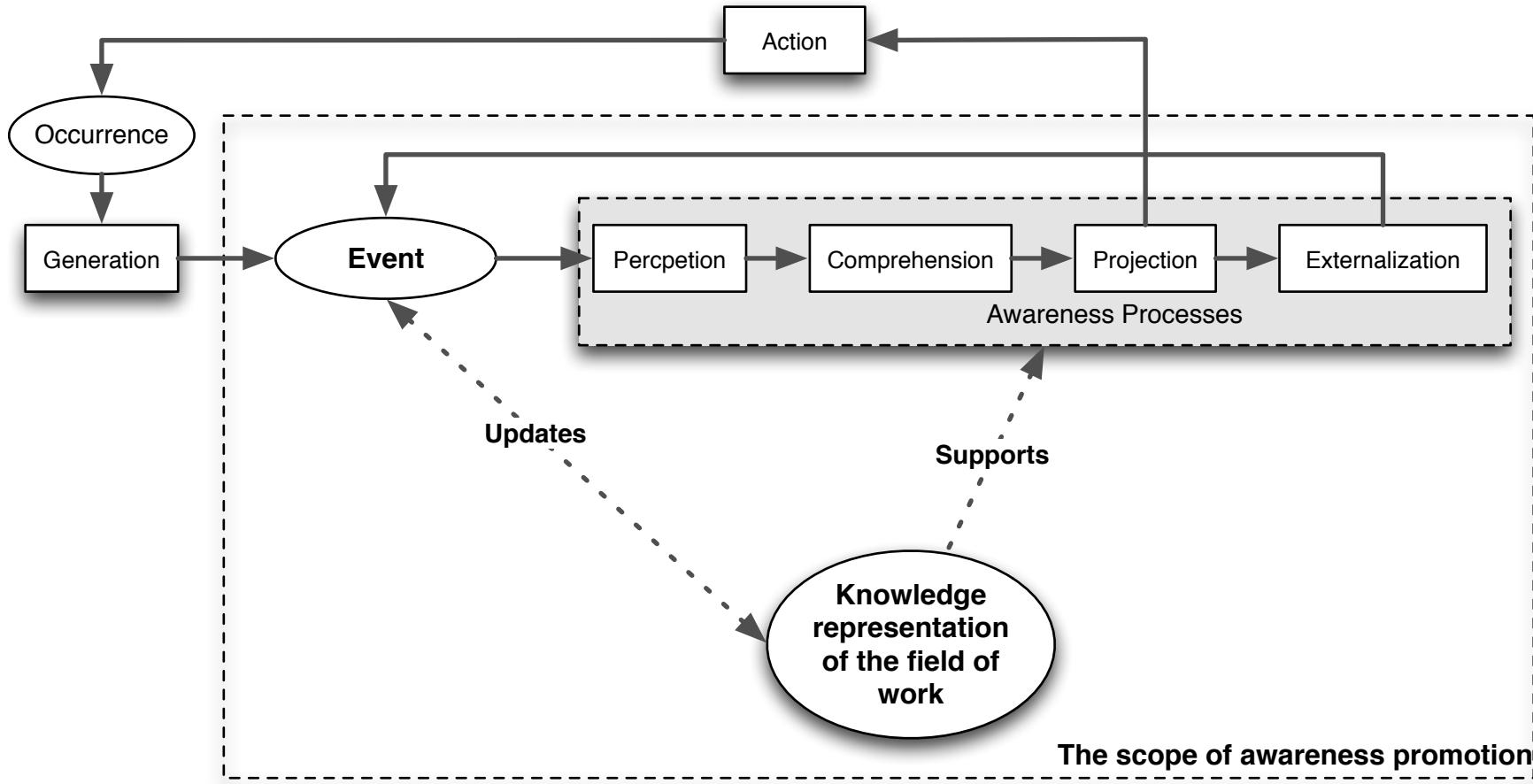


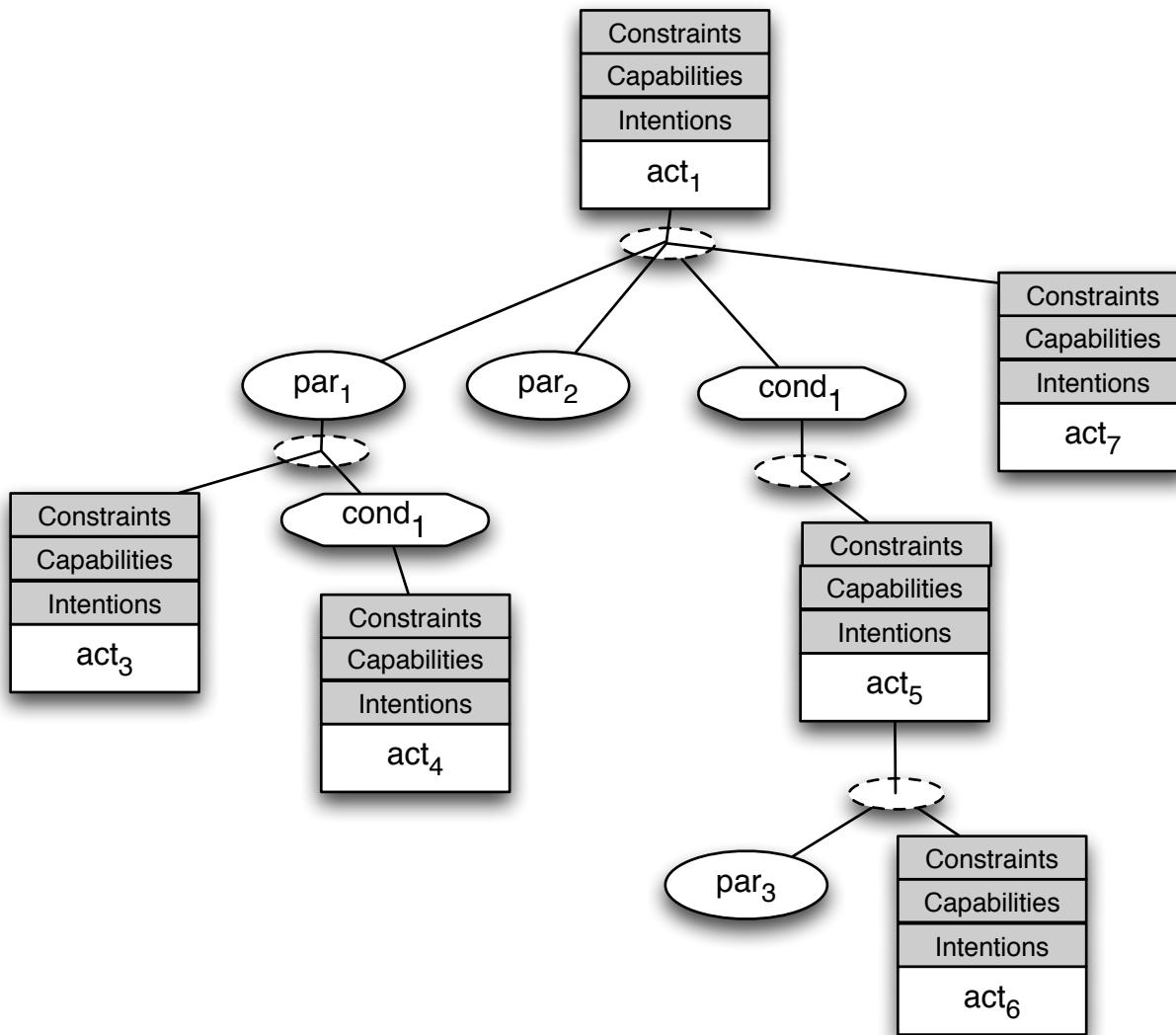


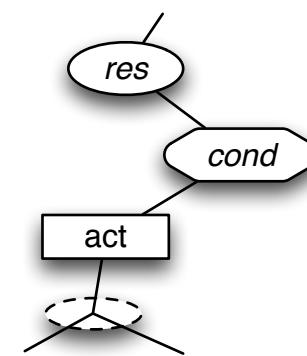
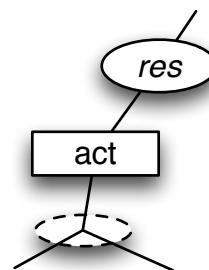
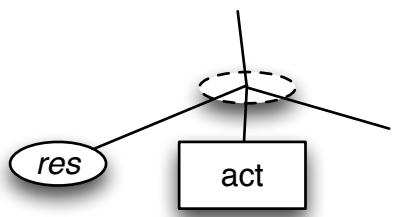
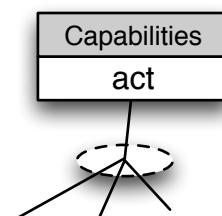
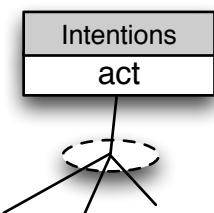
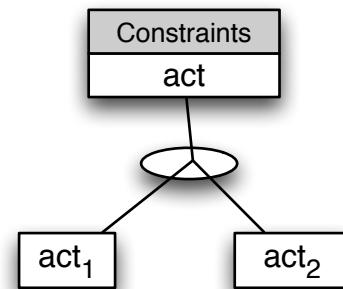
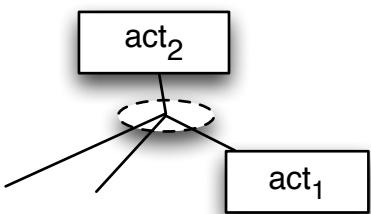


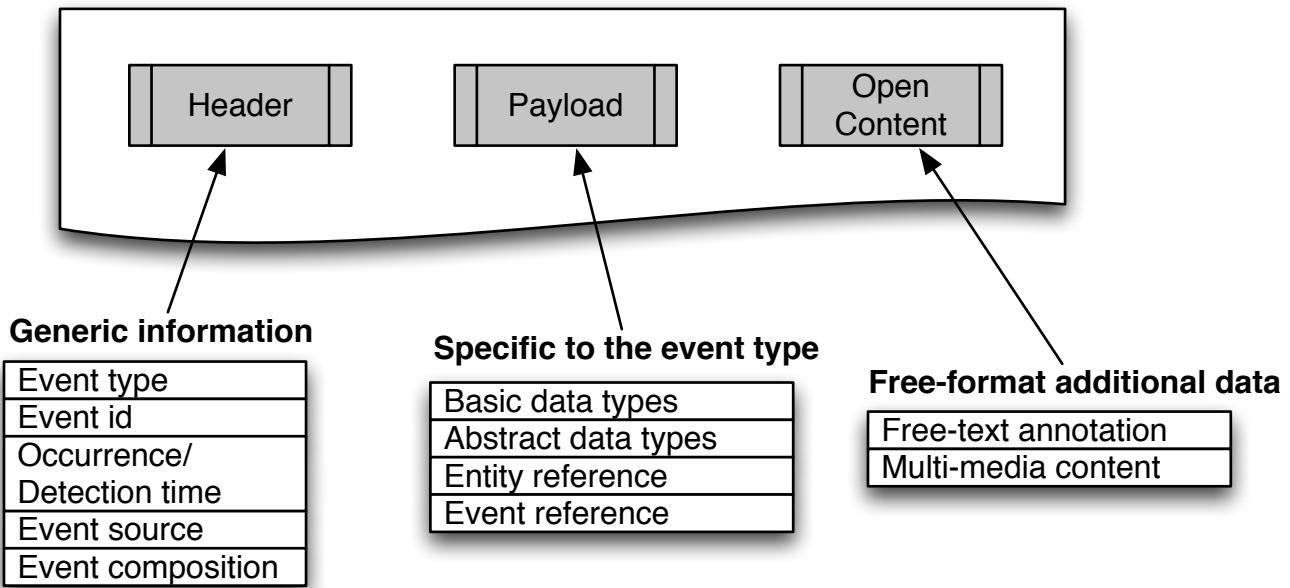


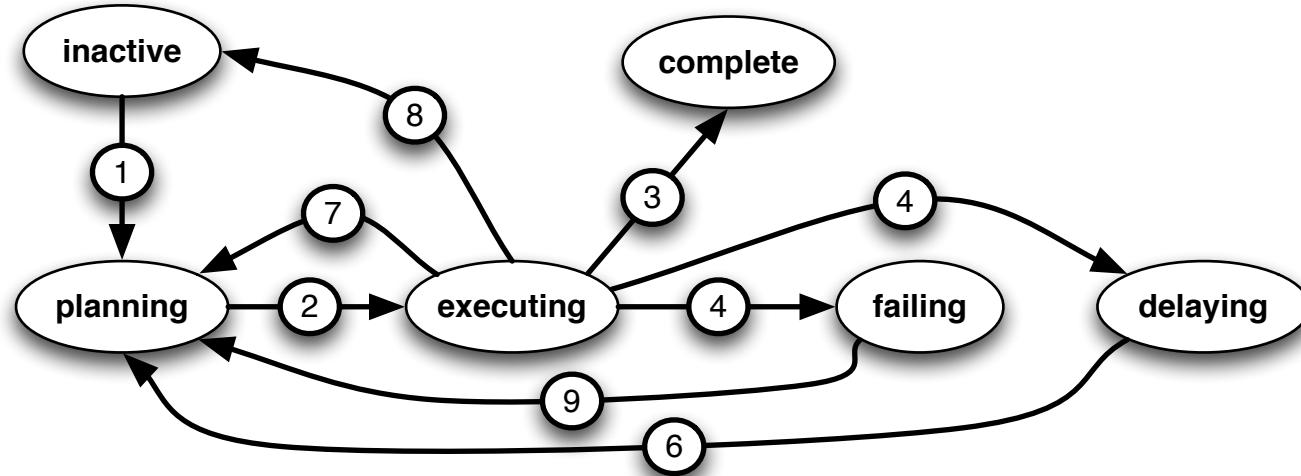


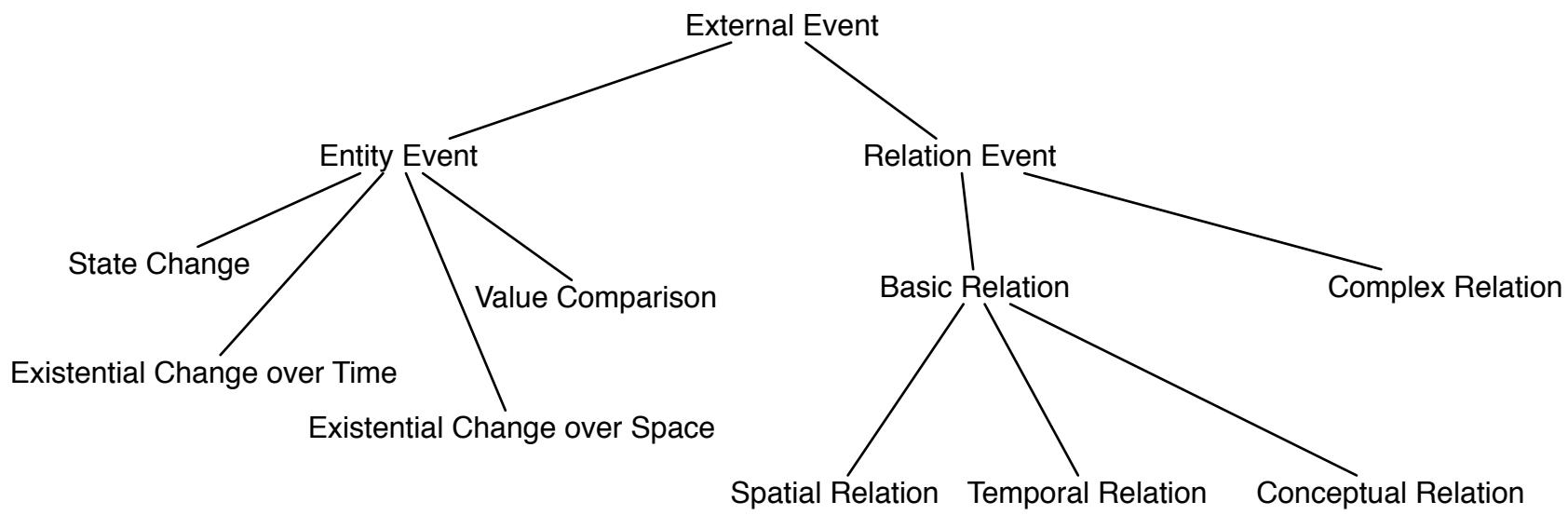


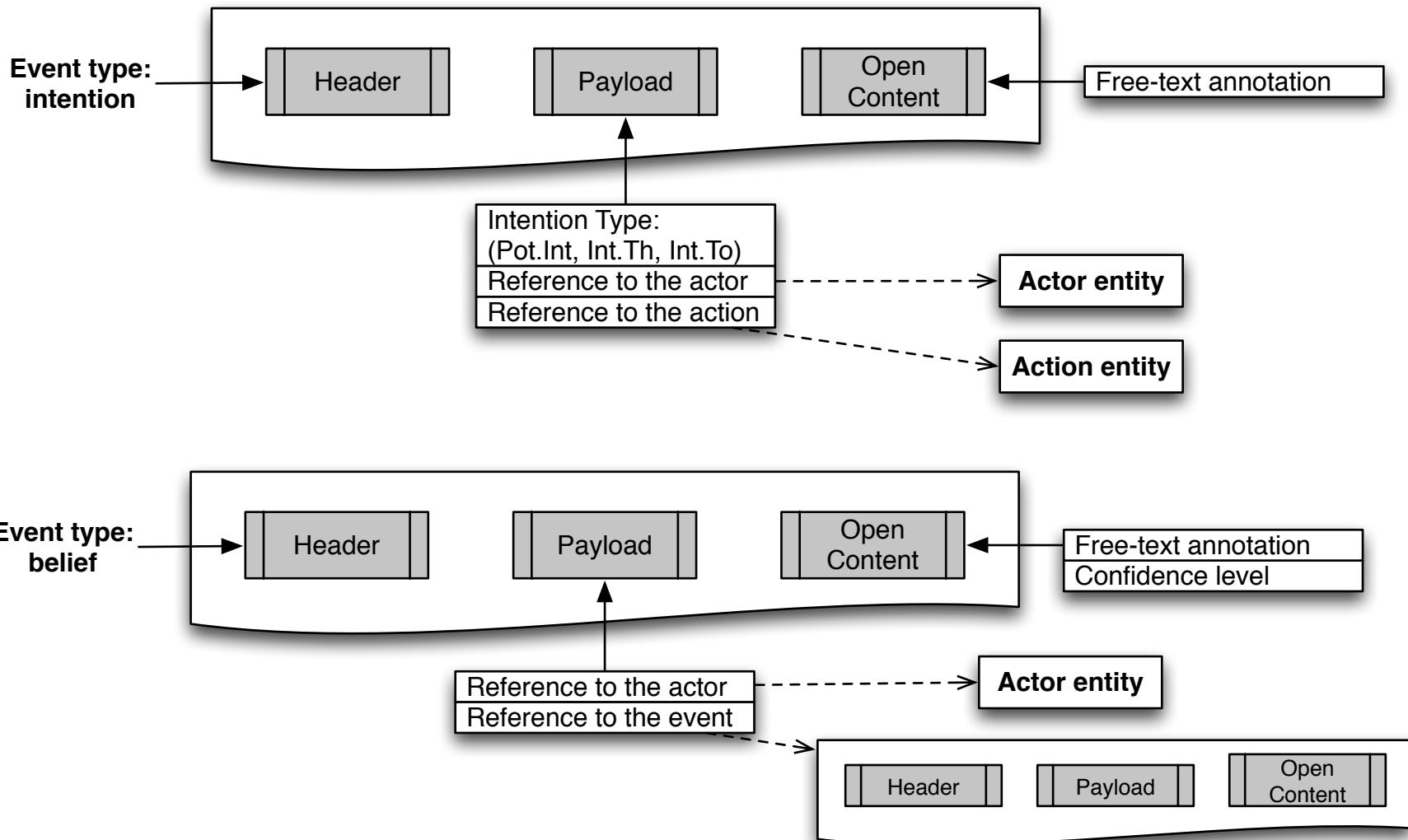


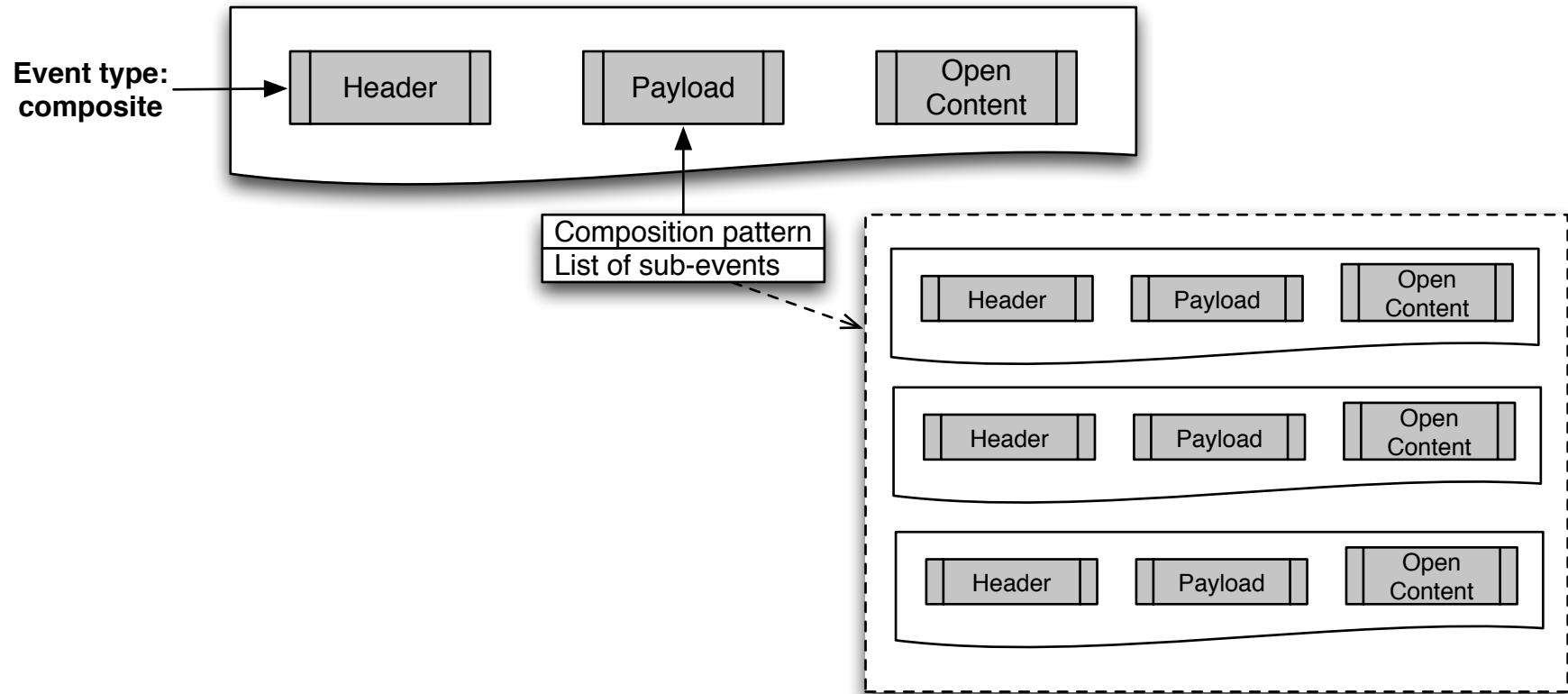


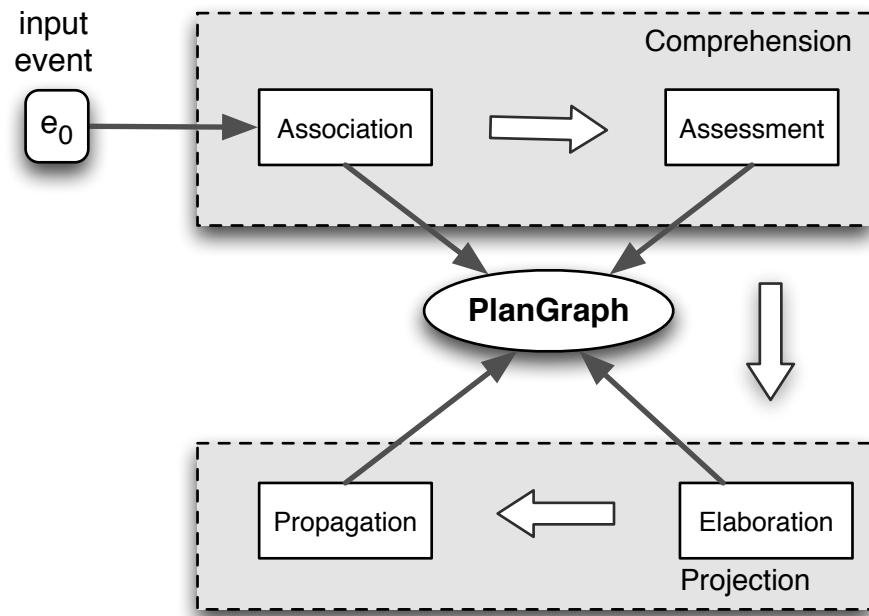


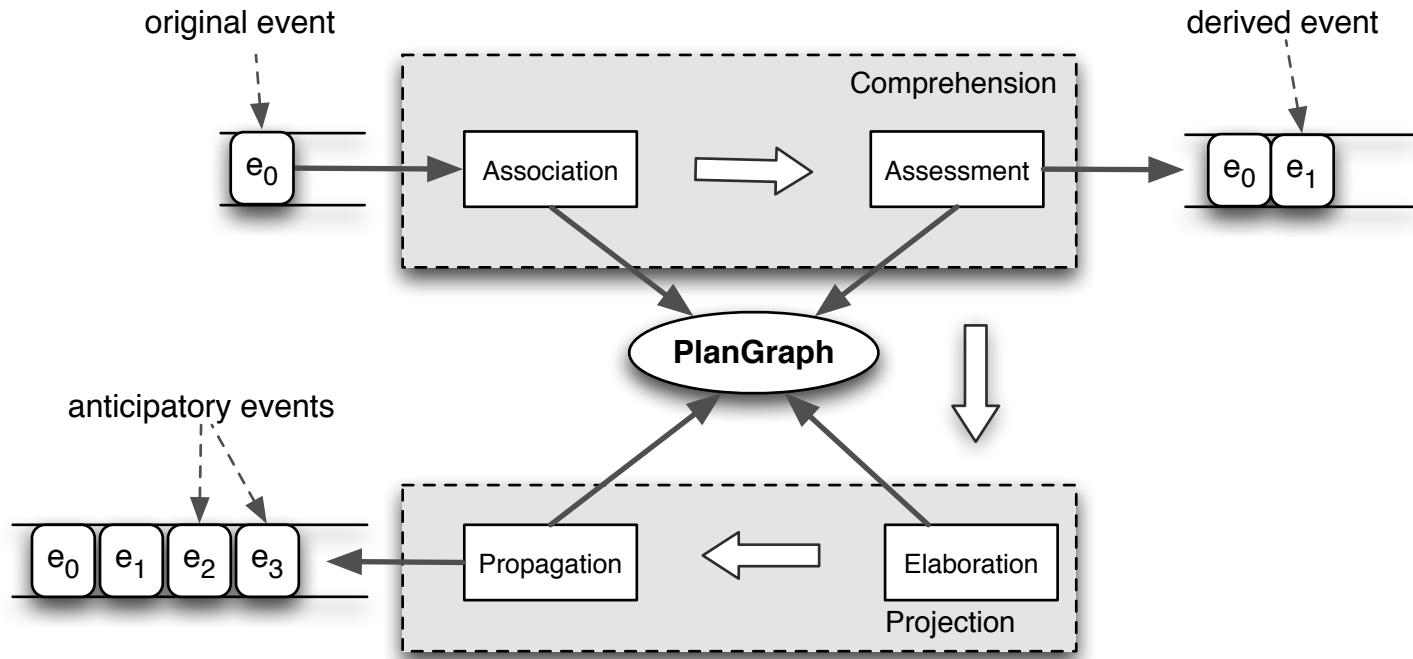


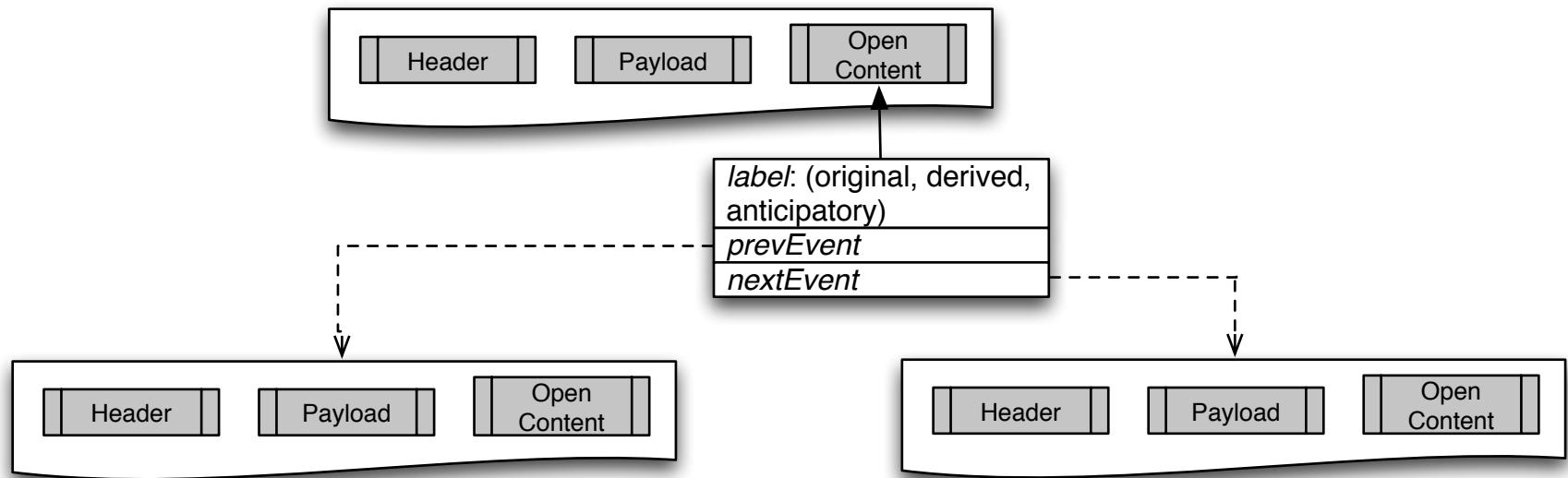


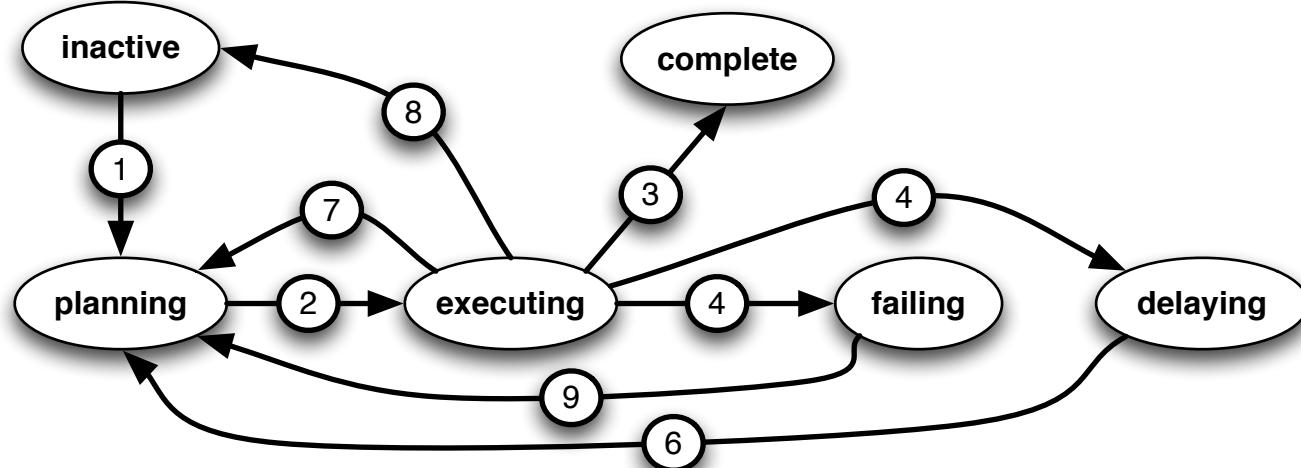




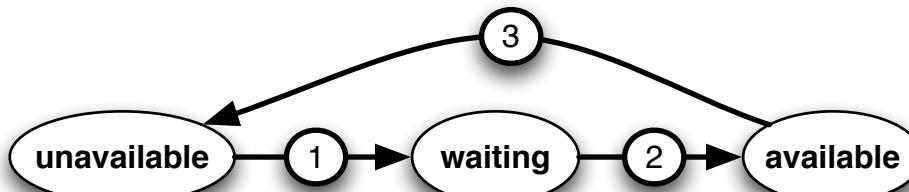




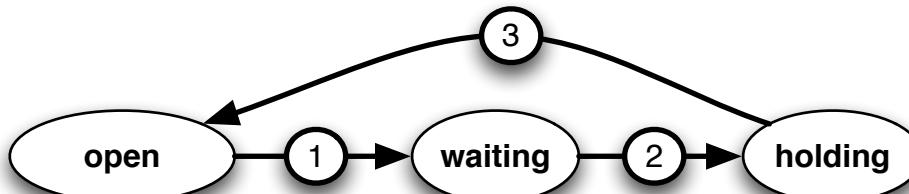




(a) state transitions of an activity



(b) state transitions of a resource



(c) state transitions of a condition

previous values

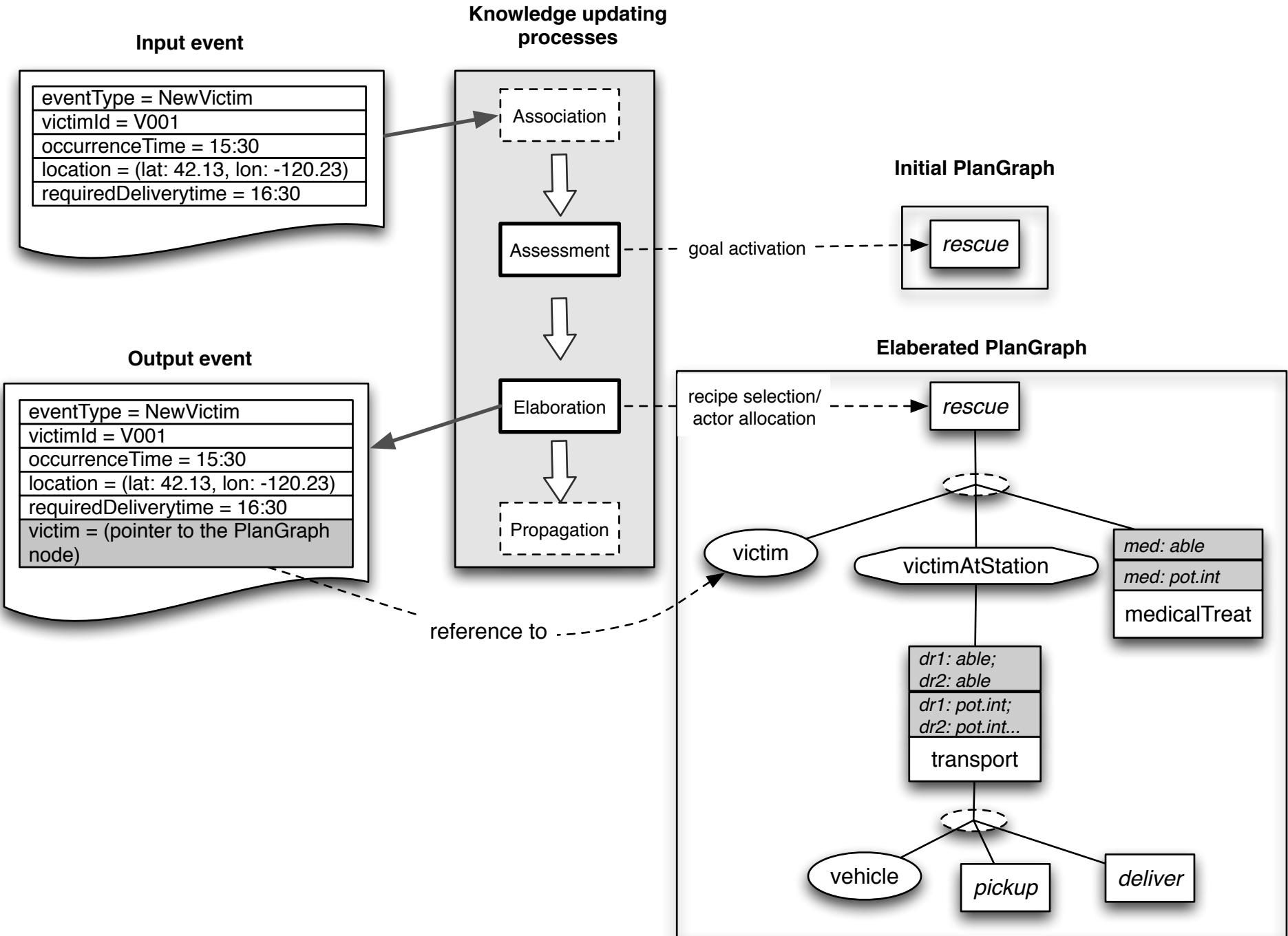
<i>unavailable</i>	<i>waiting</i>	<i>available</i>	<i>delay</i>
0.01	0.97	0.01	0.01

current values

<i>unavailable</i>	<i>waiting</i>	<i>available</i>	<i>delay</i>
0.019	0.009	0.108	0.864

cartesian product

<i>from</i> \ <i>to</i>	<i>unavailable</i>	<i>waiting</i>	<i>available</i>	<i>delay</i>
<i>unavailable</i>	0.00019	0.00009	0.00108	0.00864
<i>waiting</i>	0.01843	0.00873	0.10476	0.83808
<i>available</i>	0.00019	0.00009	0.00108	0.00864
<i>delay</i>	0.00019	0.00009	0.00108	0.00864



Input event

Knowledge updating processes

Output event

eventType = Intention
occurrenceTime = 15:35
actorId = dr1
actionId = transport
intentionType = Int.To

Association

Assessment

Elaboration

Propagation

PlanGraph

reference to
reference to

eventType = Intention
occurrenceTime = 15:35
actorId = (pointer to the actor node of dr1)
actionId = (pointer to the action node of transport)
intentionType = Int.To

victim

victimAtStation

dr1: able;
dr2: able
dr1: int.to;
dr2: pot.int...

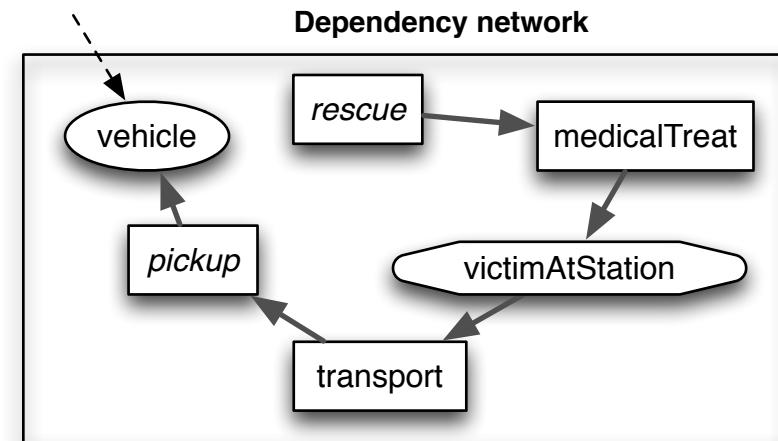
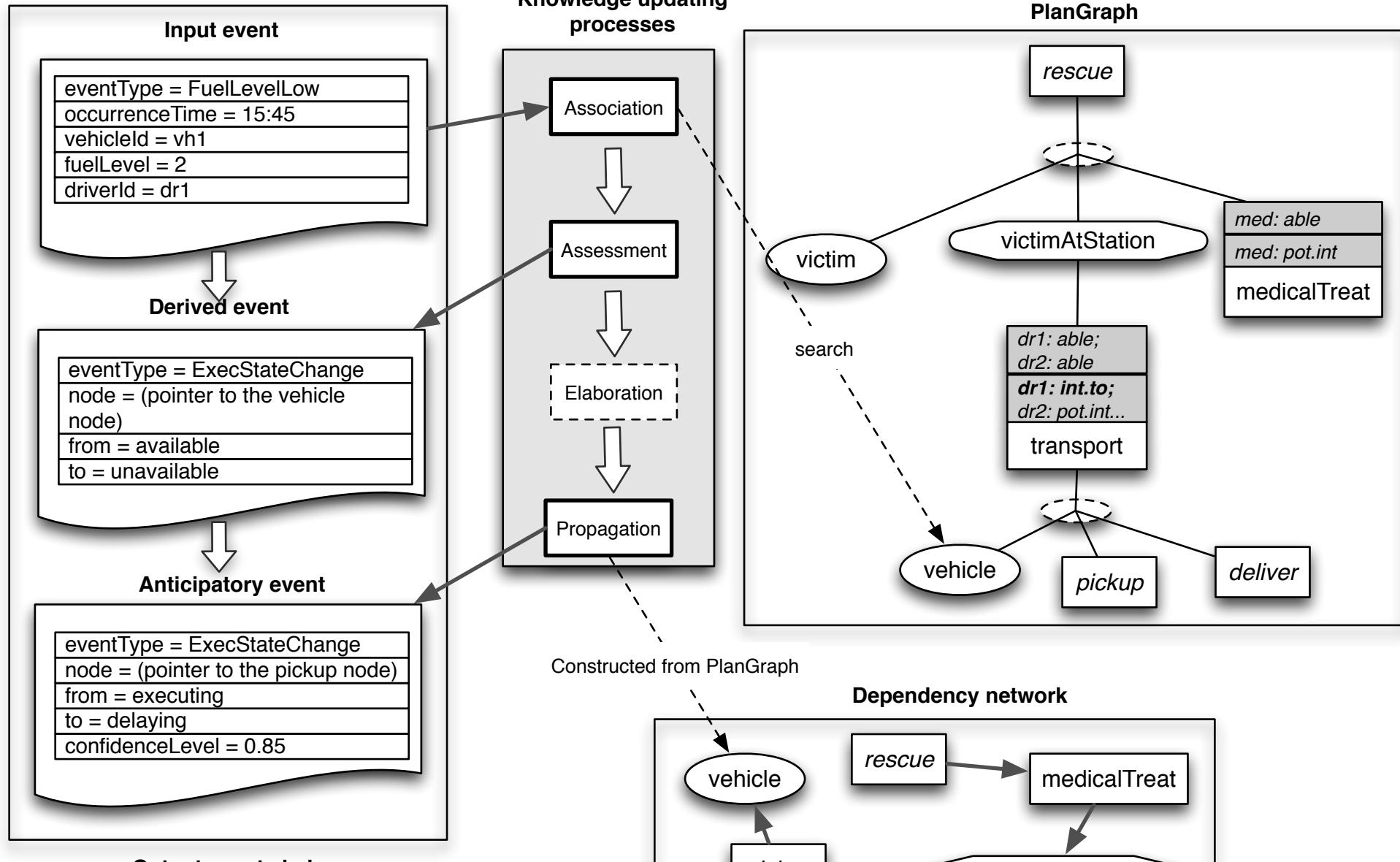
transport

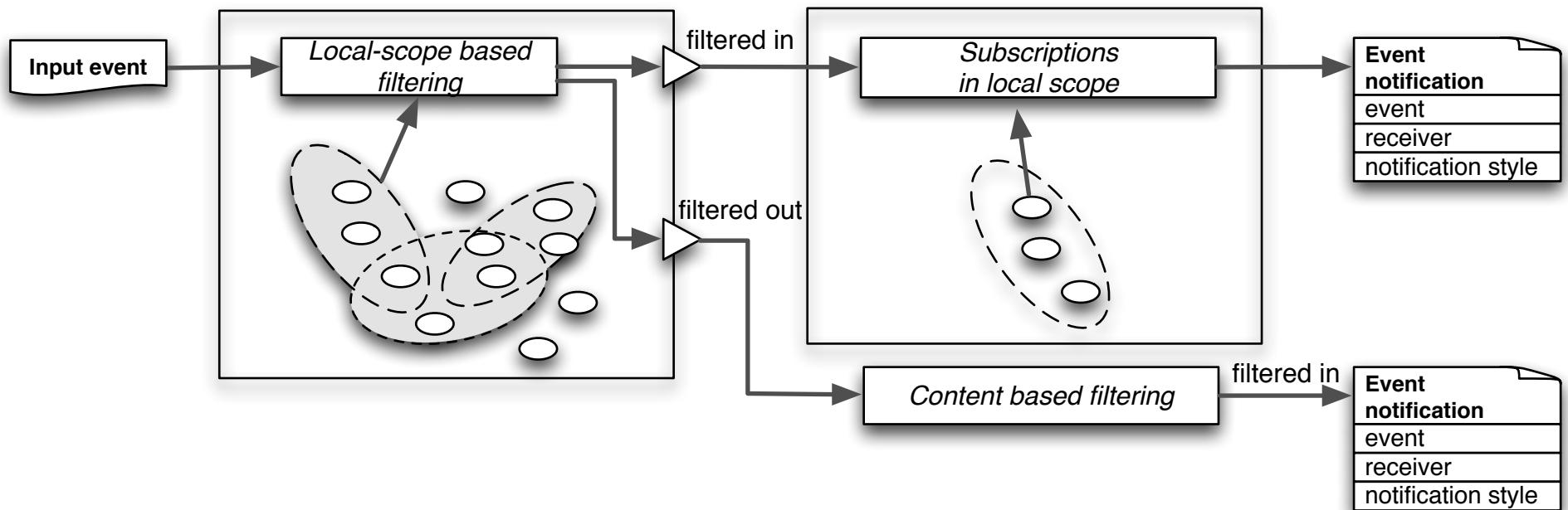
vehicle

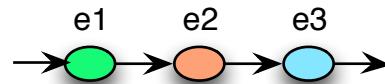
pickup

deliver

med: able
med: pot.int
medicalTreat







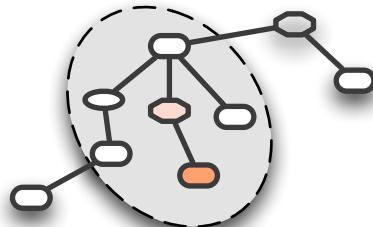
Event View

The development of the current event



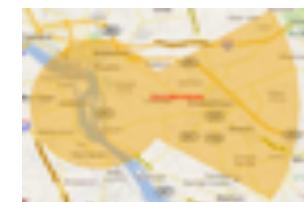
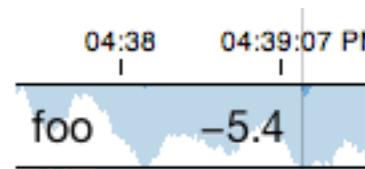
Activity View

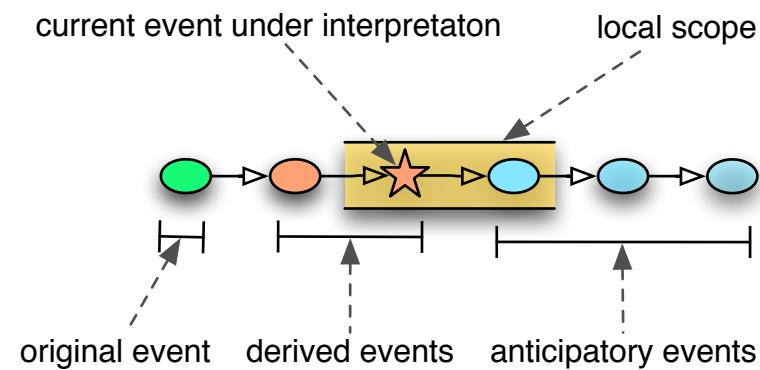
The activity structure and the local scope

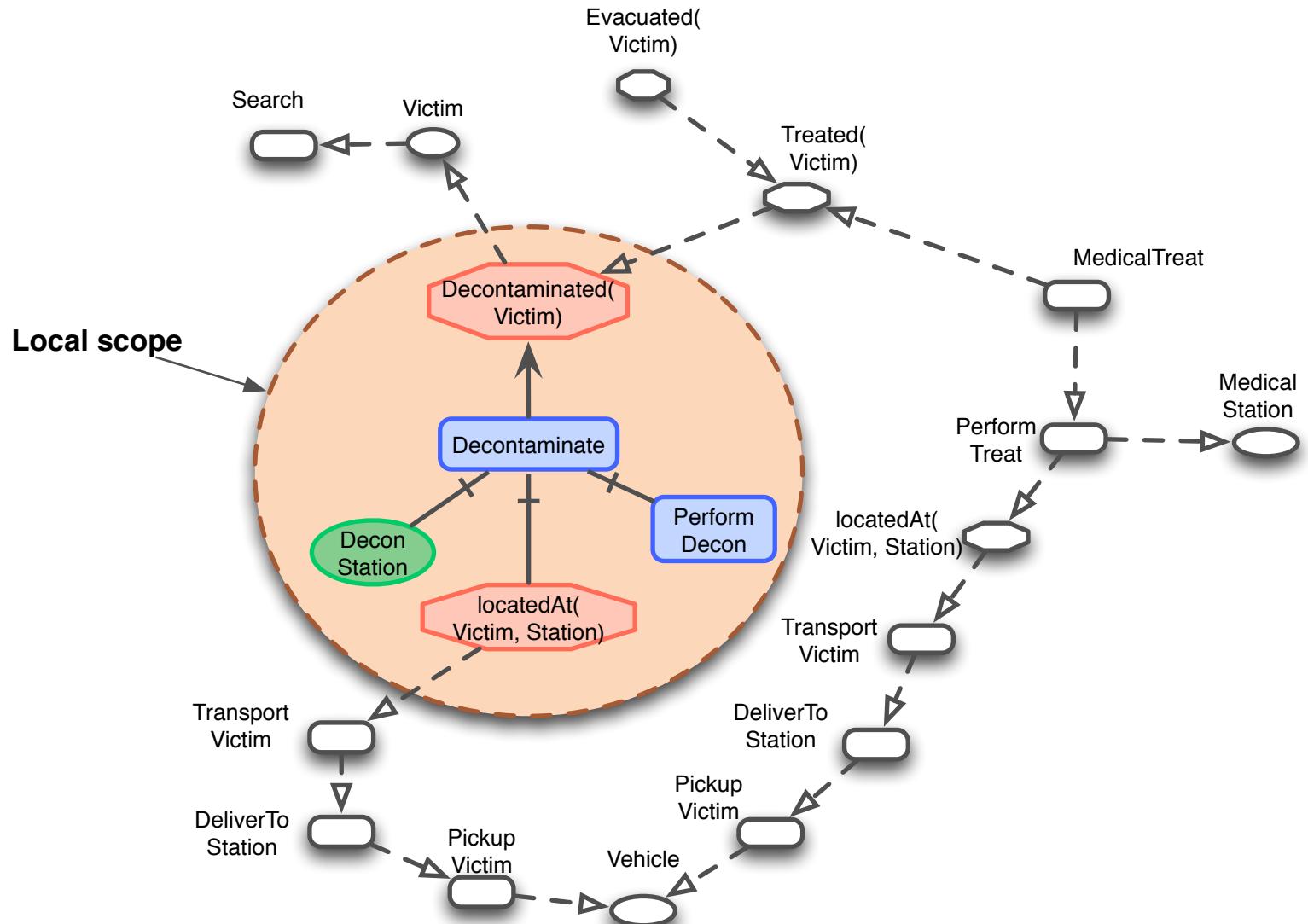


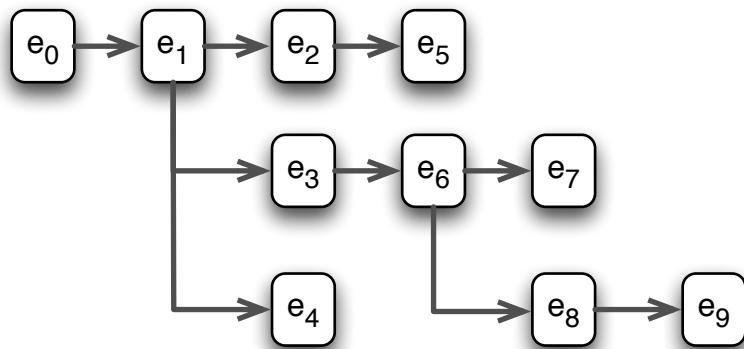
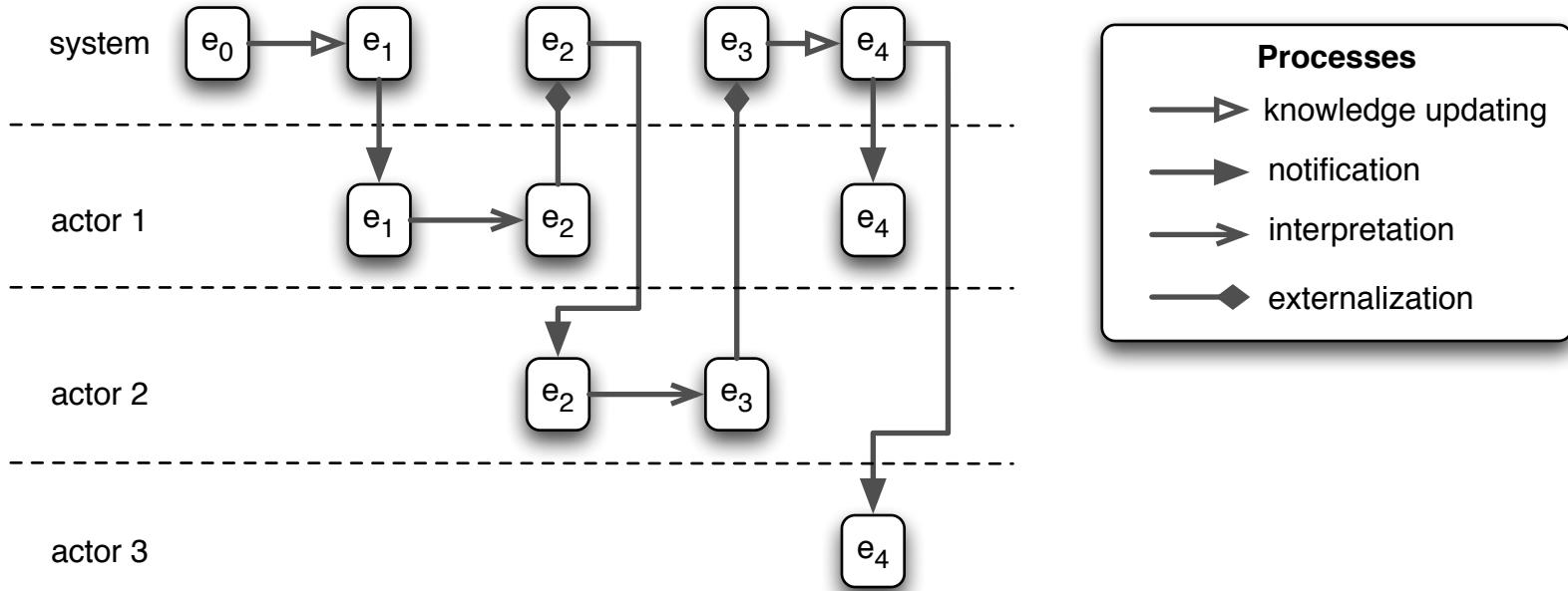
Context View

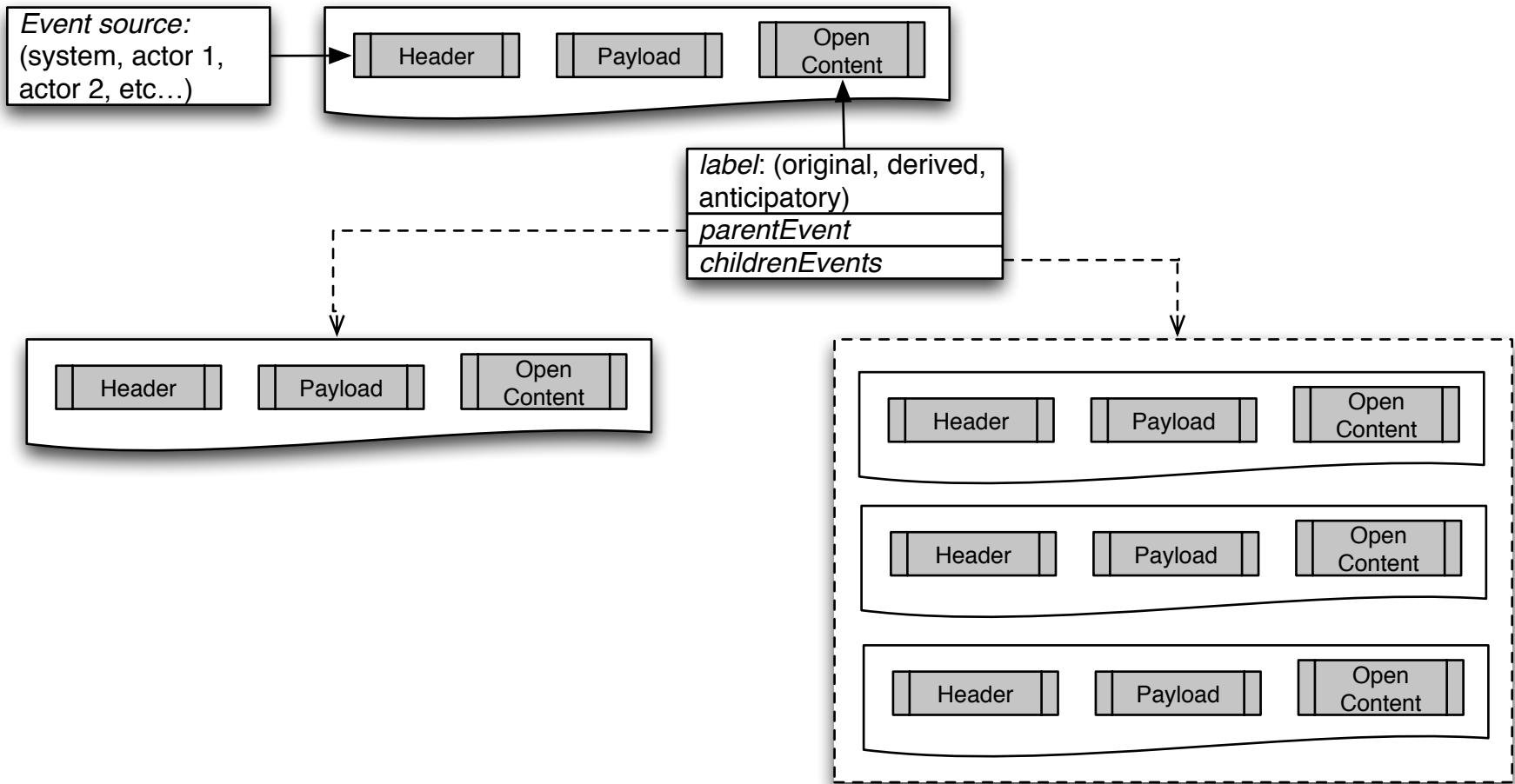
Contextual info about the current event

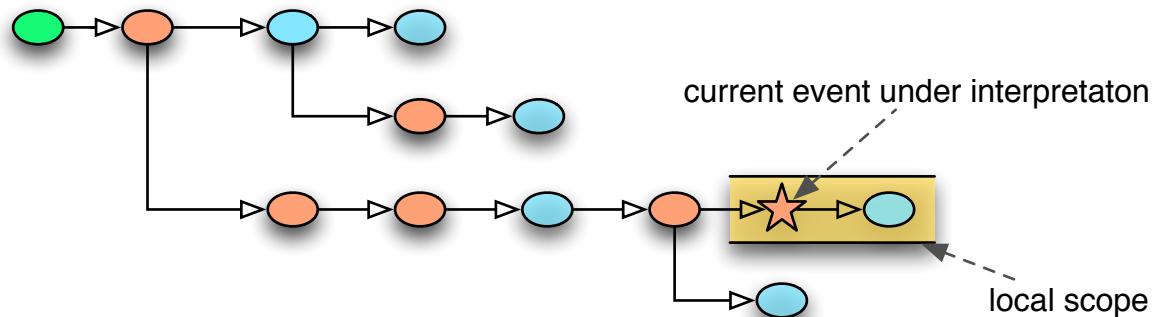




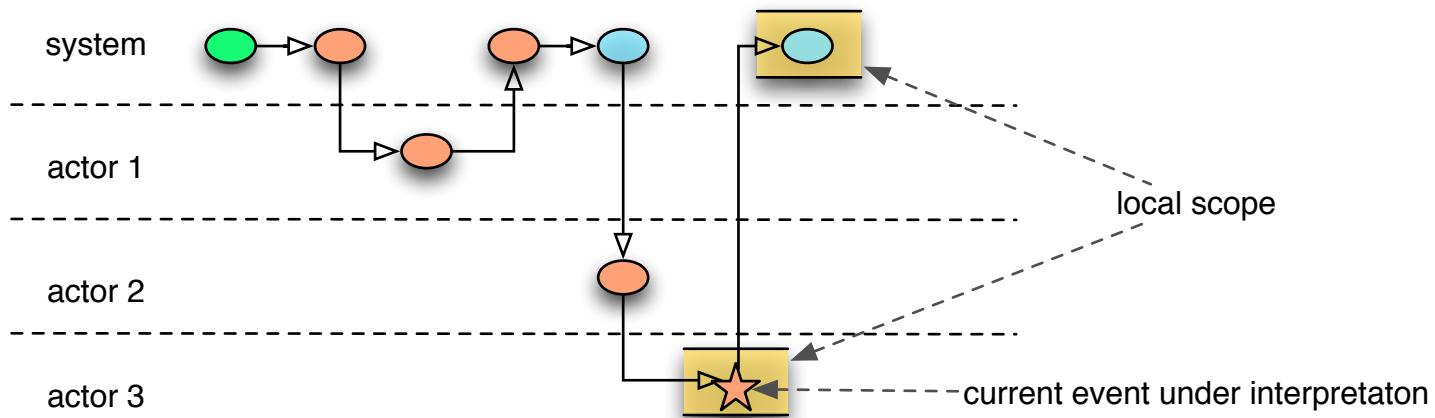




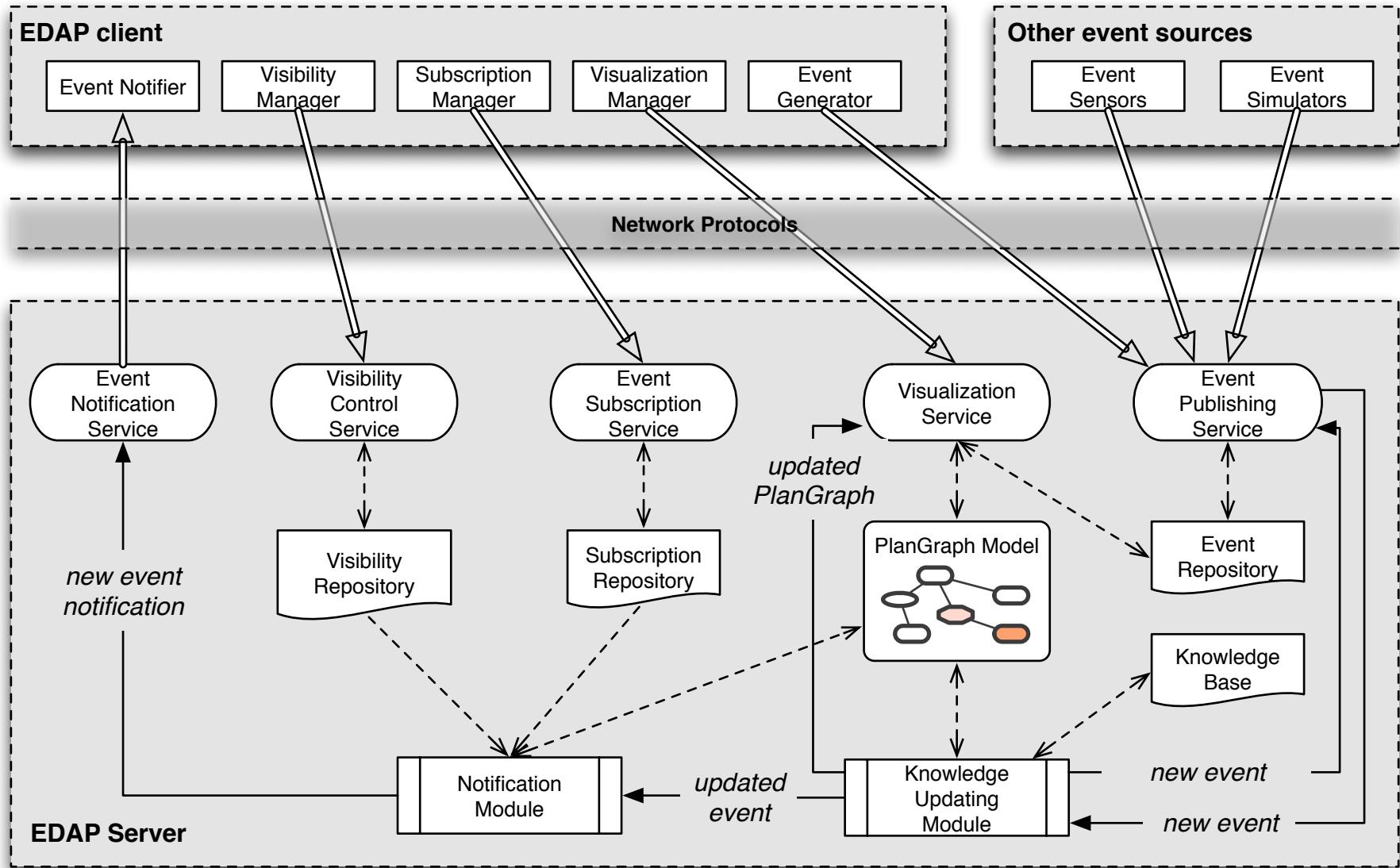




(a) the whole event propagation tree



(b) the active event propagation chain



Network protocols

→ Message passing

←→ Data access

Event table
eventId
eventType
occurrenceTime
detectionTime
eventSource
eventComposition
payload
openContent

Event Development table
label
parentEventId
currentEventId

```
<Event id="event01">
    <Payload>
        <Property name="intentionType" type="string">
            <Value>Int.Th</Value>
        </Property>
        <Property name="actor" type="string">
            <Value>actor01</Value>
        </Property>
        <Property name="action" type="string">
            <Value>action03</Value>
        </Property>
    </Payload>
</Event>
```

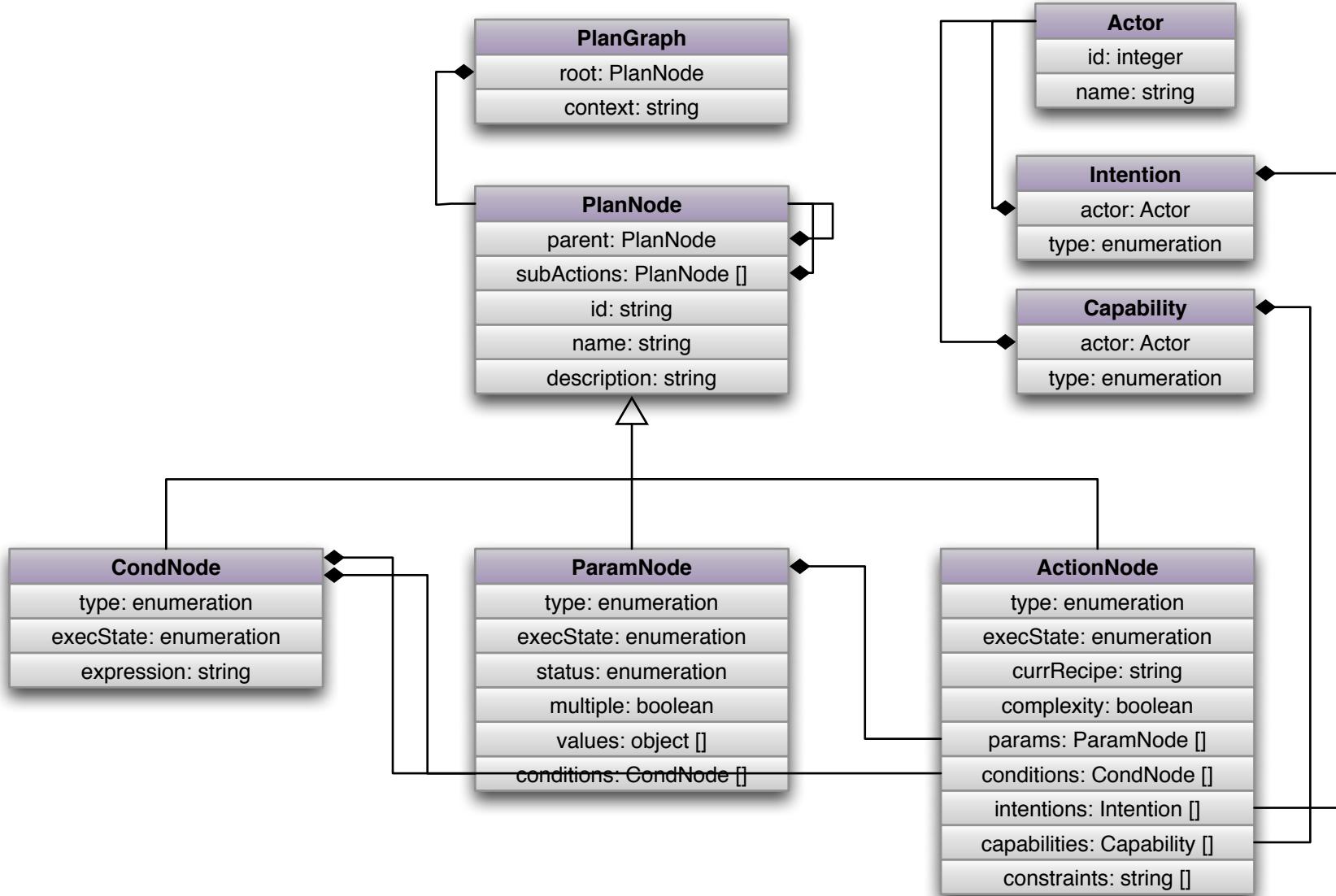
Subscription table
subscriptionId
userId
notificationStyle
active
eventPattern

```
<Subscription id="sub01">
    <EventPattern type="all">
        <Filter type="eventType">
            <Value>ExecutionStateChange</Value>
        </Filter>
        <Filter type="eventContent">
            <Expression>[entityType] = 'action' and
                [to] = 'delaying'</Expression>
        </Filter>
        <Filter type="localScope">
            <Intention>Int.That</Intention>
        </Filter>
    </EventPattern>
</Subscription>
```

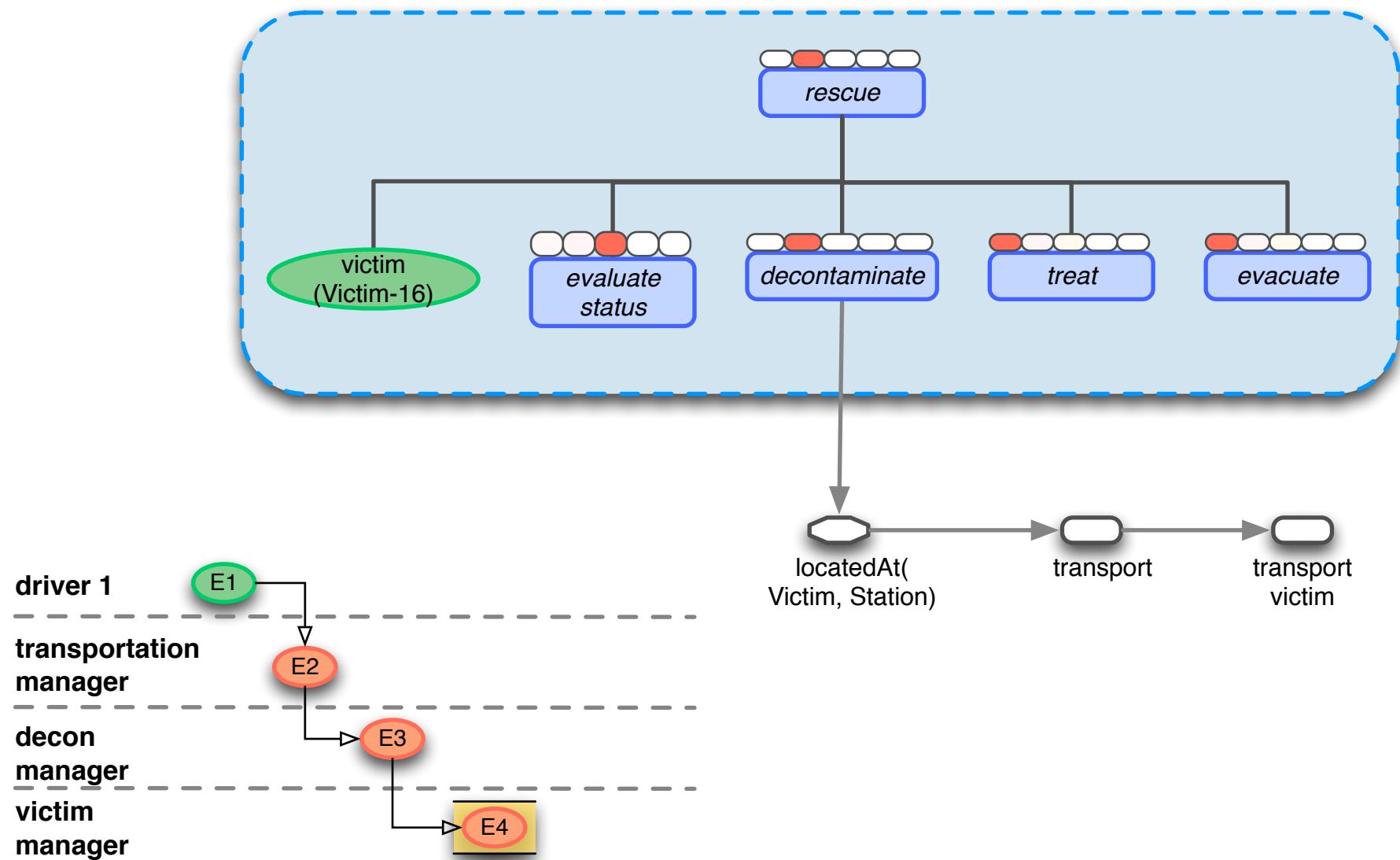
Visibility policy table	
policyId	
userId	
active	
eventPattern	
receiverPattern	
attributeList	

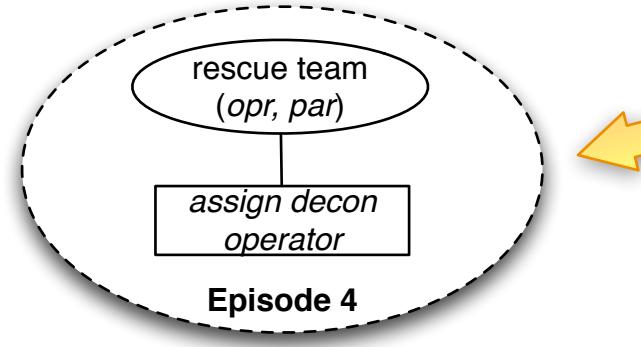
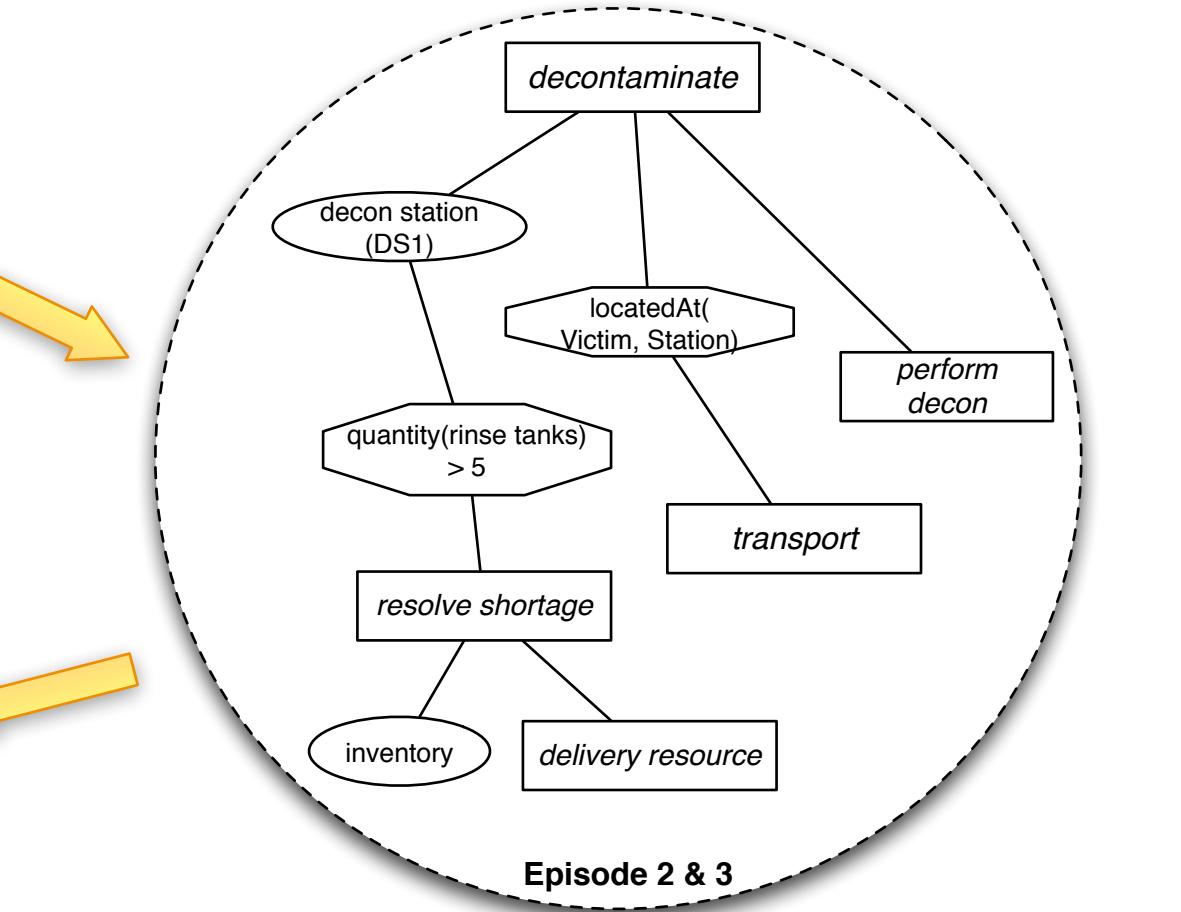
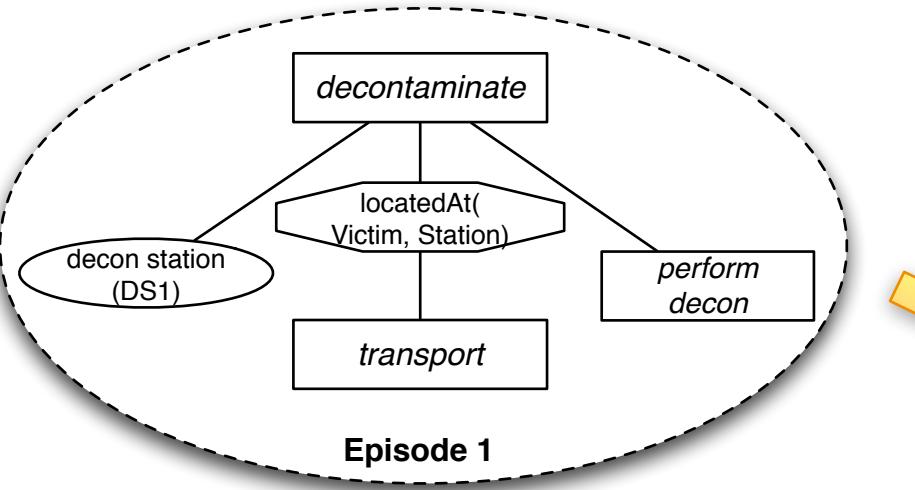
```
<Visibility id="vis11">
    <ReceiverPattern type="all">
        <Filter type="attribute">
            <Expression>[role] = 'driver'</Expression>
        </Filter>
        <Filter type="localScope">
            <Capability>Workable</Capability>
        </Filter>
    </ReceiverPattern>
</Visibility>
```

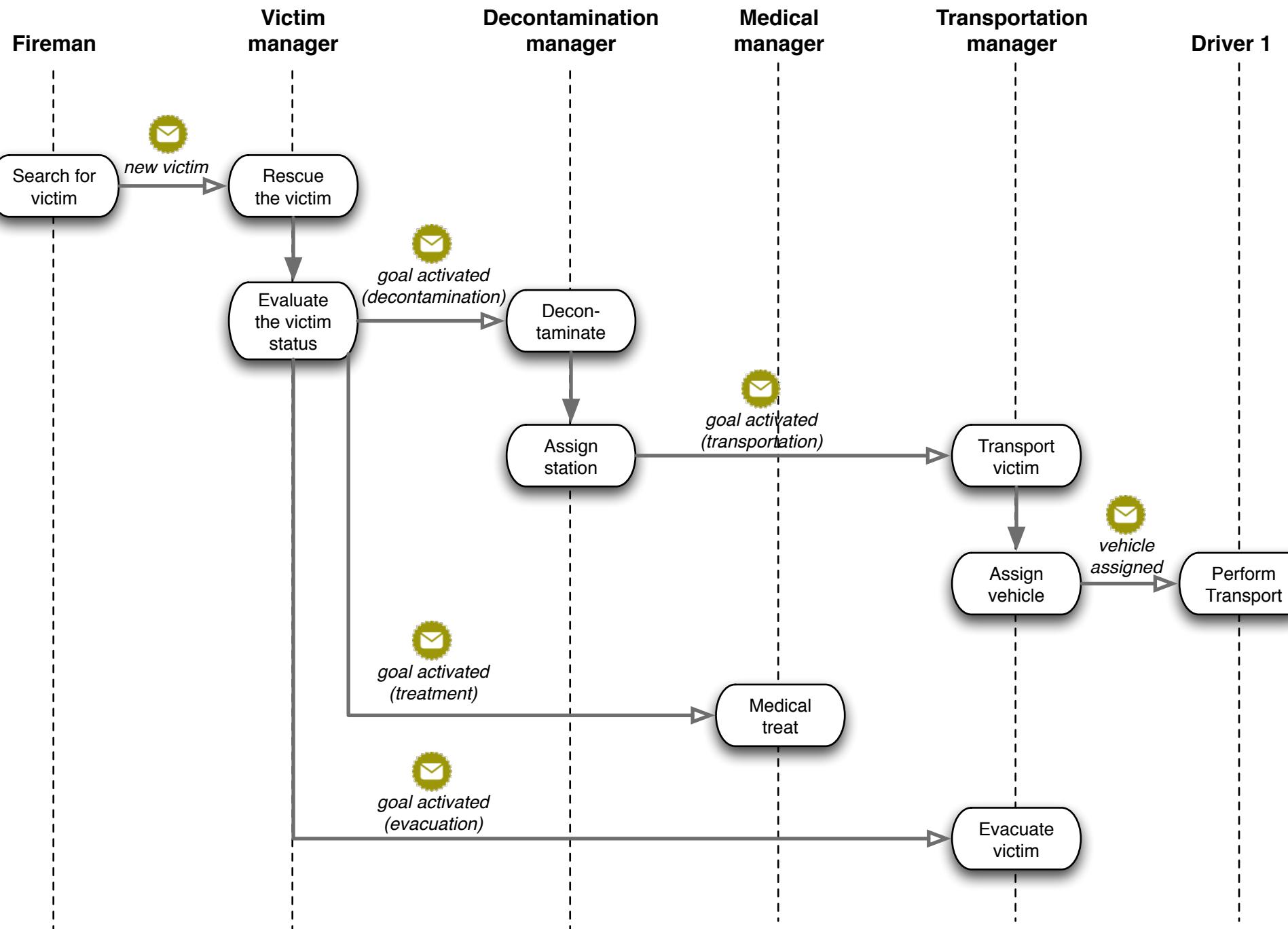
```
<Visibility id="vis11">
    <AttributeList>
        <Attribute name="victimName" />
        <Attribute name="location" />
        <Attribute name="injuryInfo" />
    </AttributeList>
</Visibility>
```

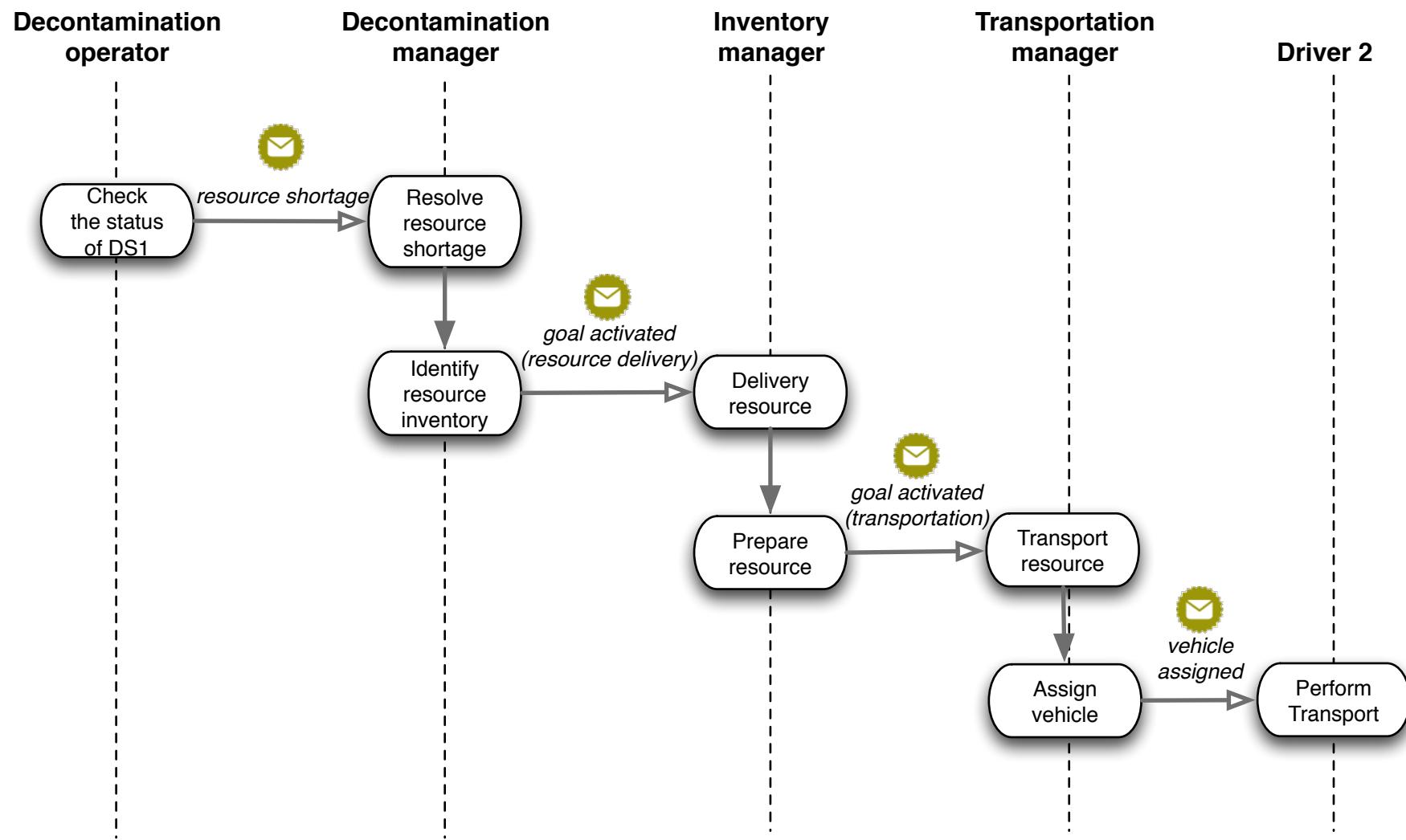


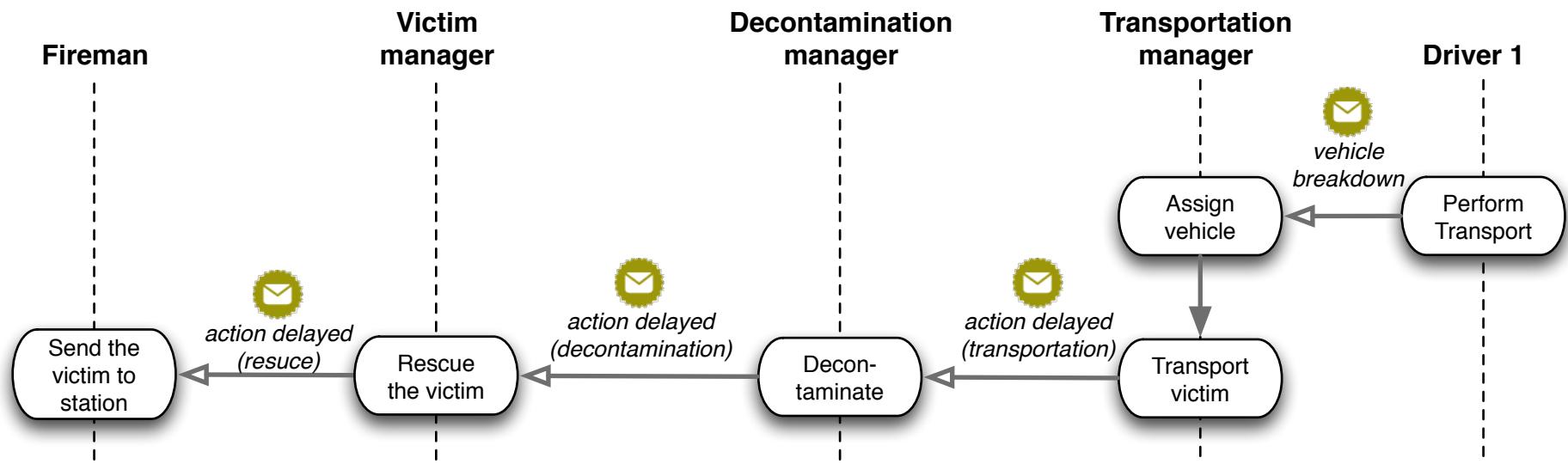
vm_activity_view

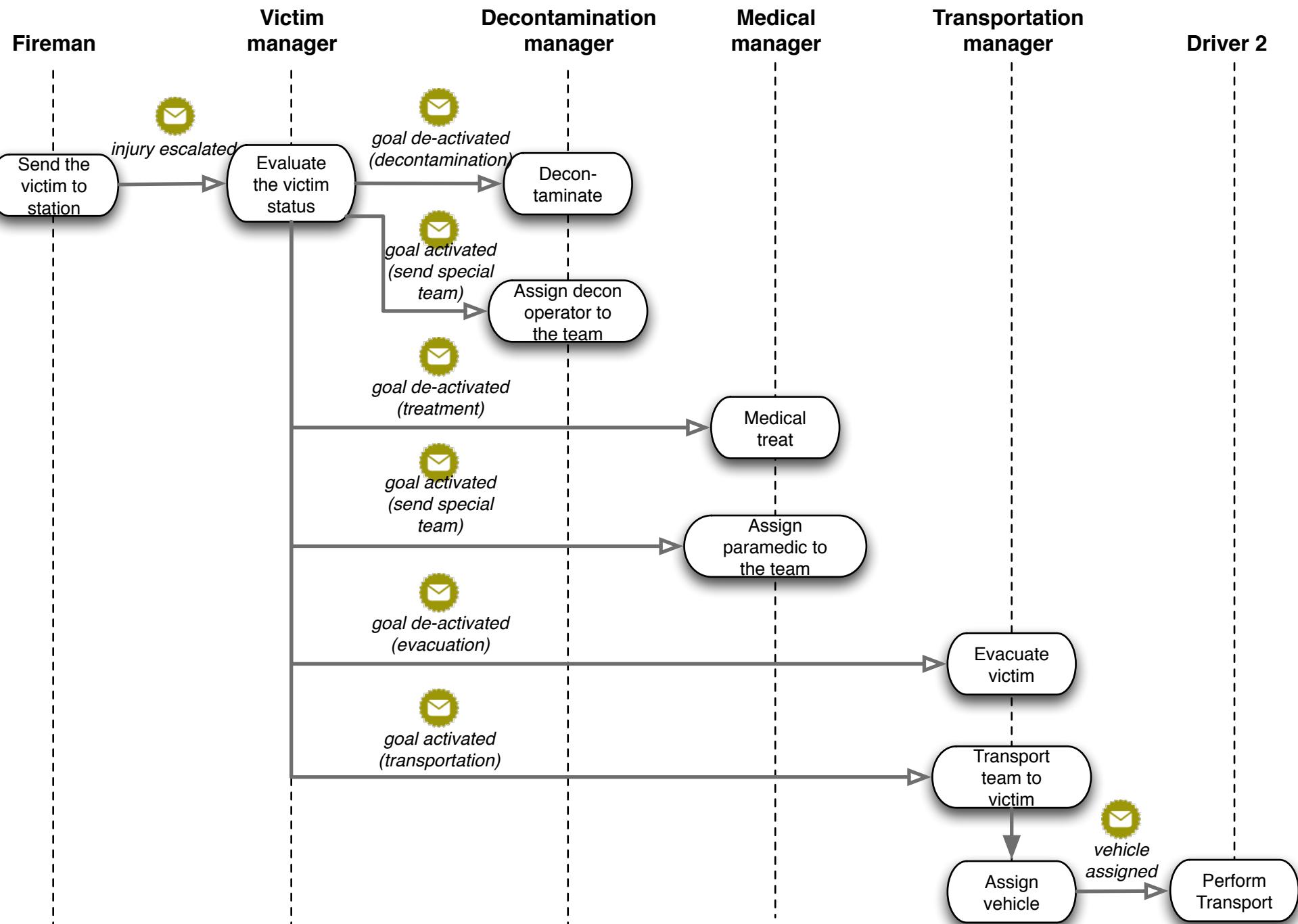


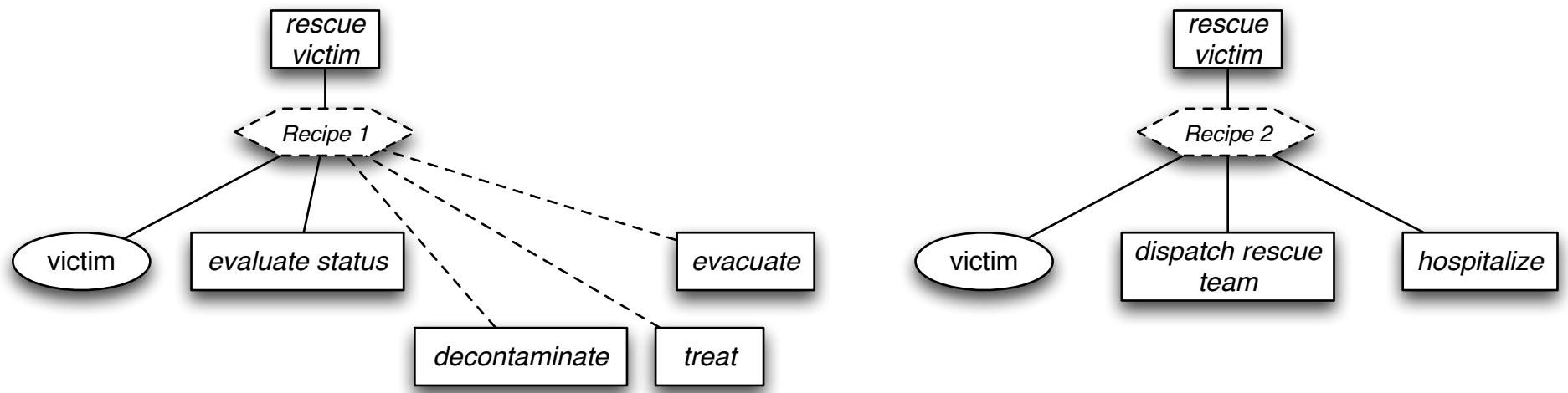




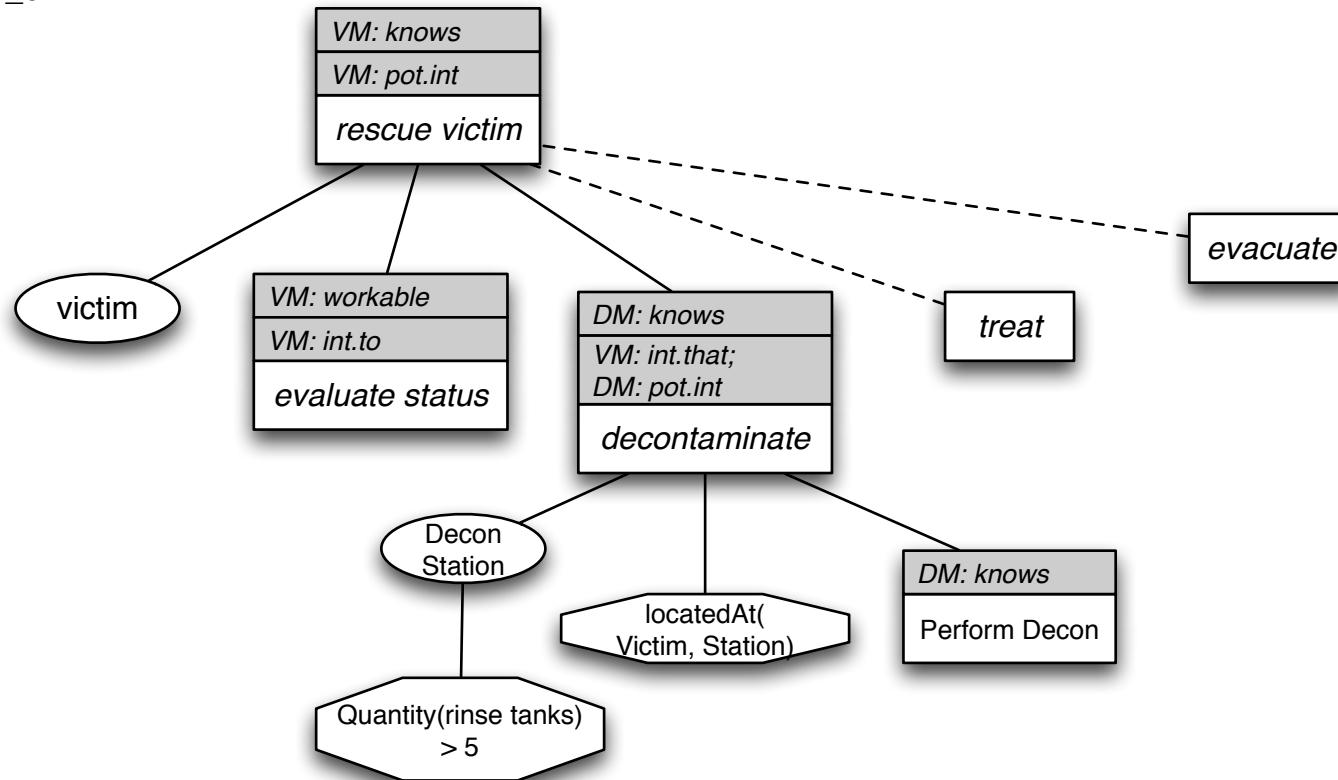




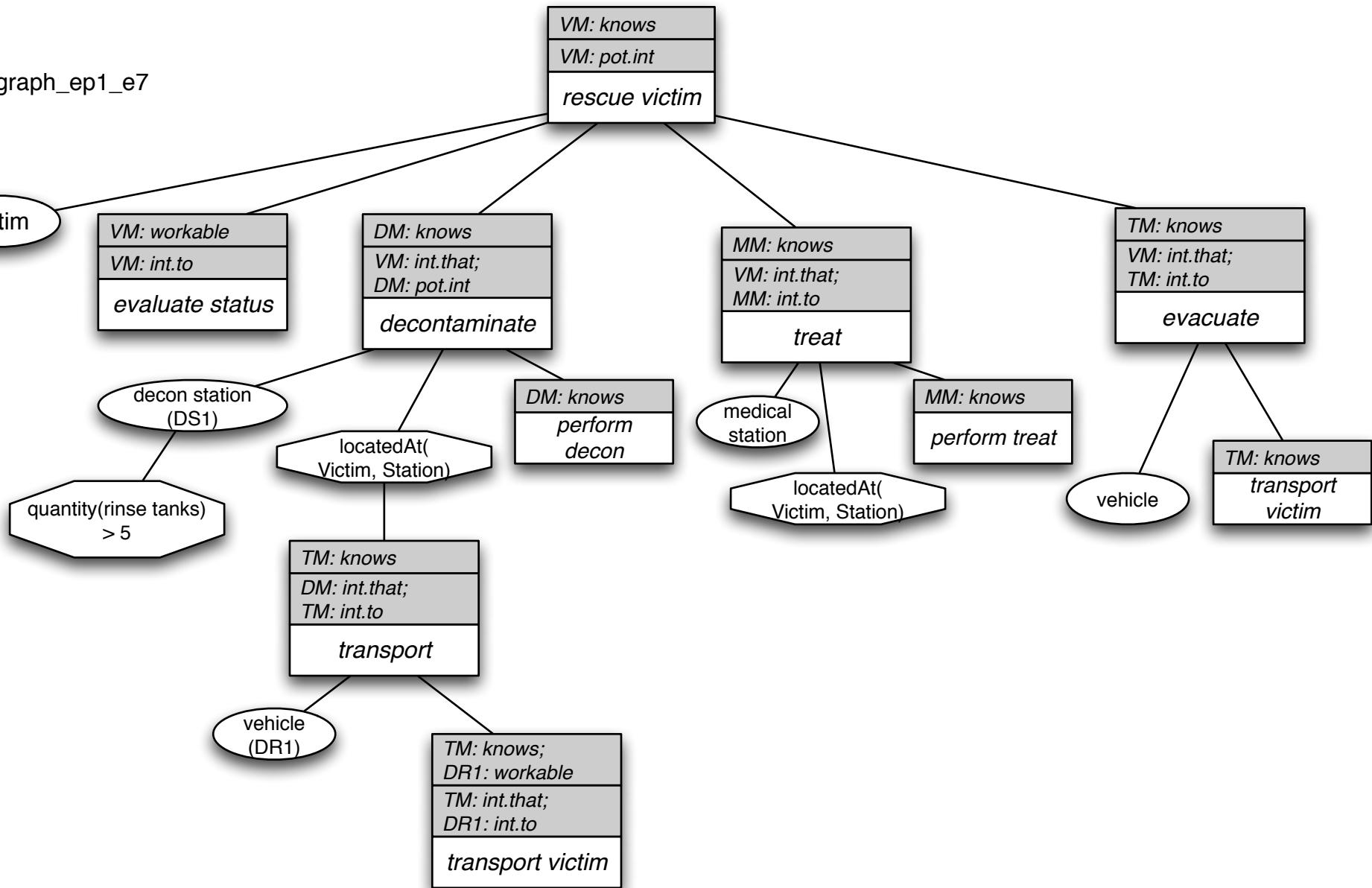




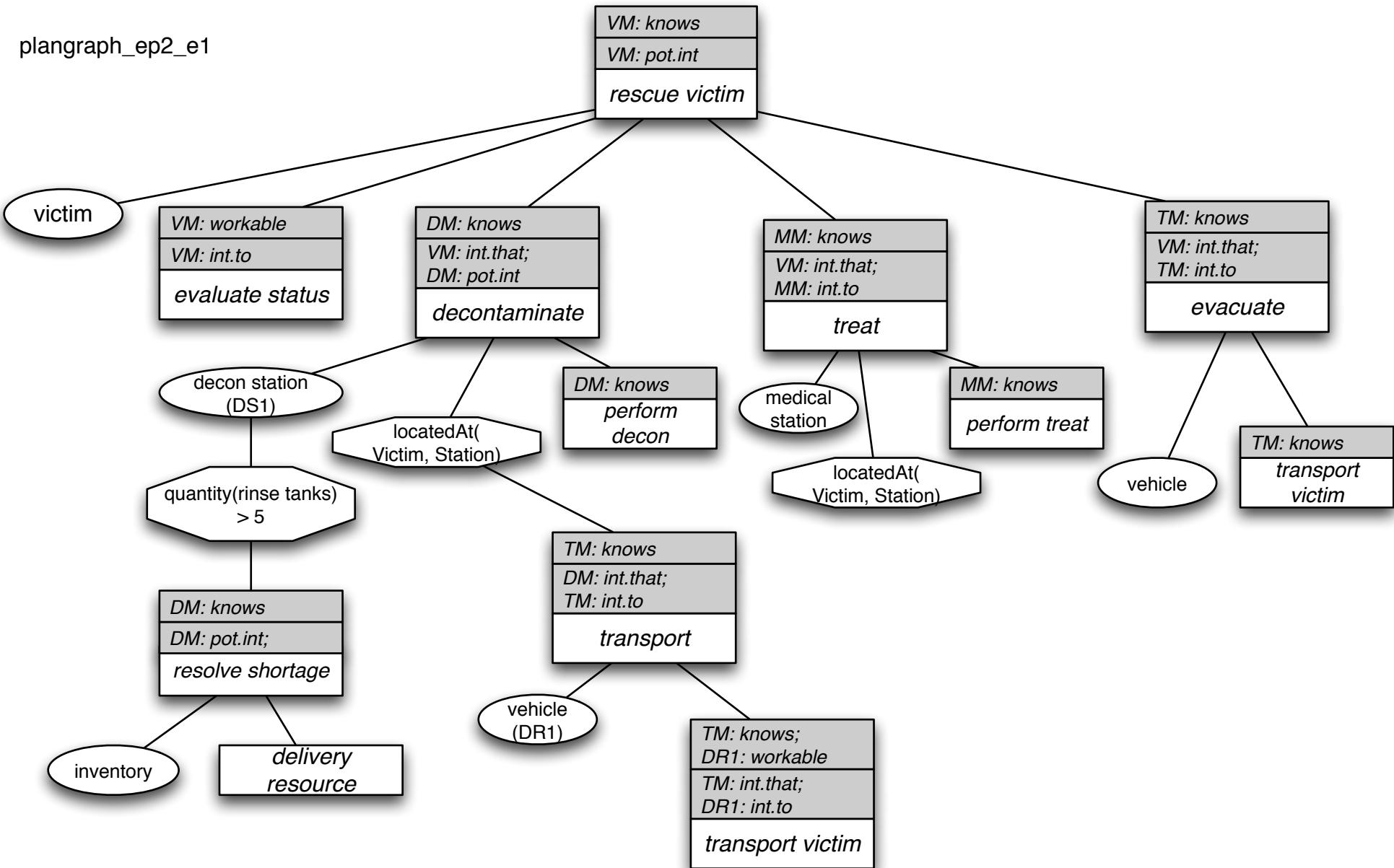
plangraph_ep1_e2



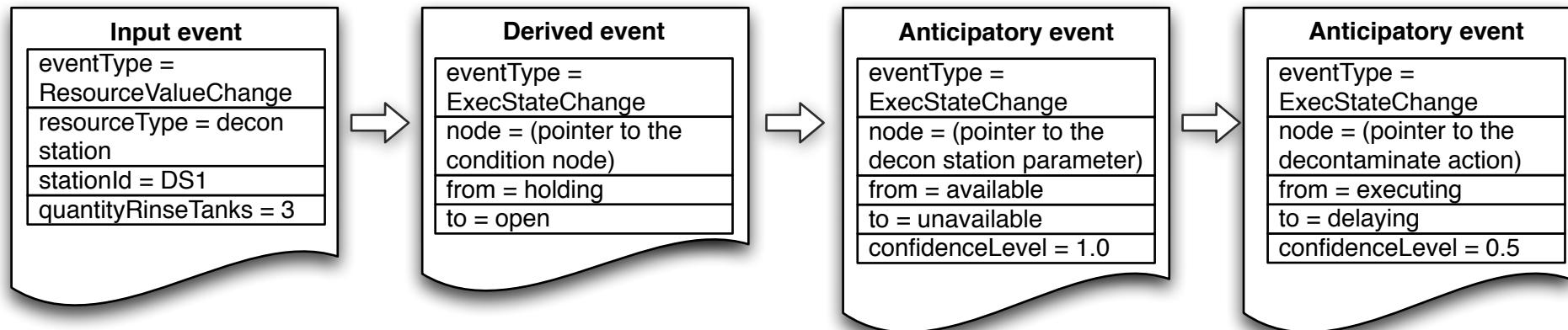
plangraph_ep1_e7

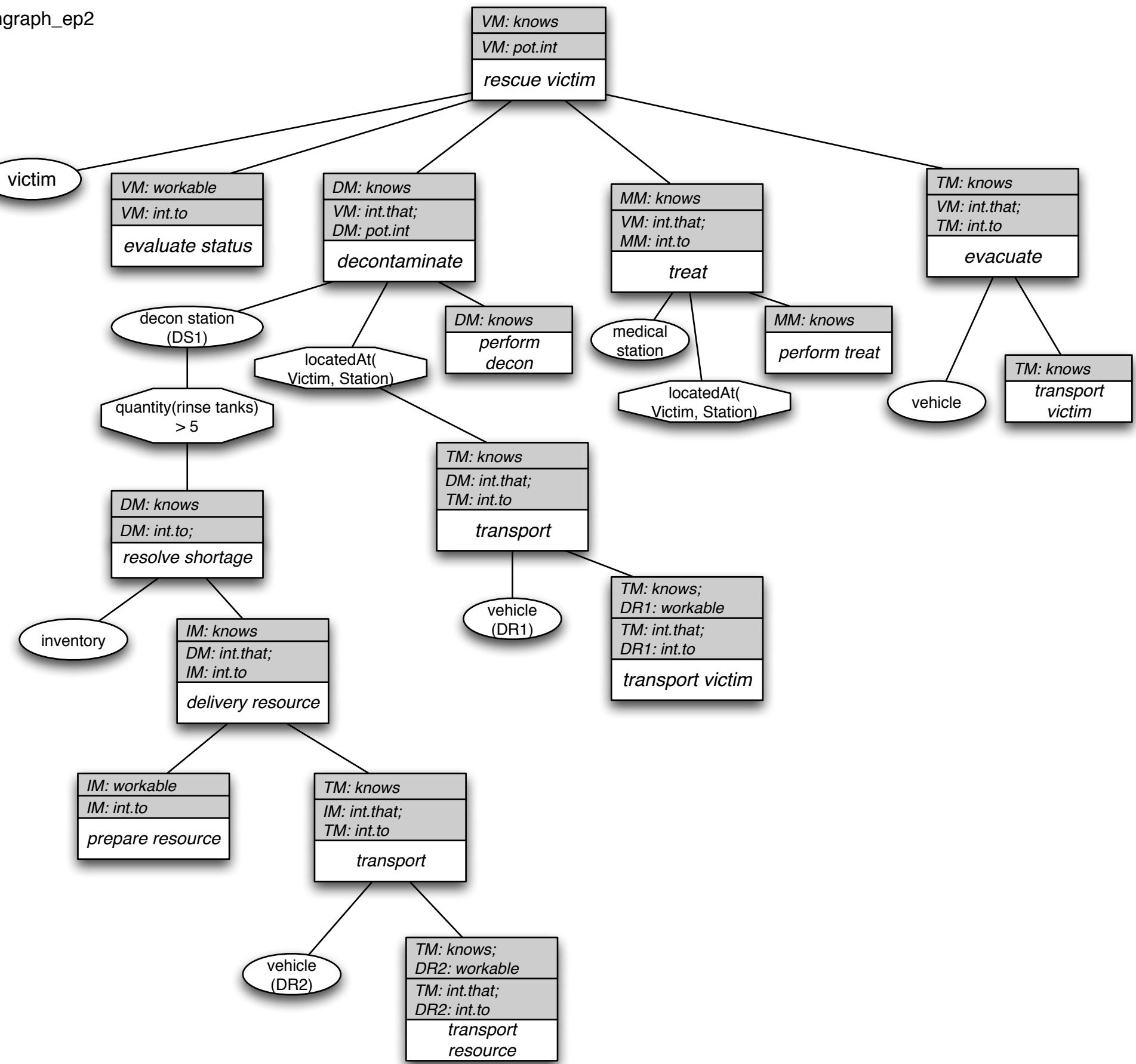


plangraph_ep2_e1

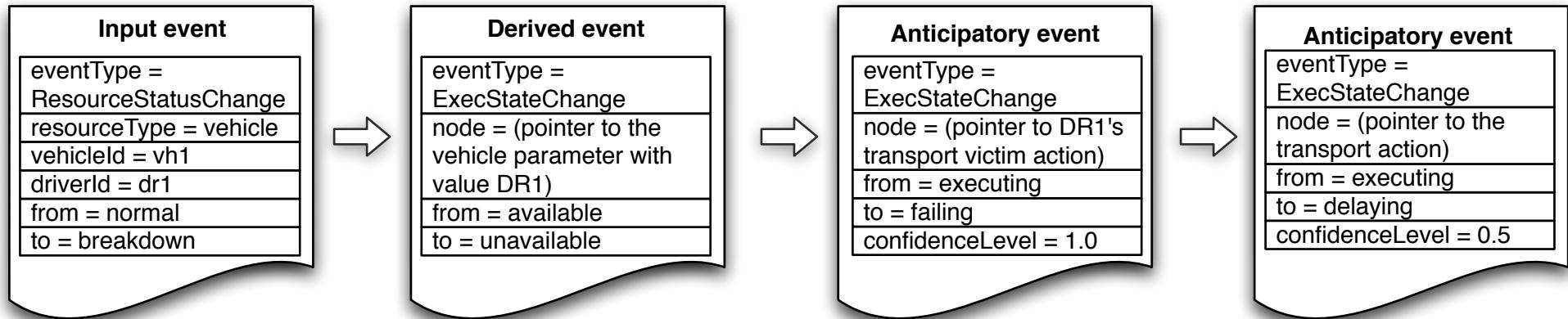


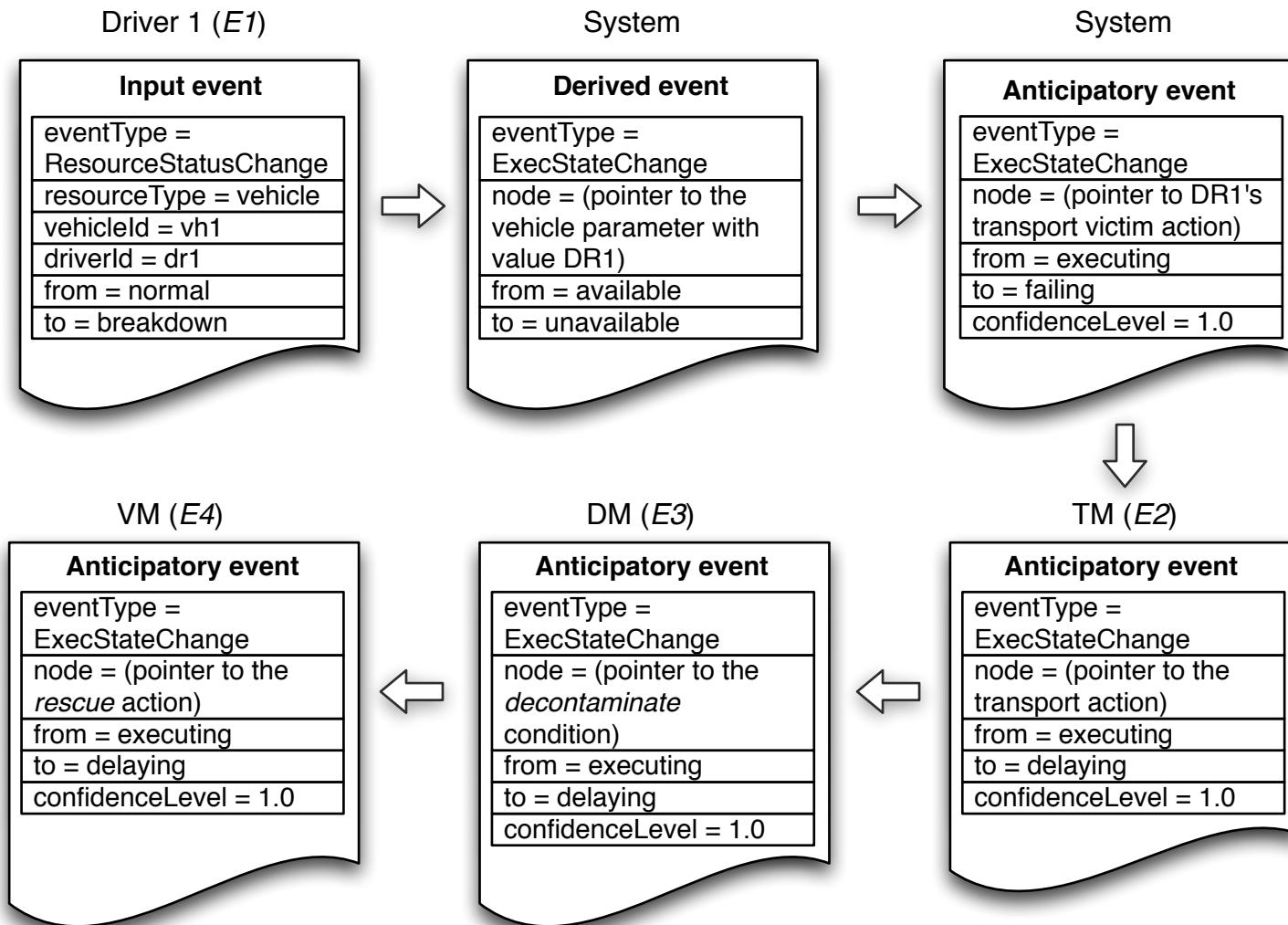
eventchain_ep2_e1



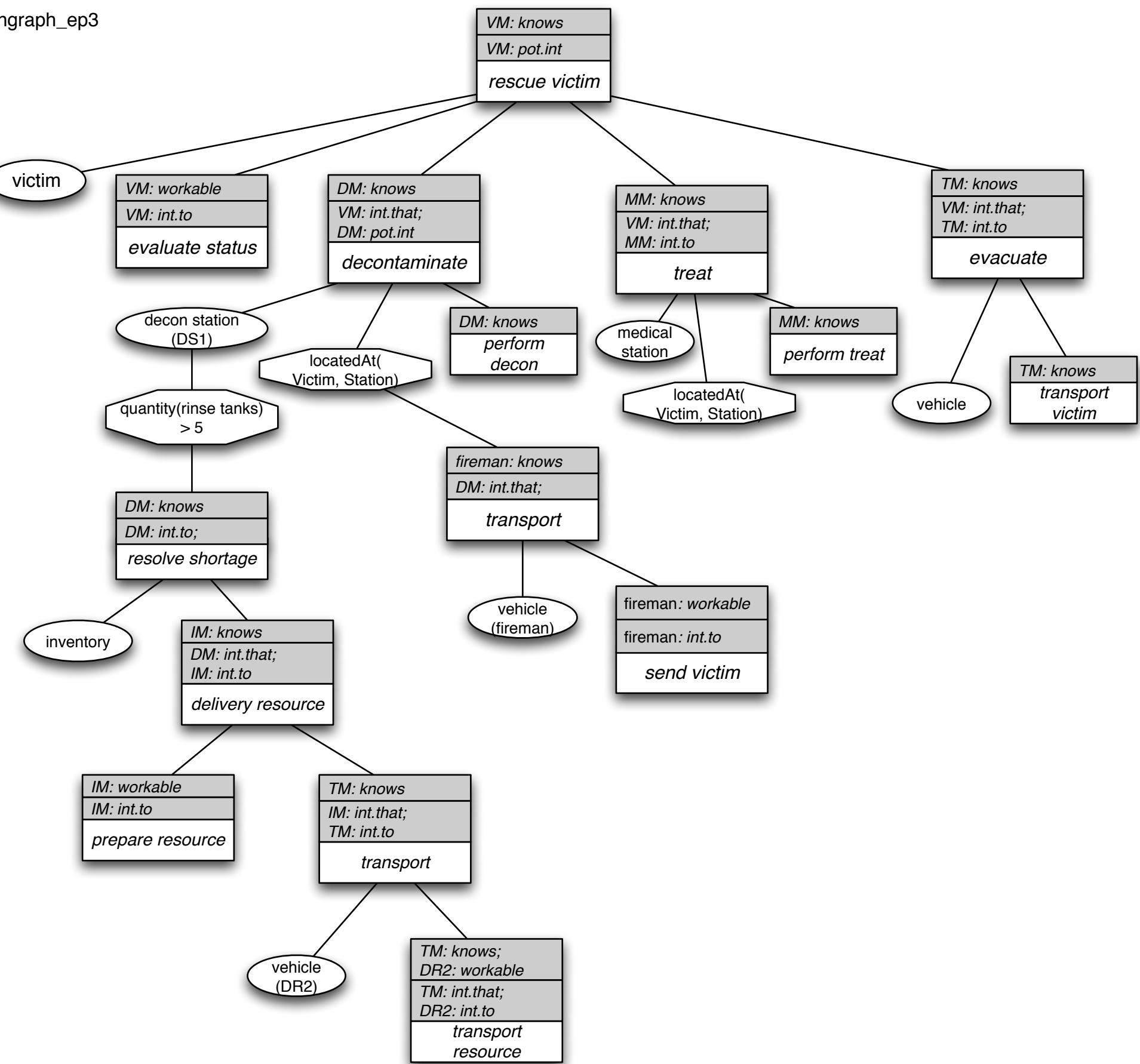


eventchain_ep3_e1

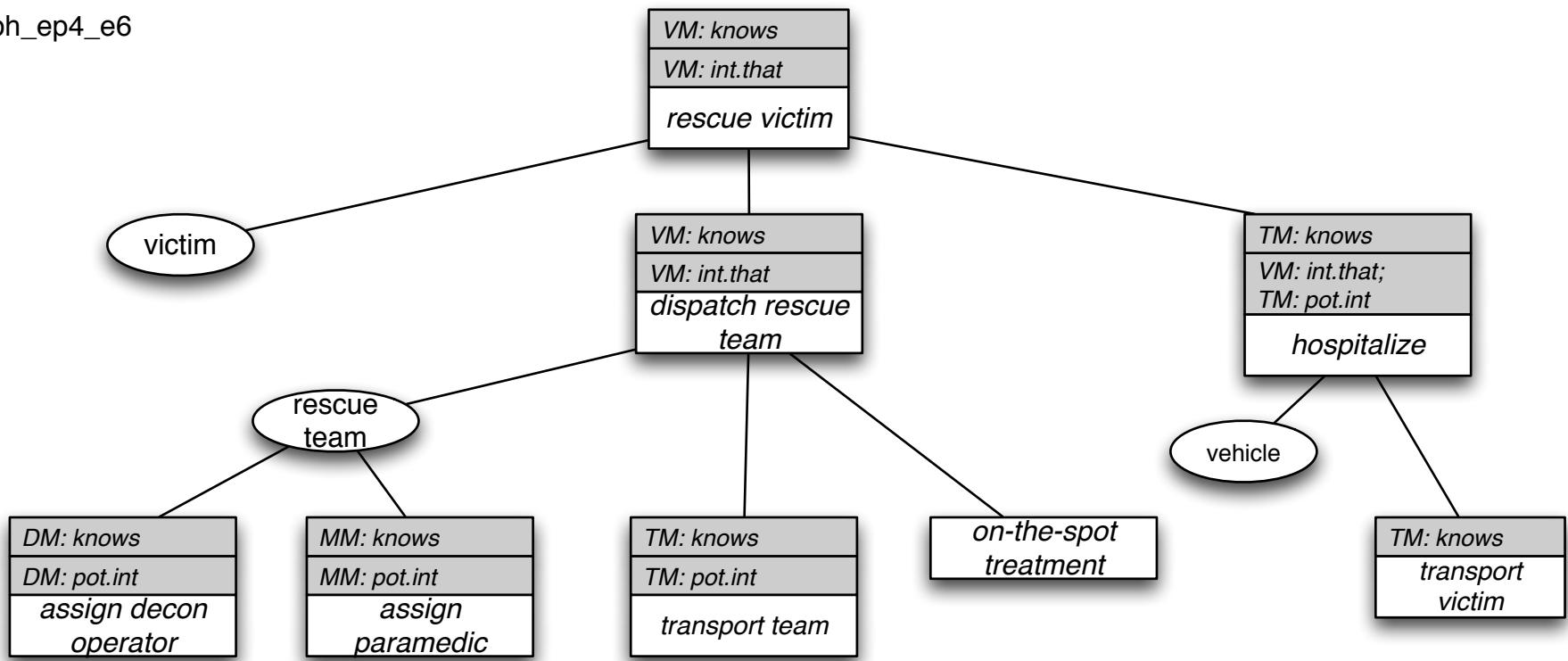




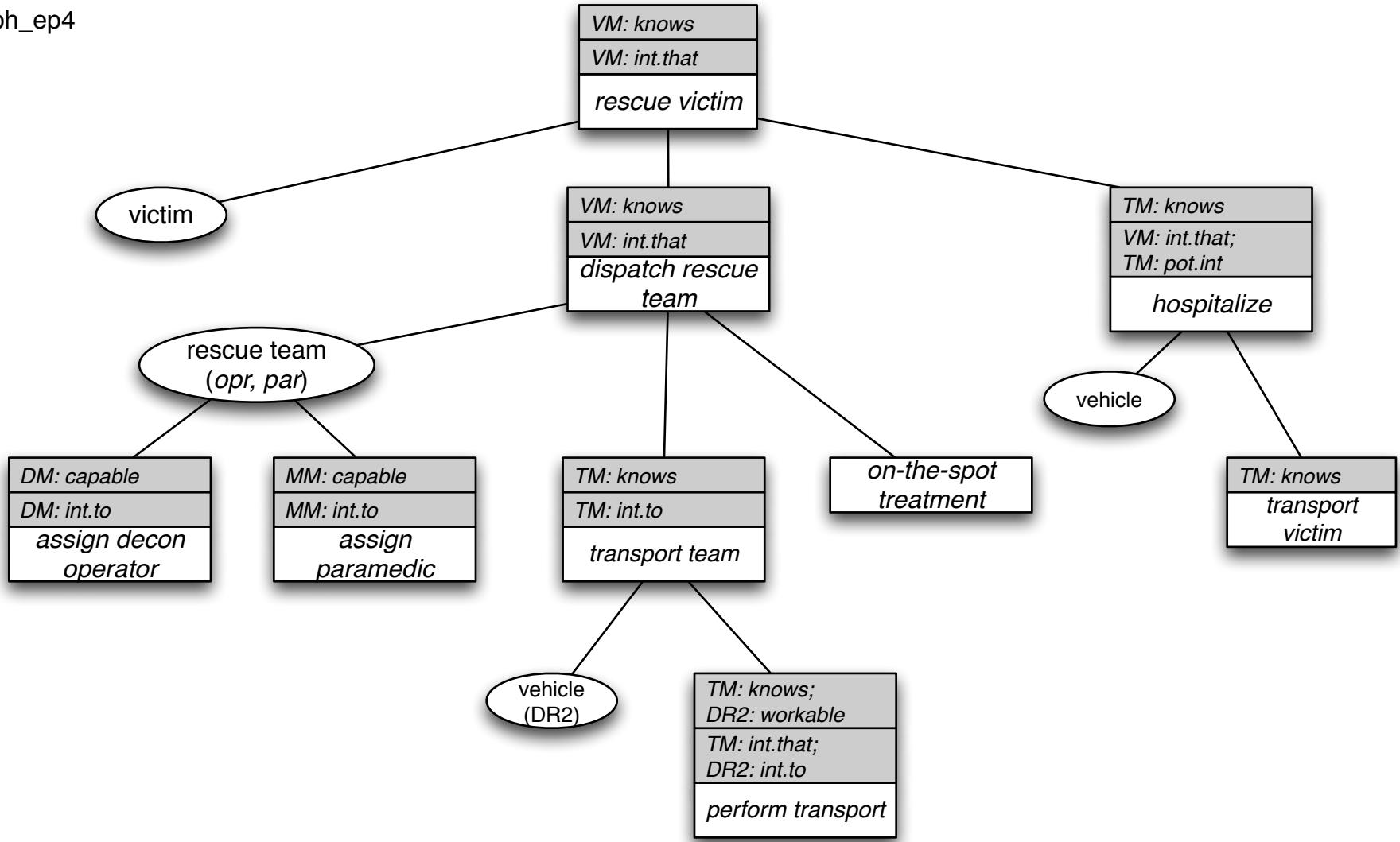
plangraph_ep3



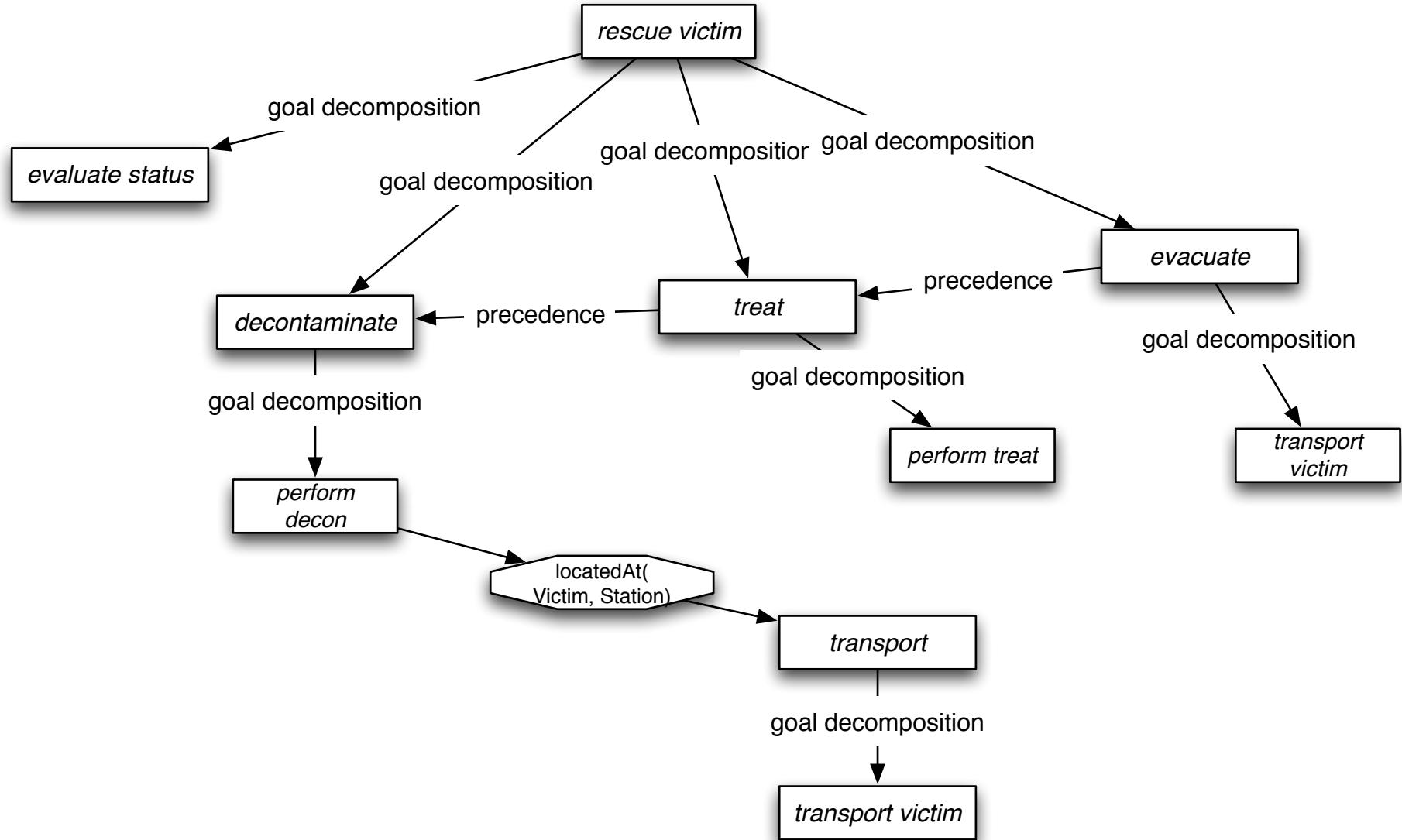
plangraph_ep4_e6



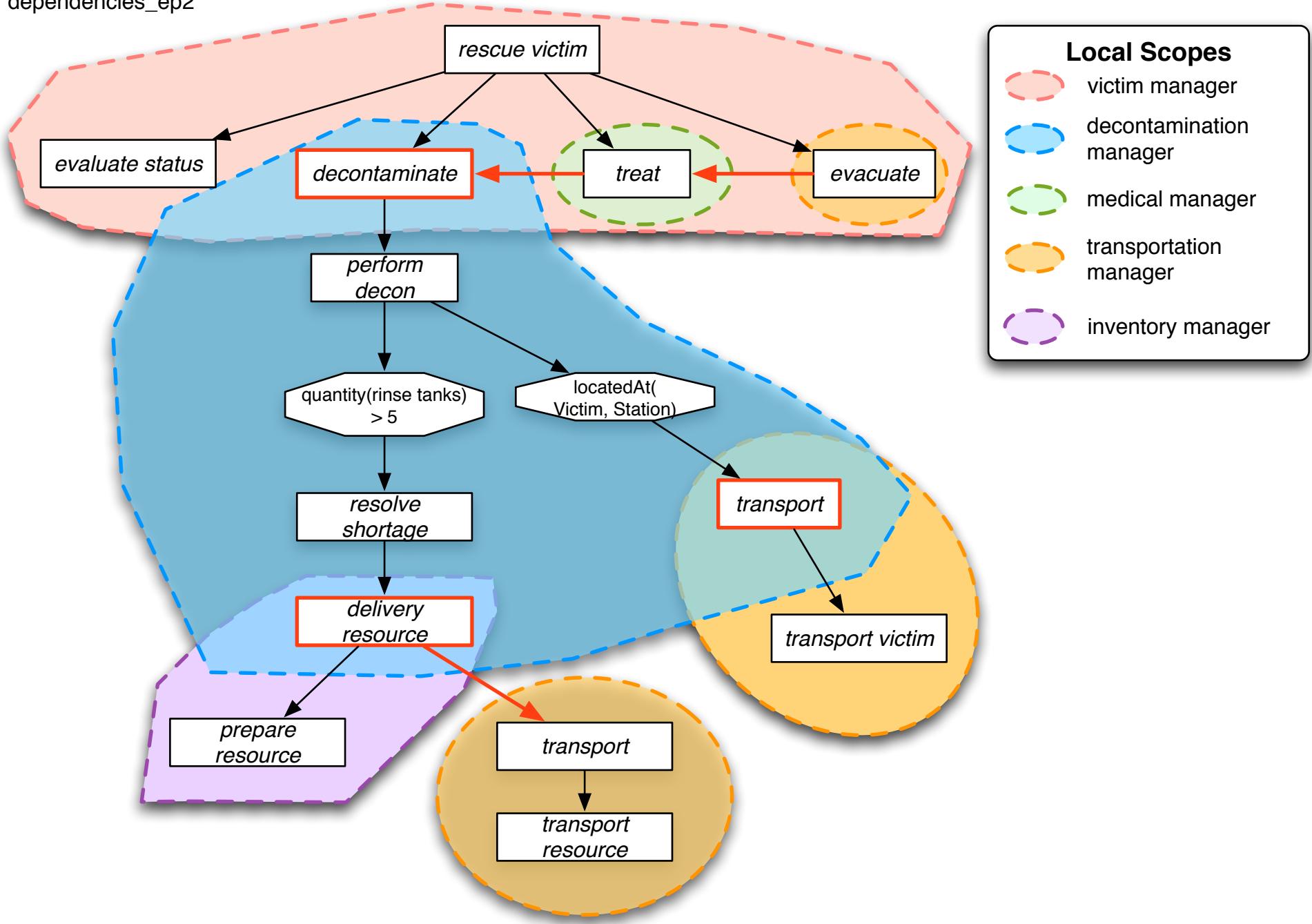
plangraph_ep4



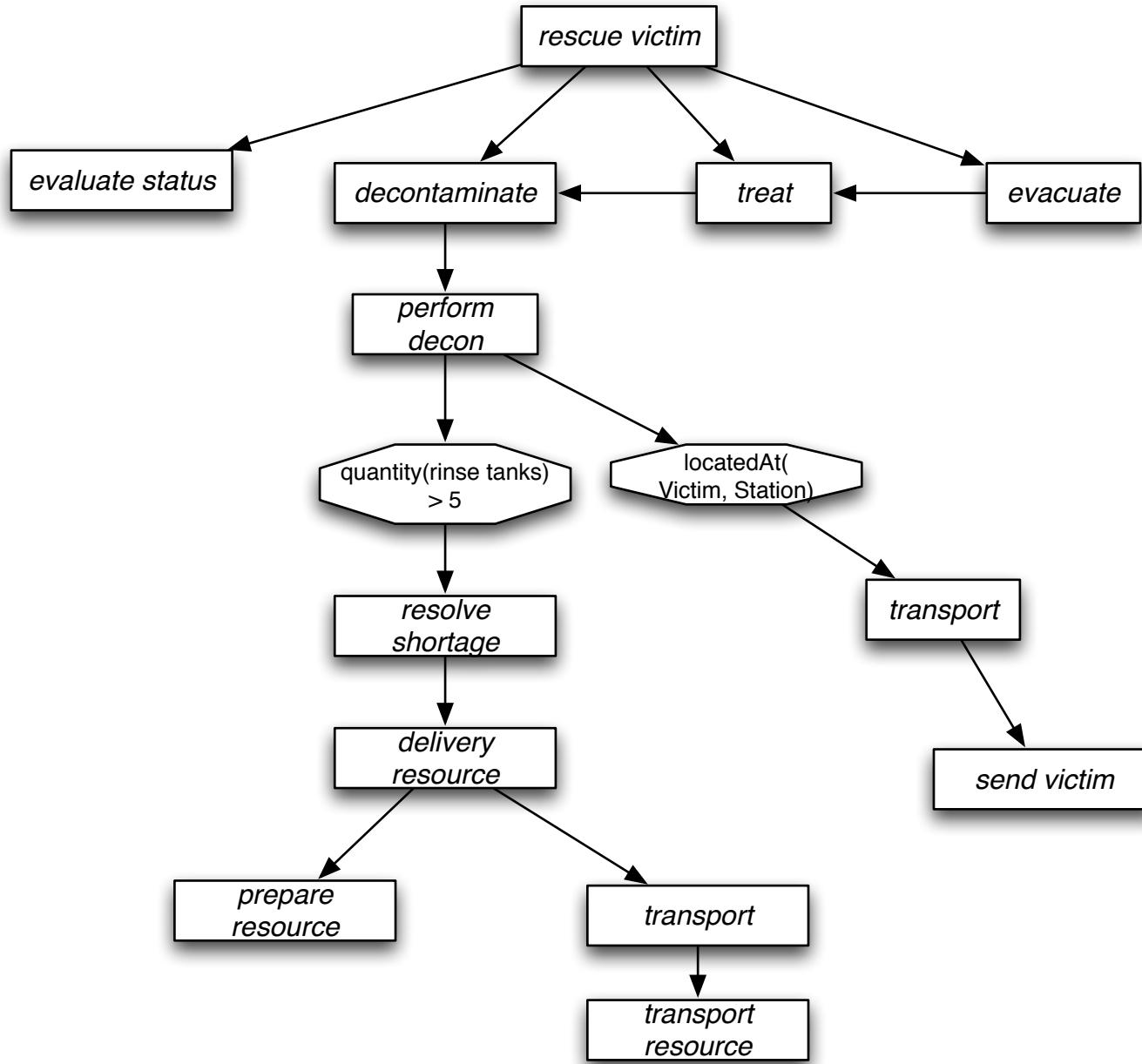
dependencies_ep1



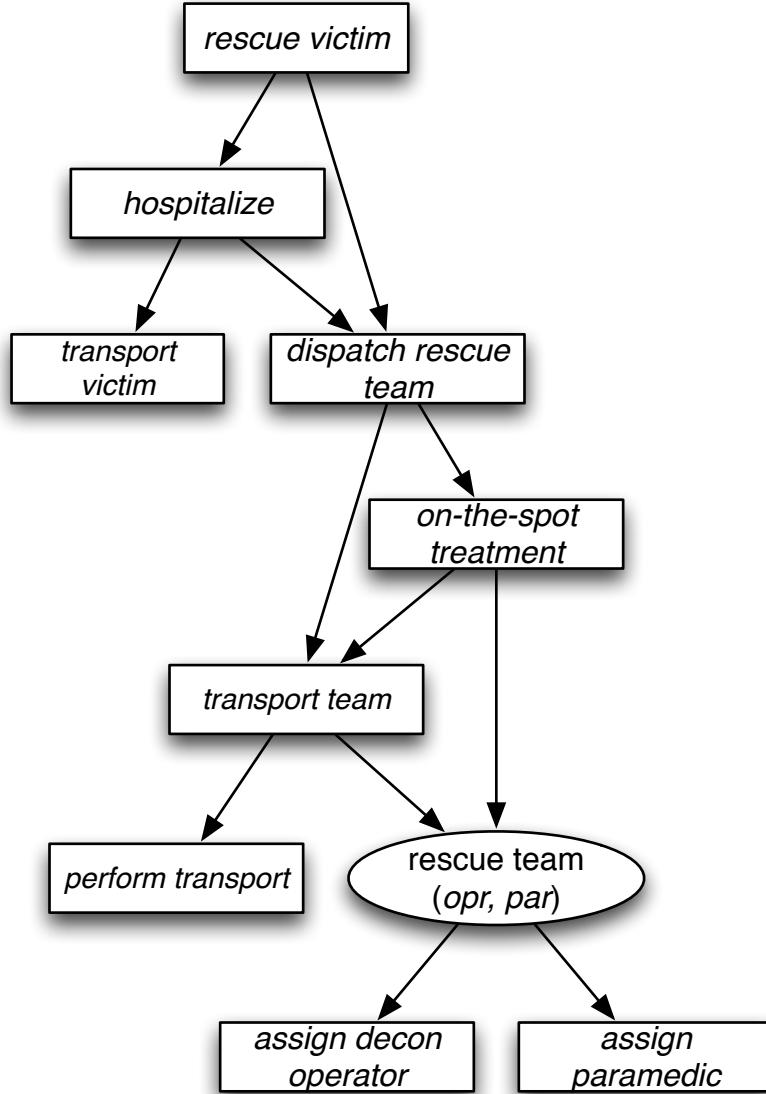
dependencies_ep2

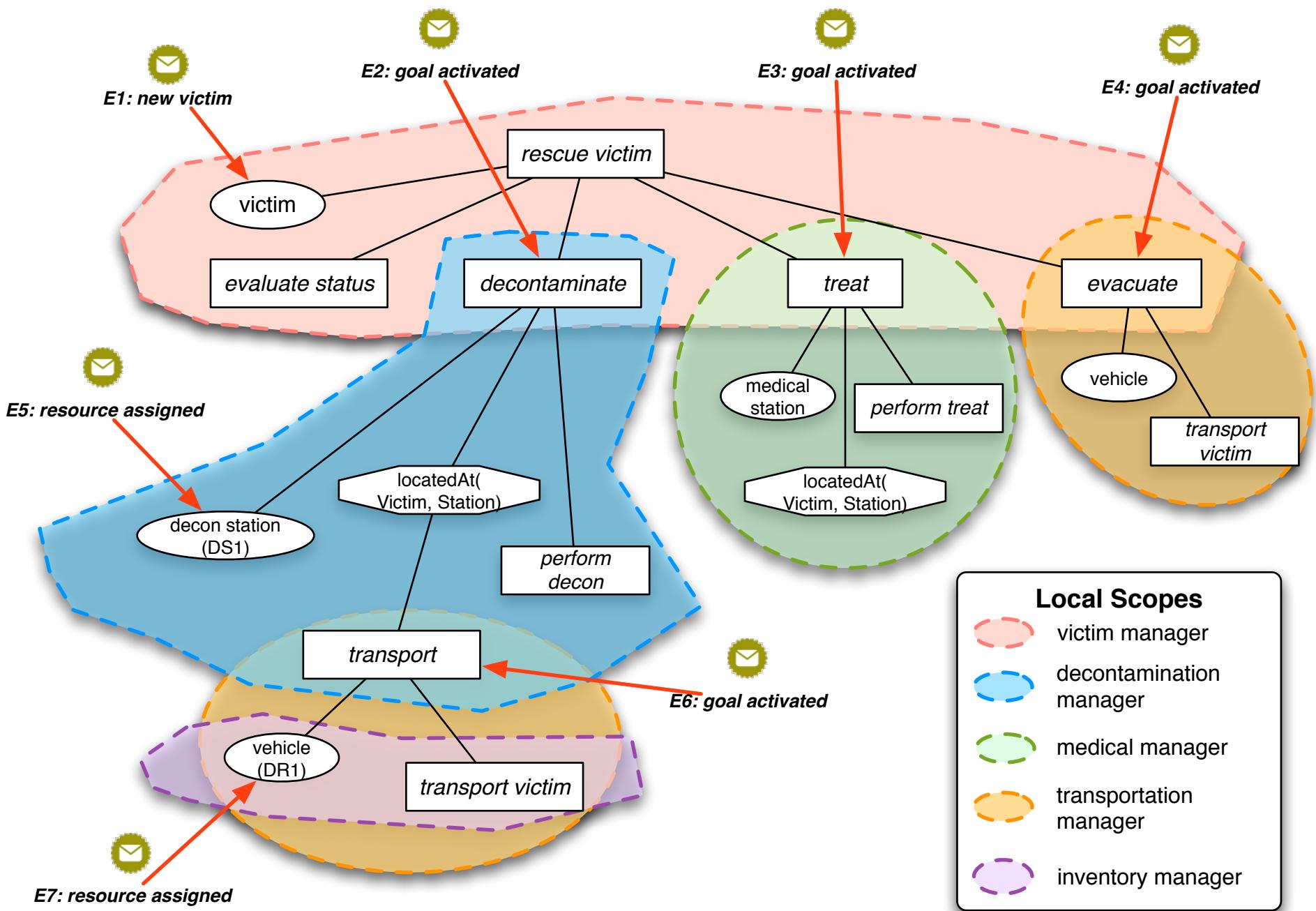


dependencies_ep3



dependencies_ep4

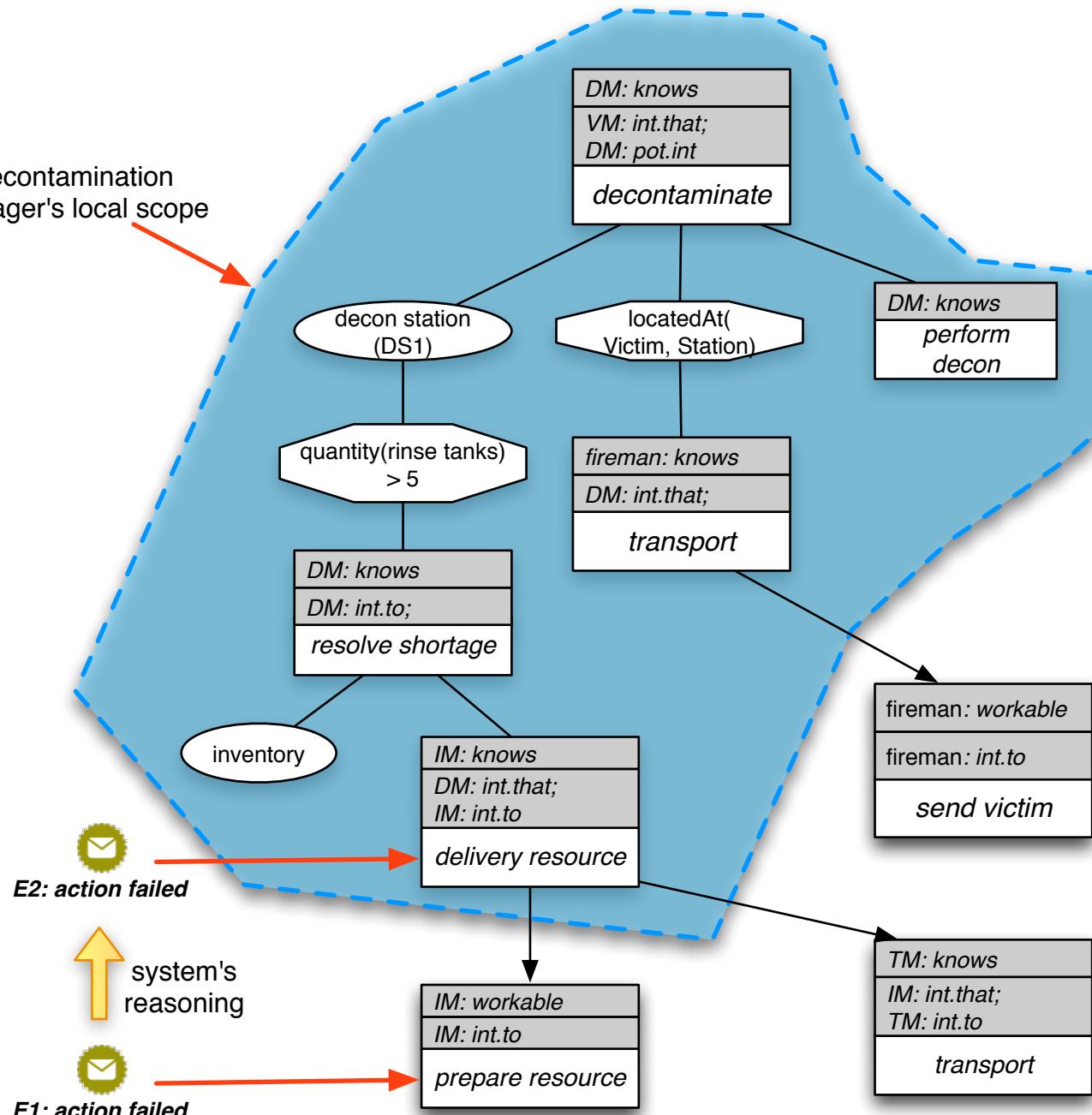


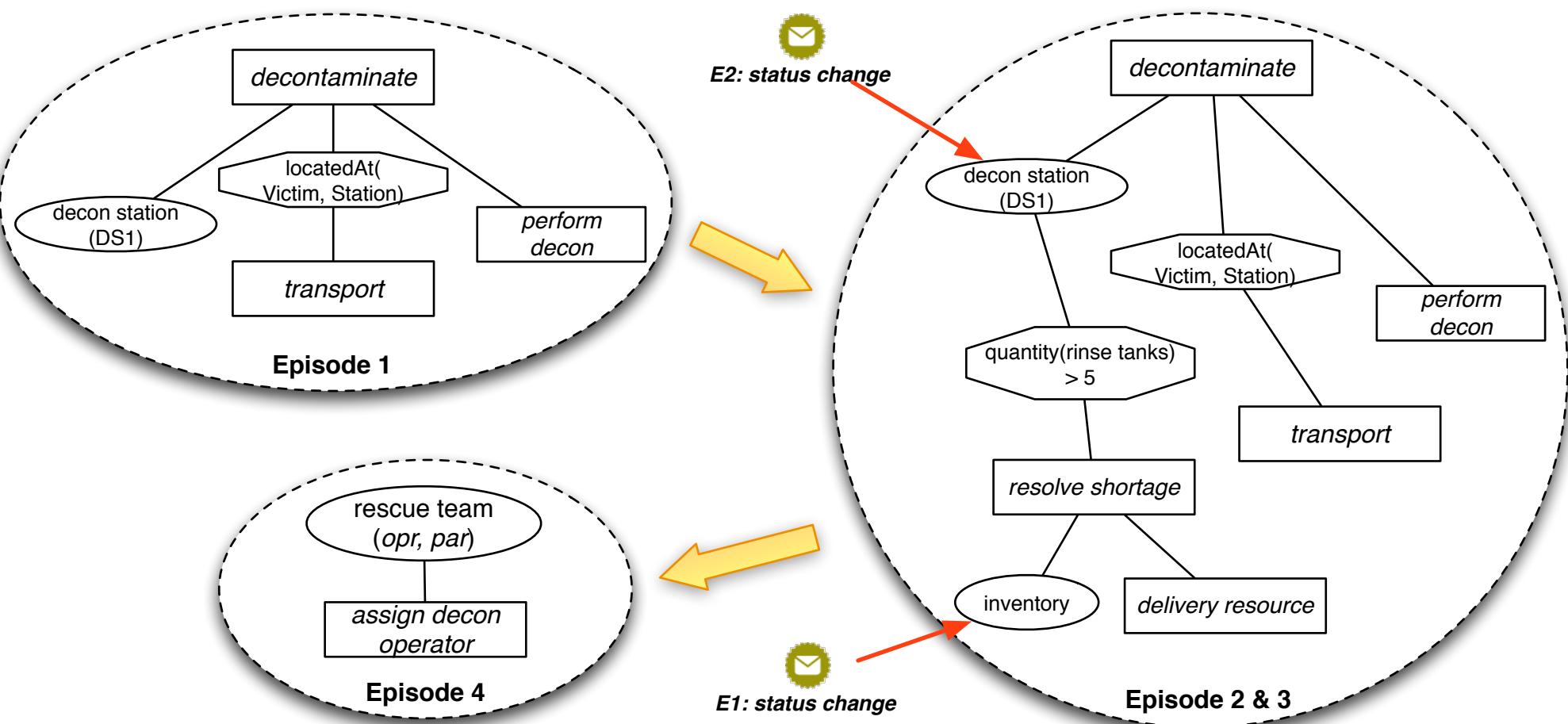


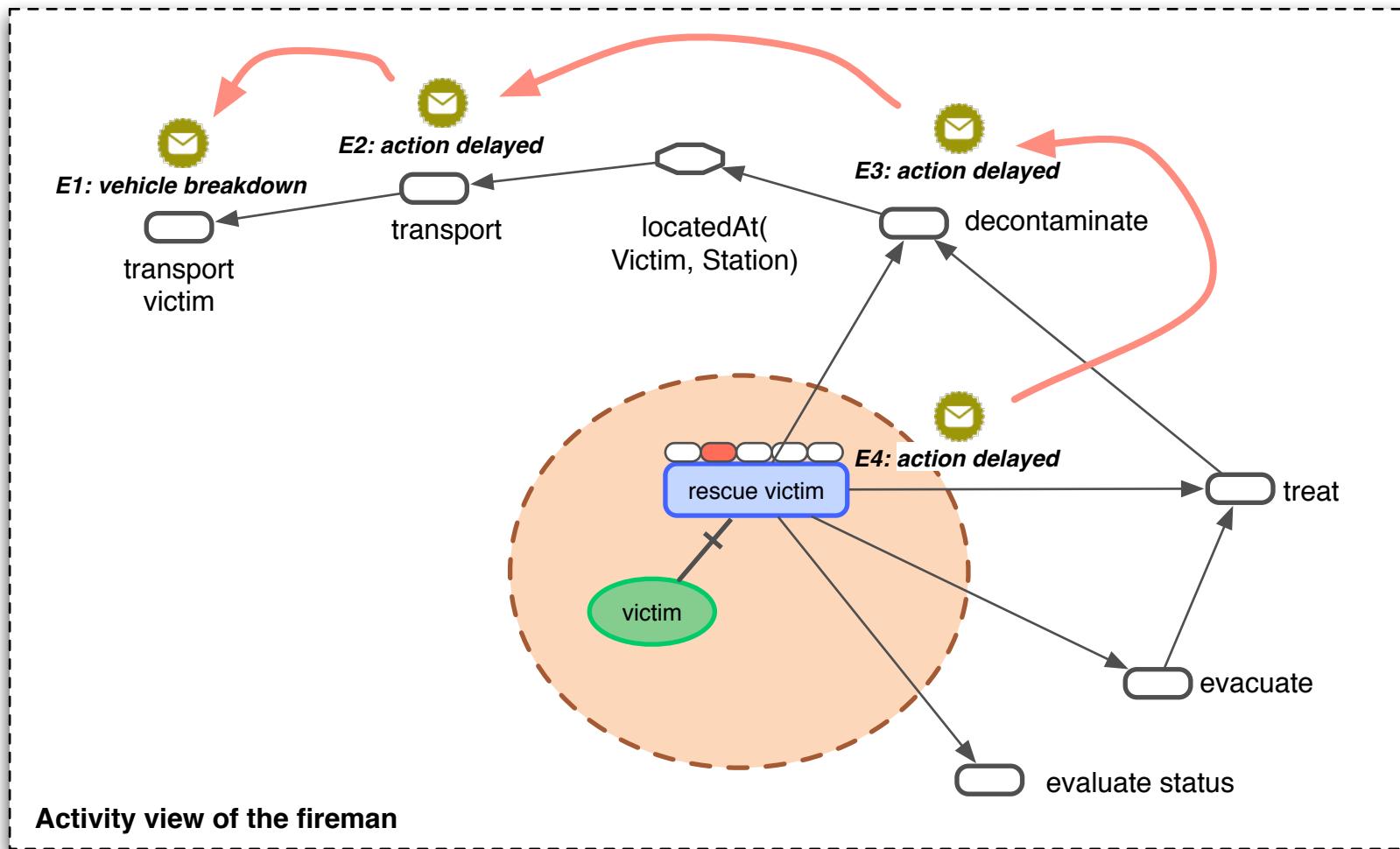
Local Scopes

- victim manager
- decontamination manager
- medical manager
- transportation manager
- inventory manager

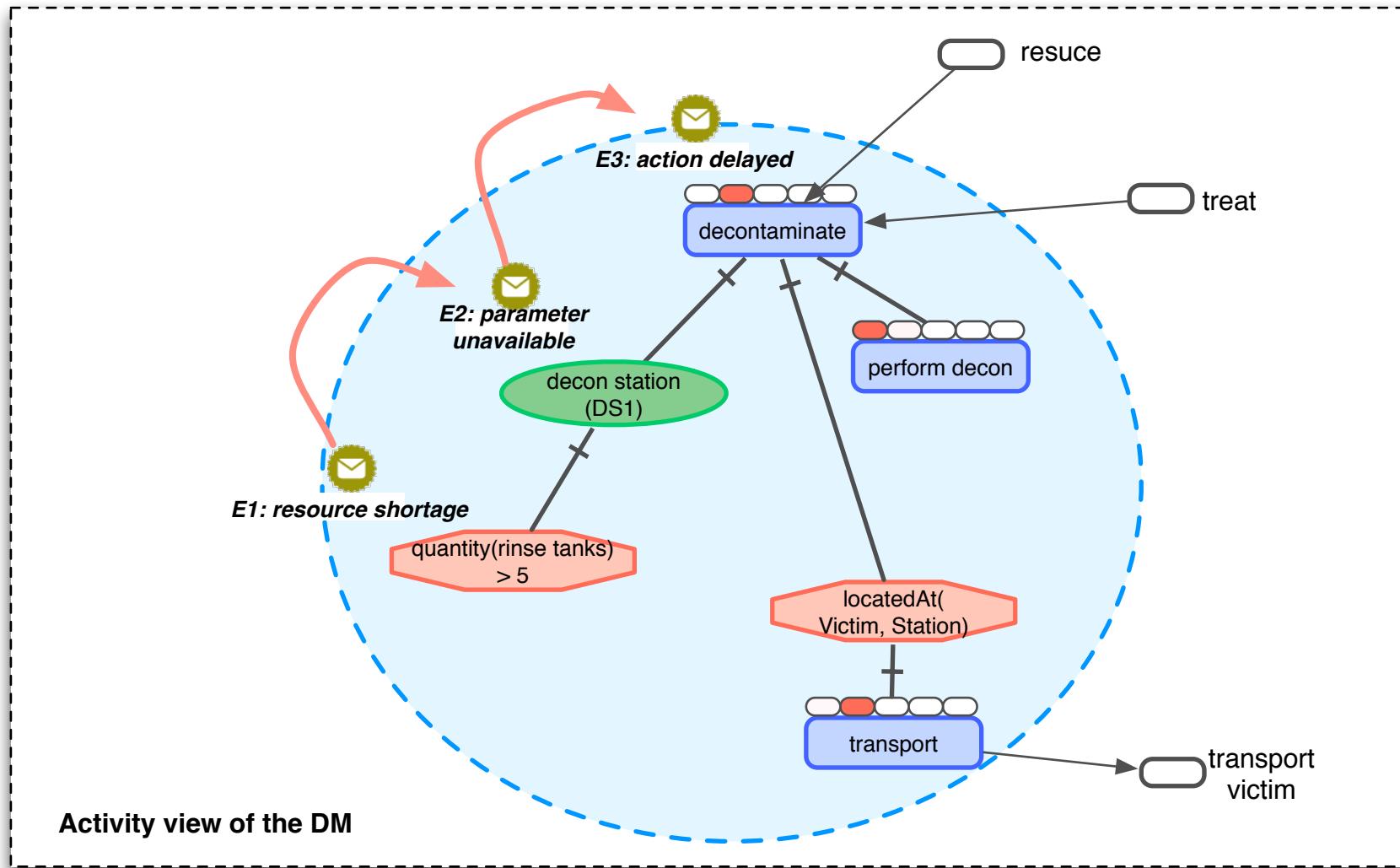
decontamination
manager's local scope

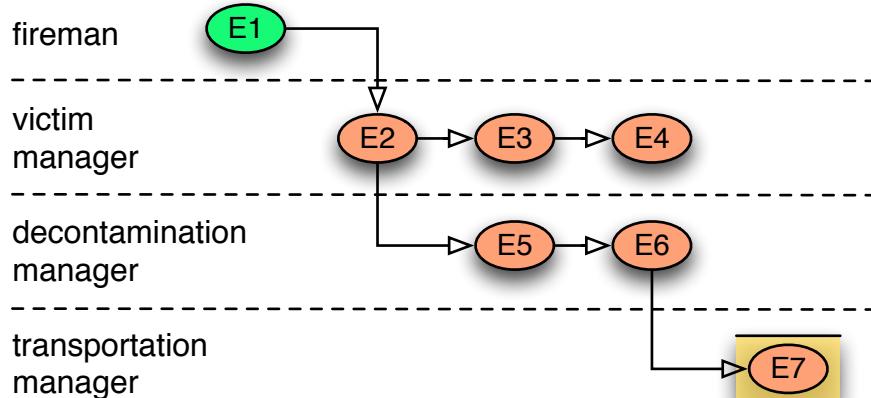




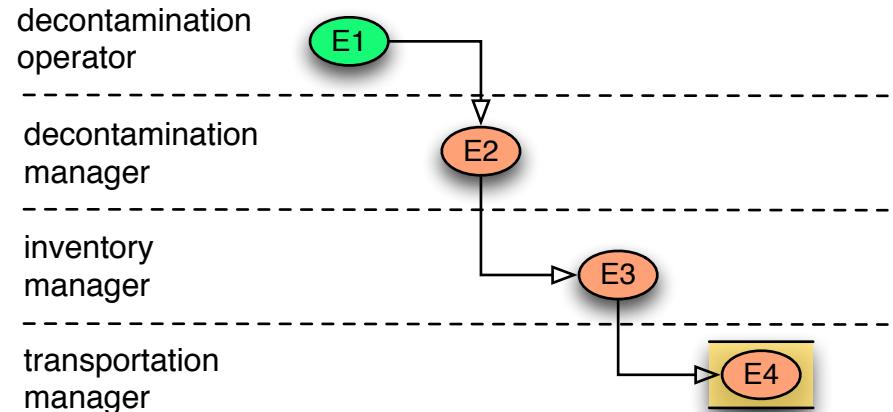


Activity view of the fireman

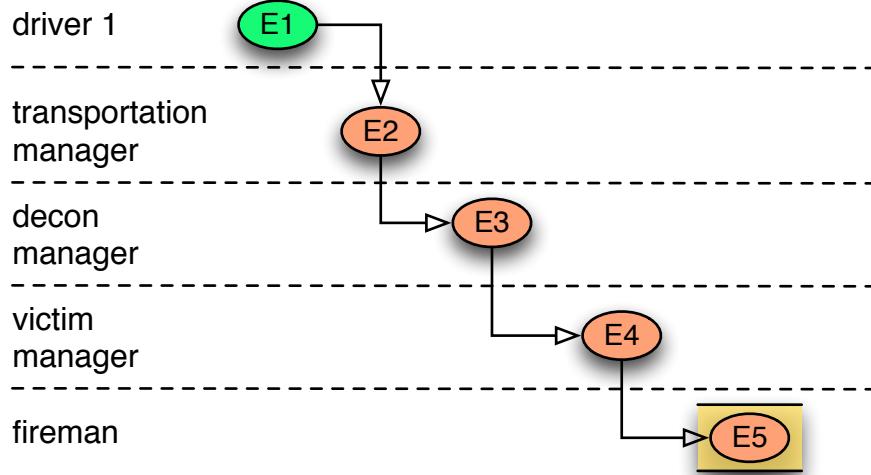




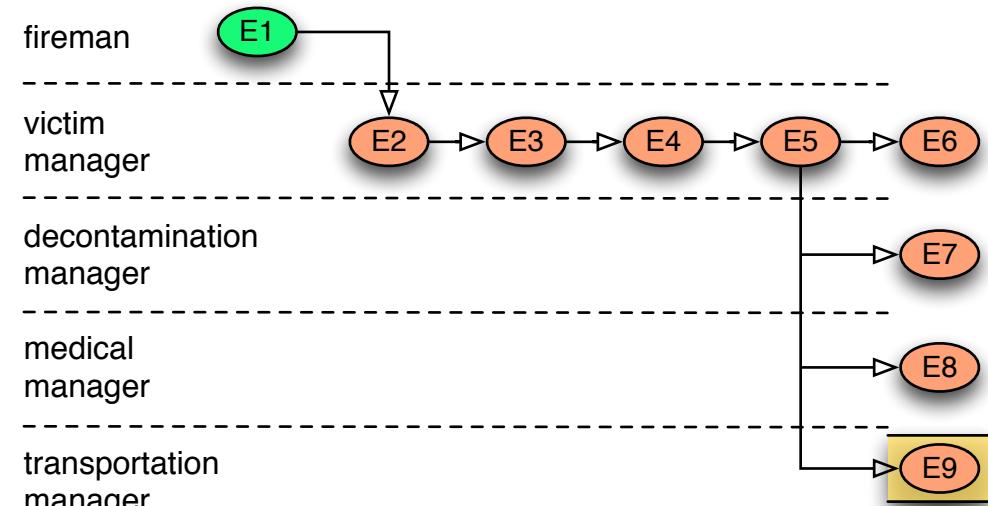
(a) E7 in Episode 1



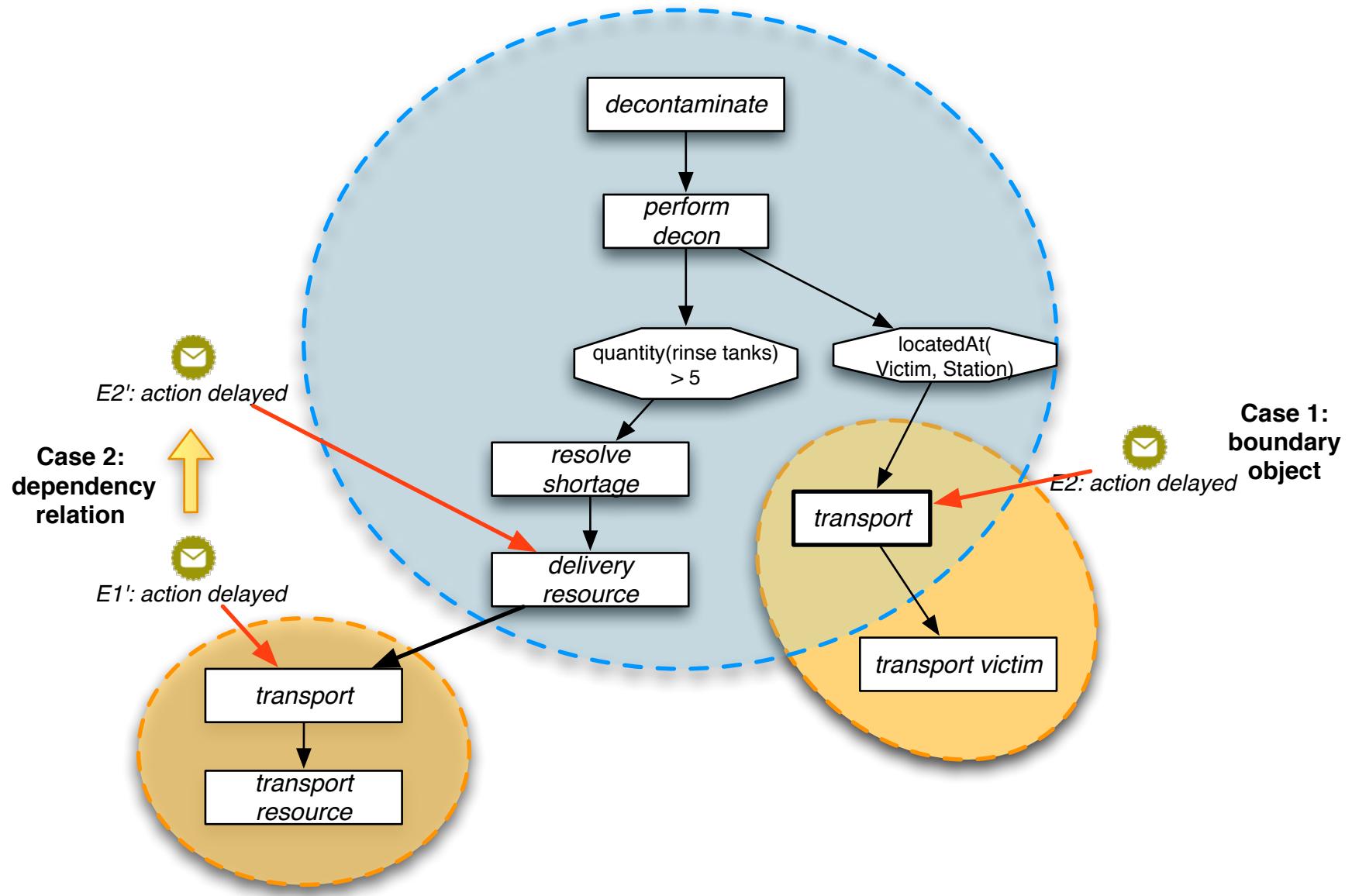
(b) E4 in Episode 2

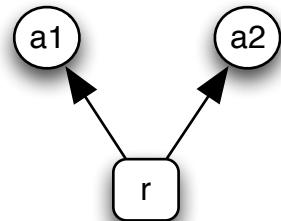


(c) E5 in Episode 3

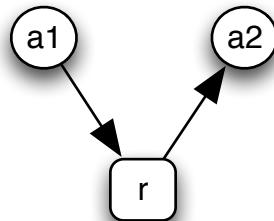


(d) E9 in Episode 4

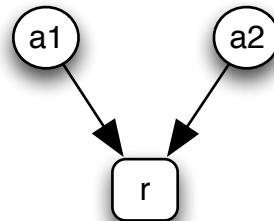




Shared Resource



**Producer/
Consumer**



Common Object

Actions

Resources

