



# **APEL Messaging**

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# Outline

- APEL use of messaging
- Issues with EGI Messaging Infrastructure
- Future Plans
- EMI Messaging

# APEL use of messaging

- gLite-APEL uses ActiveMQ to send cpu job accounting records collected from a batch system at a site to the central APEL accounting repository. (in production since June 2010)
- Sends multiple job records per message published to a single accounting topic as plain text.
- Encrypts UserDN within the job usage record
- Broker authentication based on host certificate. gLite-APEL nodes register host certificates in GOCDB.

# Issues with EGI Messaging Infrastructure

- We have implemented our own broker with authentication using SSL and host certificates
- We would prefer to use the production EGI messaging infrastructure but they have had difficulty deploying the authentication we require
- Investigating alternatives including signing the messages and encrypting the whole message

# Future Plans

- Only accept one type of job record (CPU) now
- Adding support for multiple types
  - Permits schema evolution
  - Allows other types of accounting
- Summary Records – data from multiple jobs
- Hierarchy of accounting servers (NGI & Central) publishing summaries up the tree
- Considering STOMP and Python (vs Java)

# Integration with EMI messaging

- Client publishes messages, server receives them
- Straightforward interface to publish
- Our application will handle issues of loss, lateness, sequence, integrity etc itself so we make no requirements for these on the infrastructure.

# Discussion

- Private broker?
  - I thought we should join the production inf, but now I am not so sure
  - Accounting publishing is not time-critical
- Do we need acknowledgment?
  - if true, how? (eg. using temporary queues with replyTo header set to that tmp queue, message selectors and routing keys?).
- Message format currently name value pairs
  - but OGF UR has XML format so there is a case for using that
- Sign the message with host certificate
  - Provides provenance of accounting
- Encrypt the signed message with host cert
  - Requirement to encrypt UserDN over WAN



# Thank you

**EMI is partially funded by the European Commission under Grant Agreement INFSO-RI-261611**

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