ARC ACCOUNTING COMPONENT

Technical document

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1 Purpose

The ARC Usage Reporter tool is a component implementing accounting functionality in the ARC middleware. Its objective is to gather metered resource usage data for each job and submit it to an accounting service along with the job submitter's identity and miscellaneous job-related metadata.

The accounting service stores the received usage data in a database, and provides an interface for querying it. Queries can be made by the consumers of the accounting data, such as a billing component. The service itself is a third party application, separate from the middleware distribution. The ARC Usage Reporter is currently capable of using the logging service of the SweGrid Accounting System (SGAS), but maintaining the possibility to enable utilizing other services have been kept in mind during design.

Before the usage data collected from the resource manager is submitted, it is transformed into records of job-level granularity. To every job corresponds exactly one Grid user, therefore reports over a time period (e.g. an invoice) can be generated per-user, or alternatively on a larger scale such as job project or VO level.
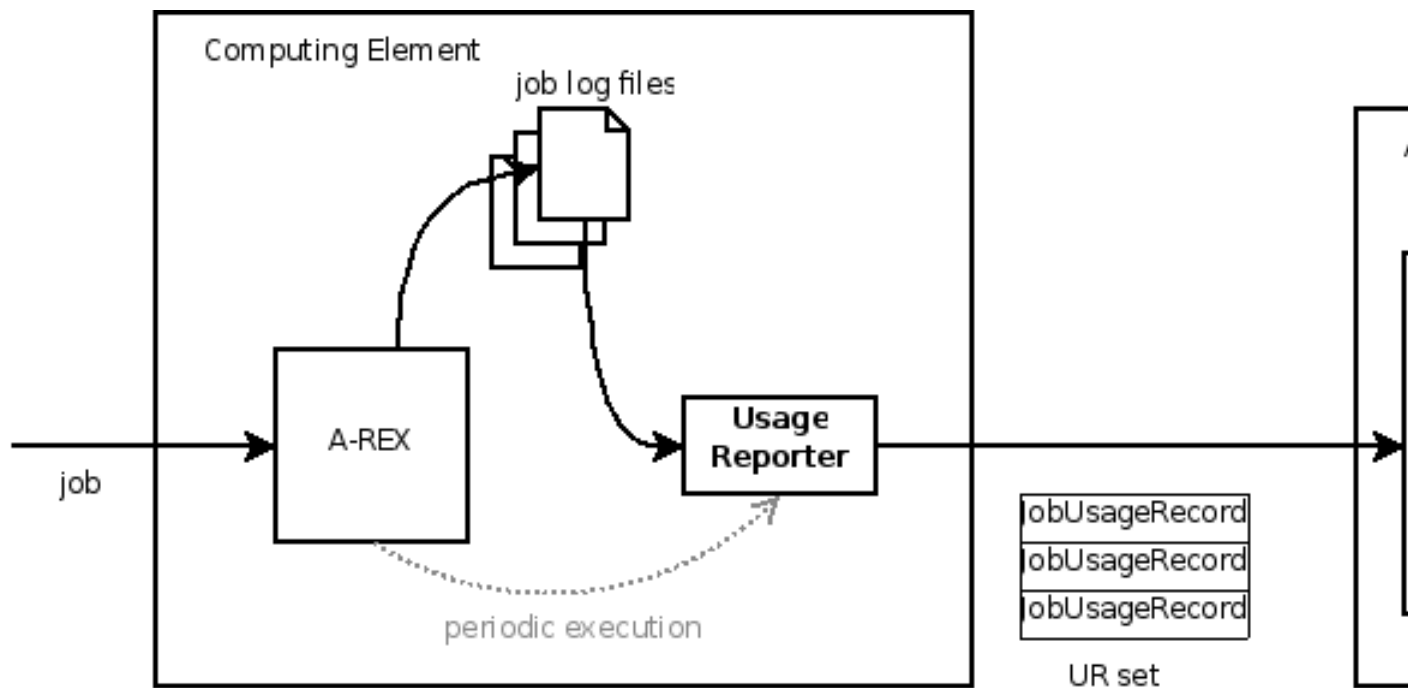
2 Architecture

(diagram)

Figure 1: Components participating in accounting.

A-REX logger SGAS service

3 Operation

3.1 Invocation

stand-alone exe run by A-REX hourly command line arguments no config, everything from A-REX

3.2 Parsing job log files

"id.randomletters" UR generated from them

3.3 Accessing LUTS

insert method certificates from:...

4 Implementation

c++ sw dependencies full arc install location

A Configuration

jobreport jobreport_options jobreport_credentials

B Usage Record properties

input file format filled properties missing properties