

# L&B with Messaging

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## Messaging in EMI and L&B

EMI has declared messaging to be the core of its activities and selected Apache's **ActiveMQ** as its messaging solution. There are three principal areas where messaging is applicable to L&B:

**Input to L&B** – receiving events from grid components. This is a rather complex task since it requires cooperation between multiple product teams, who need to modify their components to write to messaging first. This will be implemented, eventually, but not in the early releases of EMI.

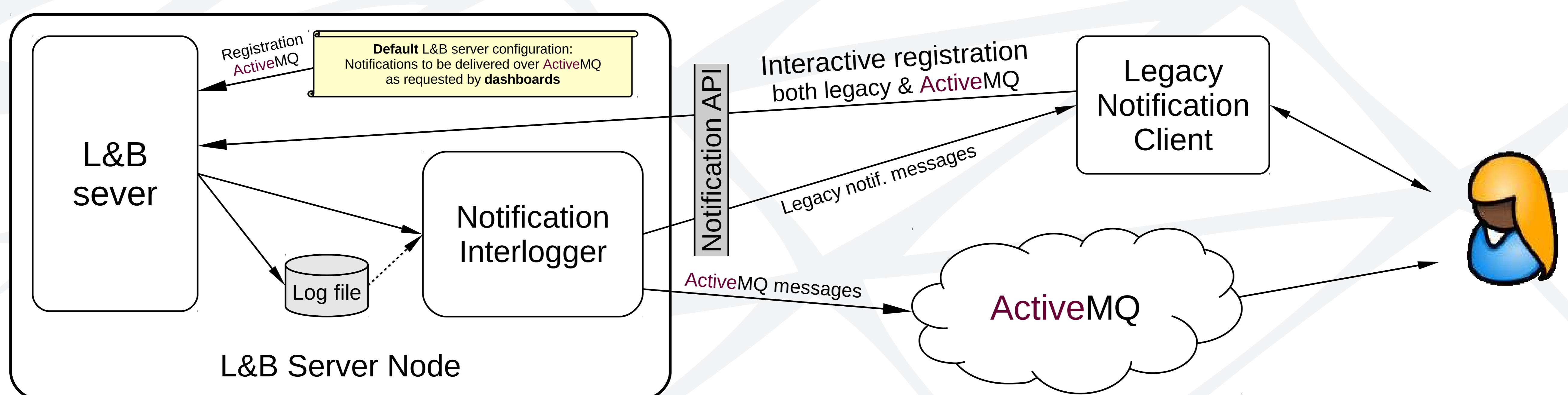
Moreover, event delivery puts much emphasis on reliability, which may not be sufficient in the current deployment of **ActiveMQ**.

**Output from L&B** – L&B notifications. The relevant code is fully under the control of the L&B product team, which is ideal for pilot implementations. There are also well-established user groups who have already expressed interest in receiving L&B notifications over messaging.

L&B notifications are a well known feature and transition to the common messaging infrastructure is quite straightforward. The notification interlogger stores notification messages generated by the L&B server and delivers them as soon as the appropriate notification client connects, or forwards them directly if the client is already connected.

**Message tunneling** – L&B clients are widely available in gLite-enabled grid elements. Users who currently use L&B to log user tags for their jobs could easily log other tags to be exported as **ActiveMQ** messages. No need to learn about or install **ActiveMQ** clients.

## Output from L&B – Delivering Notifications over ActiveMQ



### Interactive Registration

Examples given below show how to register to receive notification messages on all jobs you own (option `-O`) on every state change (`-c`). Specification of conditions is the same for both delivery paths. Functionality available as of **L&B 3.0** (released with EMI-1 *Kebnekaise*).

#### Legacy

```
glite-lb-notify new -O -c
glite-lb-notify receive <NotifID>
```

#### ActiveMQ

```
glite-lb-notify new -O -c -a x-msg://<topic>
Then use your favorite client to listen for messages on <topic>.
```

Note that notification registrations are not permanent. You need to renew them regularly by calling `glite-lb-notify refresh <NotifID>` to confirm that you are still interested in receiving the messages. View the status of your registration in your browser using the NotifID as URL. Also please note that in the context of EGI.eu, all topic names (`<topic>`) must start with prefix `grid.emi`.

### Dashboards, Grid Monitoring Services

It is possible to configure L&B nodes to make registration to receive notifications automatically on installation and maintain that registration permanently. Dashboard teams are welcome to contact the L&B Product Team and negotiate automated registration on *all* L&B nodes.

## References

- [1] *The Logging and Bookkeeping Subsystem*, <http://egee.cesnet.cz/cs/JRA1/LB/>
- [2] *EMI Messaging*, <https://twiki.cern.ch/twiki/bin/view/EMI/EMIMessaging>