

Bridging OSGi Event Admin with J2EE JMS

Didier Donsez

Université Joseph Fourier (Grenoble 1)

IMA IMAG/LSR/ADELE

`Didier.Donsez@imag.fr`

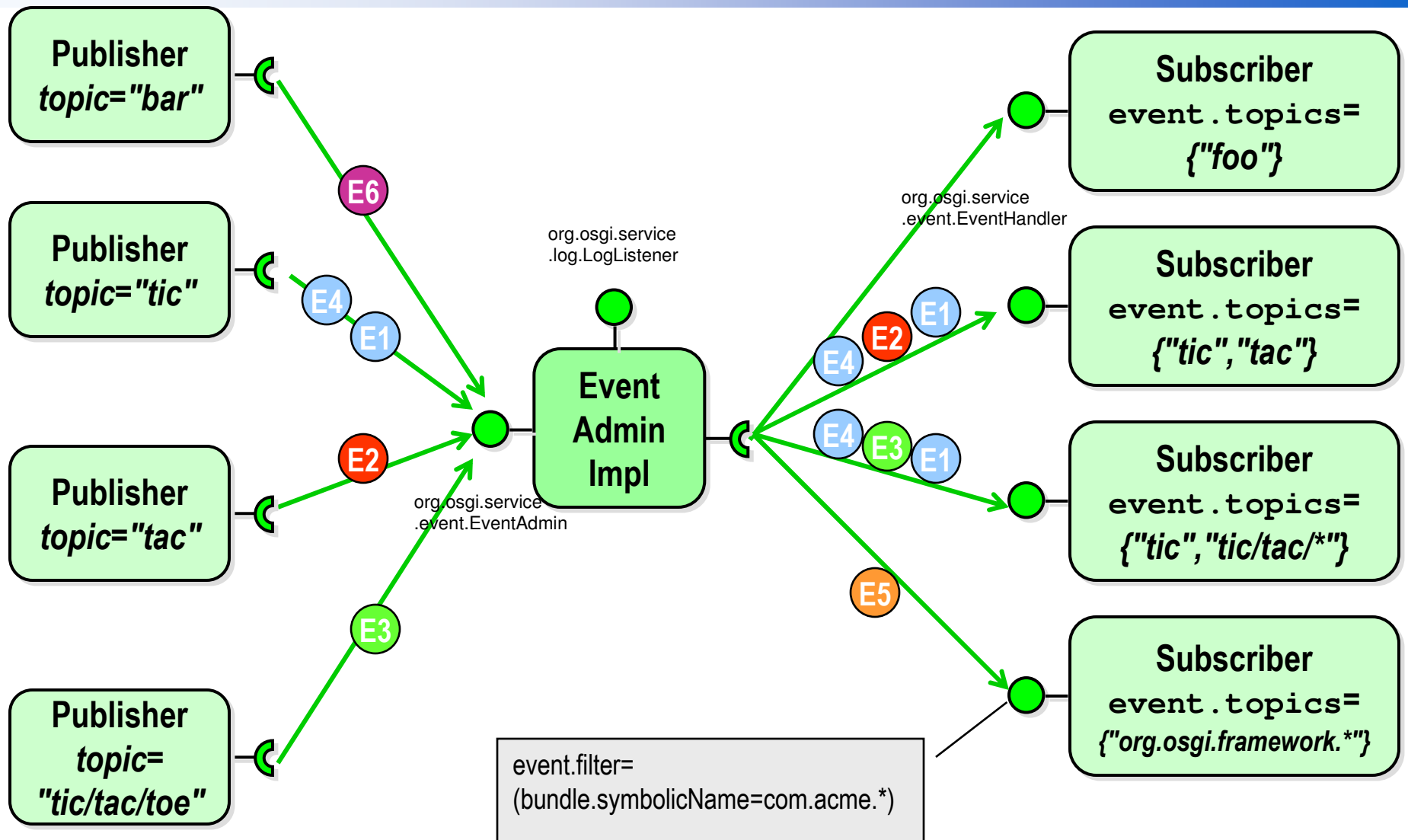
Outline

- Event Admin Service
- Motivation and Principles
- Architecture

R4 Event Admin Service (i)

- (Event) publish-subscribe model between bundles.
 - Publishers publish events on a topic
 - Subscribers subscribe events from several topics
- Object `Event` = *topic* + properties `<key,value>`.
- Event Admin : intermediary between publishers and subscribers
 - A subscriber registers a `EventHandler` service.
 - Subscribed topics are listed in the `event.topics` property
 - A publisher send/post a event to the `EventAdmin` service
 - `EventAdmin` service broadcasts (in parallel) the event to all `EventHandler` subscribing for the *topic*

R4 Event Admin Service (ii)



(c) Didier Donsez, 2005 - Bridging OSGi Event Admin with J2EE JMS

R4 Event Admin Service (iii)

- The `sendEvent` method provides a synchronous event delivery
 - the publisher is blocked until all (concerned) event handlers have fully processed the event
- Special events and topics related to
 - services, bundles and framework lifecycles
 - `LogService` logs, UPnP Base Driver events, ...
- `EventAdmin` should blacklist erroneous or CPU-greedy `EventHandler`.

Bridging Event Admin Service and JMS (i)

■ Motivation

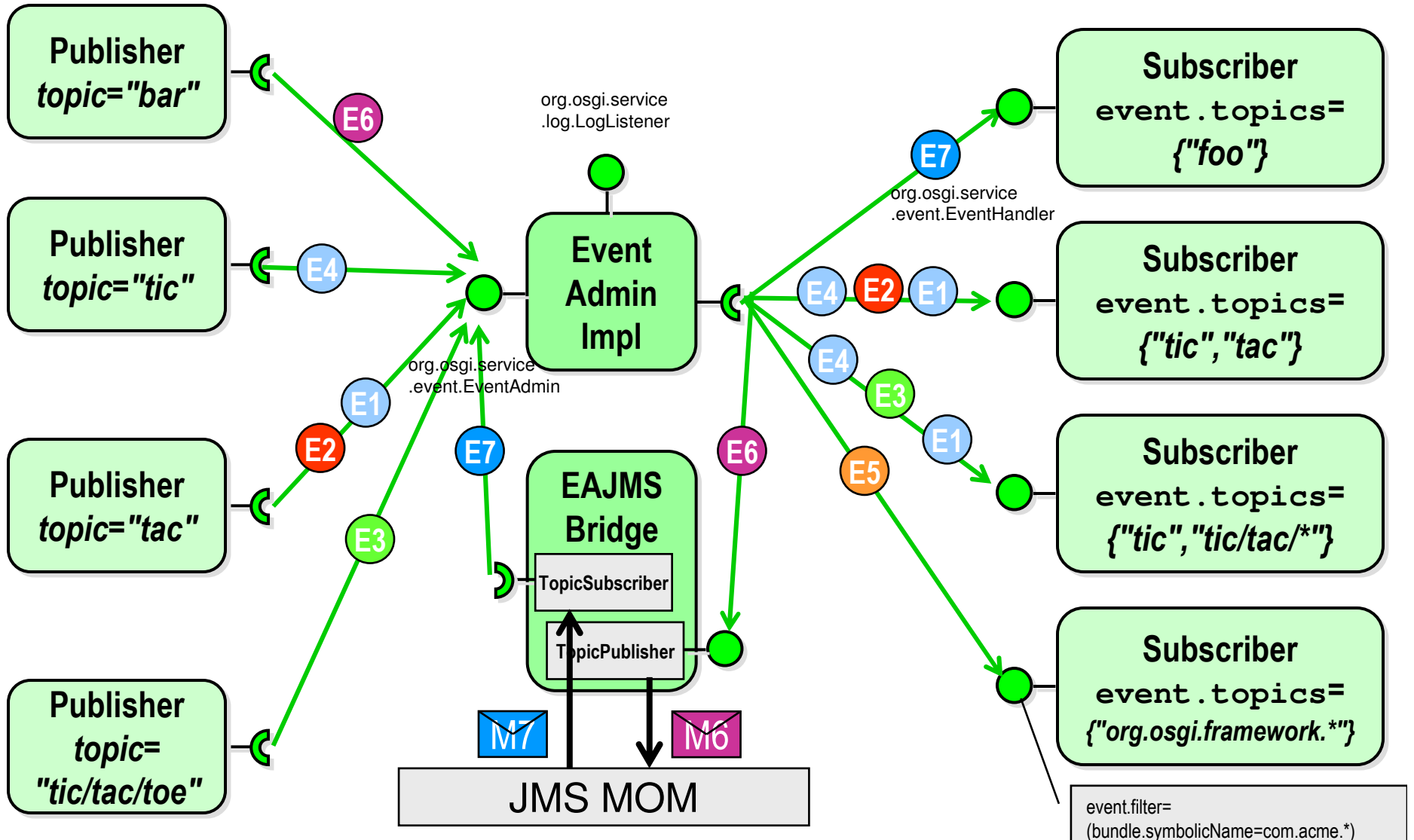
- Large scale deployment and administration
- Large scale applications (Sensor-based services, ...)
- get/push events to/from remote OSGi gateways
- get/push events to/from remote J2EE servers

■ Principles

- Mapping `Event.getProperty/getPropertyNames` on `javax.jms.MapMessage`
- Mapping `Event.getTopic()` on `javax.jms.Topic`
- Mapping `EventService` requesters on `javax.jms.TopicPublisher`
- Mapping `EventHandler` services on `javax.jms.TopicSubscriber`

Bridging Event Admin Service and JMS (ii)

(c) Didier Donsez, 2005 - Bridging OSGi Event Admin with J2EE JMS



References

■ SensorBean

- <http://www-adele.imag.fr/sensorbean/>
- http://www-adele.imag.fr/sensorbean/SensorBean_ObjectWebCon05.pdf