Event Router Statistics and Configuration

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The JAIN SLEE Event Router is the module responsible for creating new service instances and delivering events to all interested parties. It is capable of doing the routing of several events in parallel, through the usage of multiple executors, each bound to a different thread.

The Event Router is also able to account performance and load statistics, indicating the number of activities being assigned or several timings regarding event routing, globally or for each individual executor/thread. Statistics are turned on by default and may be retrieved through the JMX MBean `org.mobicents.slee:name=EventRouterStatistics`.

An important sub-module of the Event Router is the Executor Mapper, which is responsible for assigning activities to the available executors. JAIN SLEE includes two different Executor Mappers. The default one takes into account the hashcode of the activity handle when distributing, while the alternative uses a round robin algorithm.

> In the case of advanced performance tuning, it is advised to try the different implementations available, or even provide a custom one.

The Executor Mapper is nothing more than an interface: `org.mobicents.slee.container.eventrouter.EventRouterExecutorMapper`. To deploy a custom implementation, drop the implementation class or classes, packed in a jar file, in the server profile */deploy* directory.

The whole Event Router is a critical component with respect to the container's performance. Its configuration can be tuned, through an XML file and a JMX MBean.

Event Router Persistent Configuration

Configuration is done through an XML descriptor for each [_server_profiles]. The XML file is named *jboss-beans.xml* and is located at *$JBOSS_HOME/server/profile_name/deploy/restcomm-slee/META-INF*, where `profile_name` is the server profile name.

The configuration is exposed a JBoss Microcontainer Bean:

```
<bean name="Mobicents.JAINSLEE.EventRouterConfiguration"
    class="org.mobicents.slee.container.management.jmx.EventRouterConfiguration">
    <annotation>@org.jboss.aop.microcontainer.aspects.jmx.JMX(name=
        "org.mobicents.slee:name=EventRouterConfiguration", exposedInterface=

org.mobicents.slee.container.management.jmx.EventRouterConfigurationMBean.class,
        registerDirectly=true)</annotation>
    <property name="eventRouterThreads">8</property>
    <property name="collectStats">true</property>
    <property name="executorMapperClassName">

org.mobicents.slee.runtime.eventrouter.mapping.ActivityHashingEventRouterExecutorMappe
r
    </property>
</bean>
```

Table 1. JAIN SLEE Event Router Bean Configuration

Property Name	Property Type	Description
eventRouterThreads	int	defines how many executors should be used by the Event Router, each bounds to a different thread
collectStats	boolean	defines if performance and load statistics should be collected, turning this feature off will increase performance
confirmSbbEntityAttachement	boolean	defines if the event router should reconfirm that sbb entities are attached to activity context, before delivering event, this will avoid that a sbb entity handles concurrent events after it detachs, turning this feature off will increase performance
executorMapperClassName	Class	This property defines the implementation class of Executor Mapper used by the Event Router, the one above and default uses the activity handle hashcode to do the mapping, an alternative is org.mobicents.slee.runtime.eventrouter .mapping.RoundRobinEventRouterExecutorMapper, which uses Round Robin algorithm.

Event Router JMX Configuration

Through JMX, the Event Router module configuration can be changed while the container is running. These configuration changes are not persisted.

The JMX MBean that can be used to change the Event Router configuration is named `org.mobicents.slee:name=EventRouterConfiguration`, and provides getters and setters to change each property defined in the persistent configuration. See [_management_jmx_console] for how the JMX Console can be used to use this MBean.