L&B notifications for Job Monitoring on the LCG infrastructure

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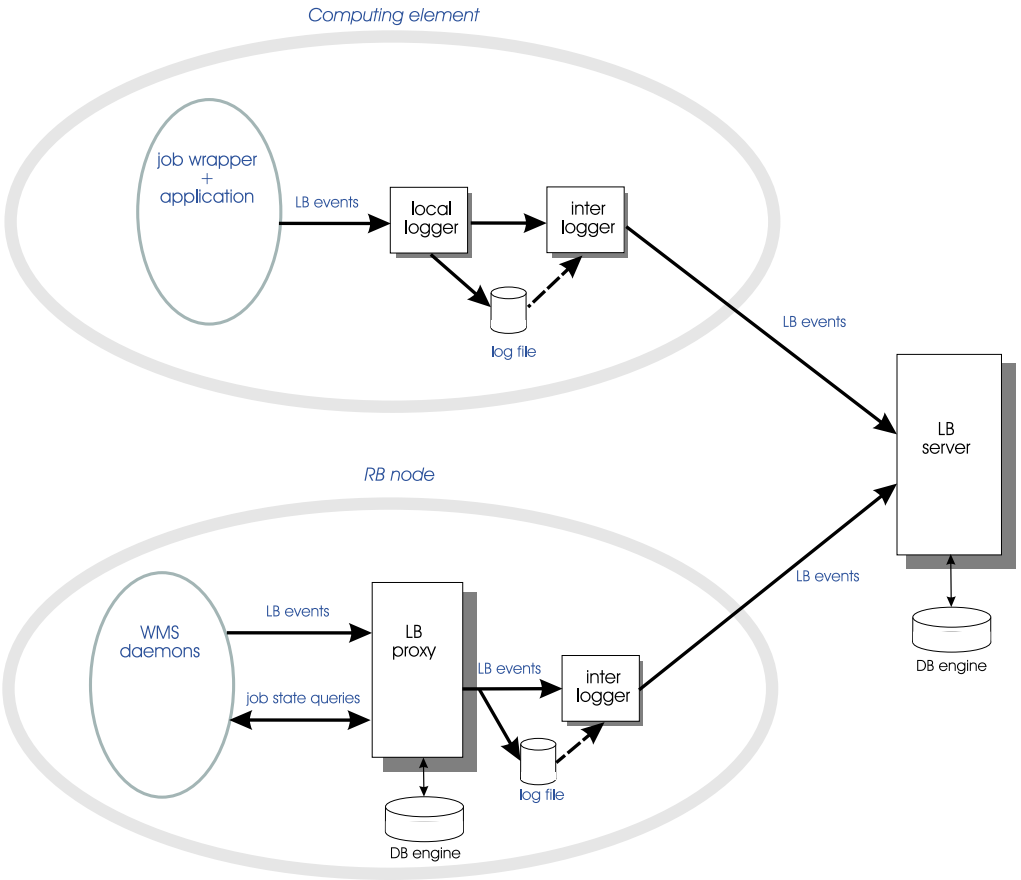
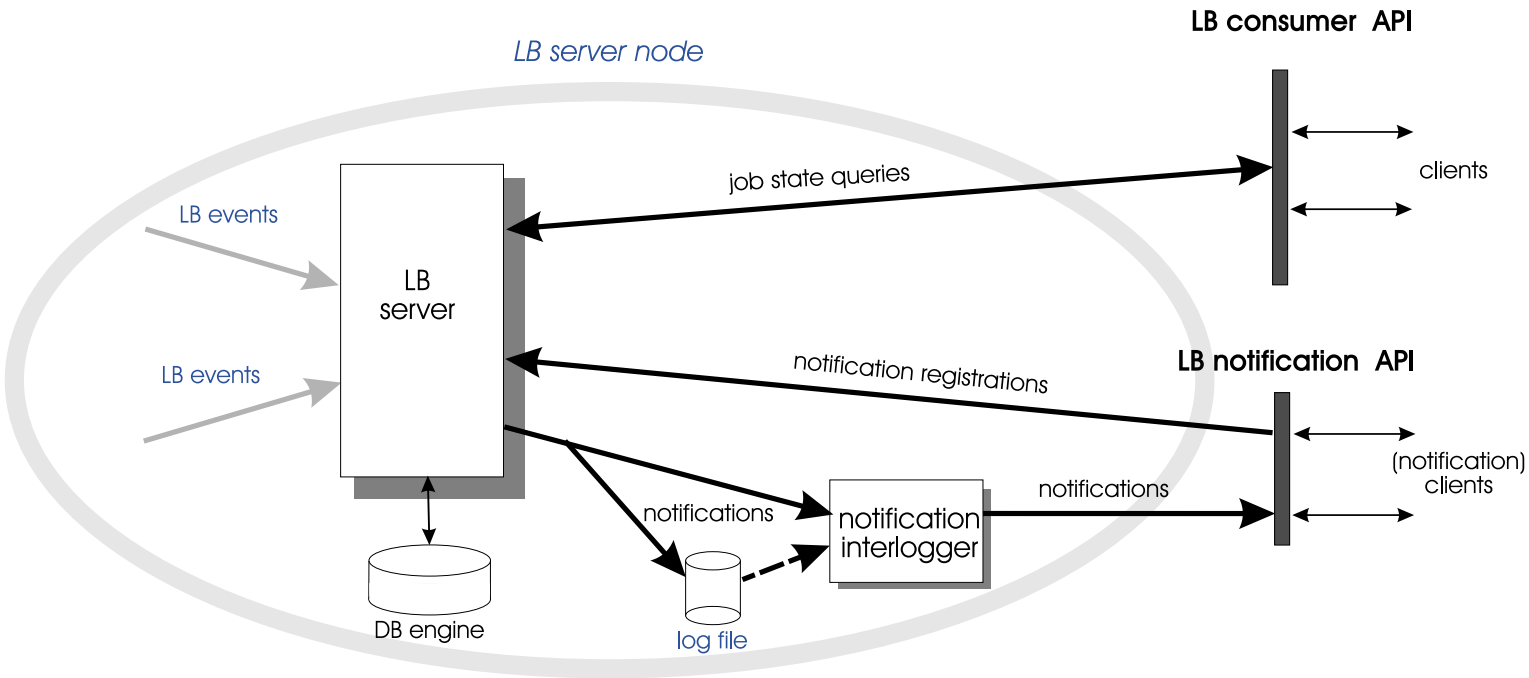
L&B architecture overview



- **L&B events** – important points in job life
- reliably delivered by **interlogger**
- **L&B server** computes job status
- complexity of job processing is encapsulated

L&B notifications

- user subscribes for notifications on job state changes
  - **notification handle** is returned
- various filtering criteria
  - single job, VO, resource broker, specific state only, ...



Notification processing

- notification matching at L&B server
  - M jobs $\times$ N notifications may not scale
  - configurable **notification indices** (job owner, VO, WMS endpoint)
  - current job state transformed into SQL query

```
select notifid from notifications
where JDL_VirtualOrganisation = 'cms'
...
```

  - only matching notifications processed further
- messages delivered by modified interlogger
  - reliable delivery (queued when user is temporarily away)
  - destination address can be changed
  - messages expire and get purged unless handle is refreshed

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Interface to MSG

- monitoring tools need fresh info on many jobs
- periodic L&B queries are inefficient
  - too many records returned
  - very few changes wrt. previous result
- notifications are appropriate approach
- **L&B to MSG publisher** (work by V. Kumar)
  - create and refresh notification handle(s) "all jobs on a WMS"
  - transform incoming notifications into MSG format
  - publish to "org.wlcg.usage.jobstatus" topic
- see poster #50

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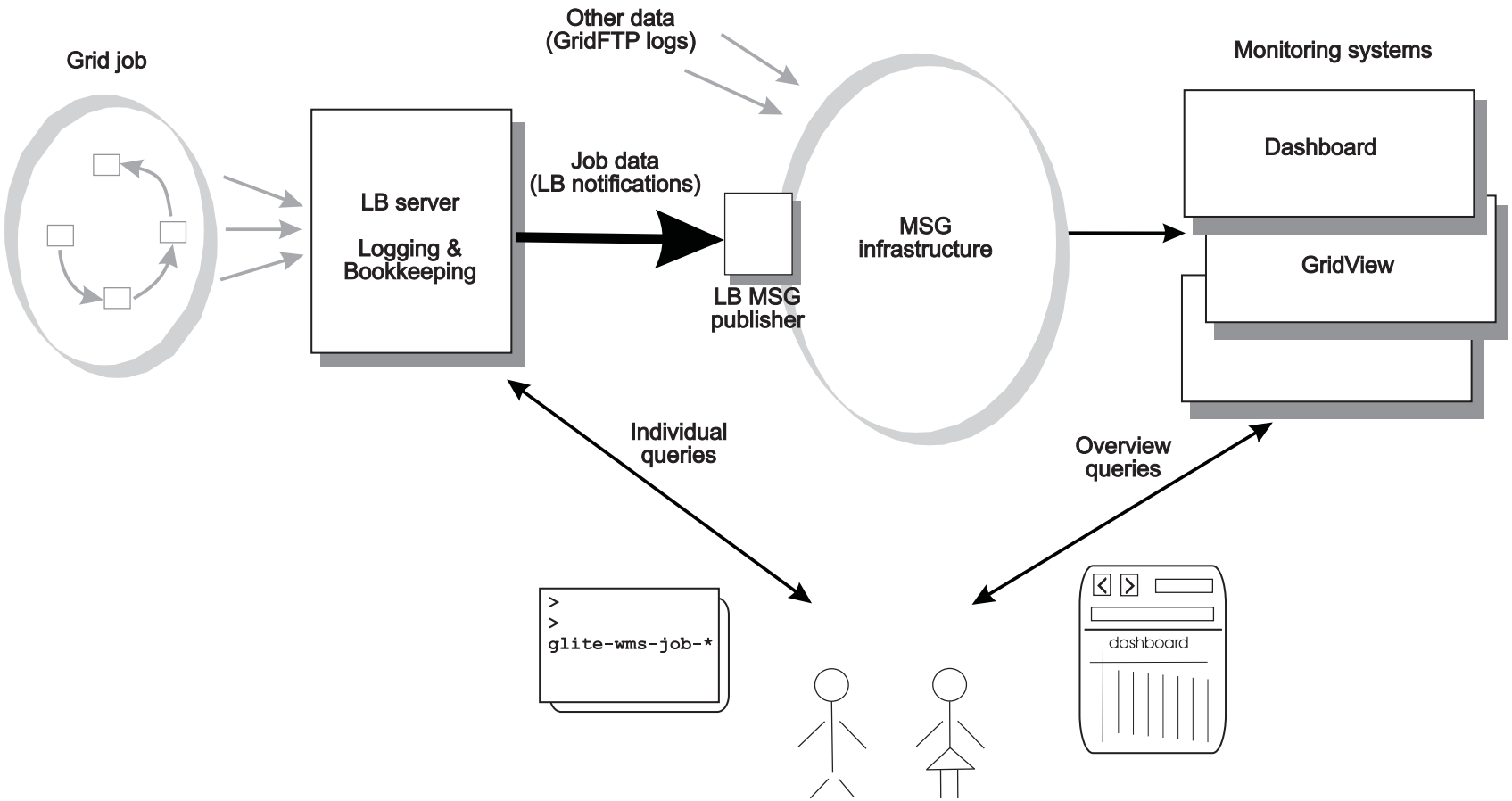

Summary, status, and plans

- L&B contains valuable data for job monitoring
- L&B notifications offer reasonable solution to deliver it
- prototype of MSG publisher developed, whole chain tested
- integrated stress tests needed
- CMS agreed to redirect part of its production to our testbed
  - dedicated WMS and L&B
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