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CEMon Functional Description

The CEMon service is responsible for providing information coming from the Computing Element (CE).

The "type" of information managed by CEMon is defined by `plugins` (also known as `sensors`) that can be plugged into the CEMon core engine.

Each plugin is basically responsible to deal with a specific "type" of information.

For each plugin (identified by a `topic` name), one or more `dialects` (representing how the relevant information is rendered) are available.

Existing CEMon sensors are:

- **CE_MONITOR**. Returns CE information, according to the Glue Schema.
 - ◆ Topic name: `CE_MONITOR`
 - ◆ Dialects:
 - ◇ `ISM_LDIF`: to get information in LDIF format Glue Schema v. 1.1 compliant
 - ◇ `ISM_CLASSAD`: to get information in classad format Glue Schema v. 1.1 compliant
 - ◇ `ISM_LDIF_GLUE_1.2`: to get information in LDIF format Glue Schema v. 1.2 compliant
 - ◇ `ISM_CLASSAD_GLUE_1.2`: to get information in classad format Glue Schema v. 1.2 compliant

- **OSG_CE** Returns CE information, according to the Glue Schema, suitable for OSG needs.
 - ◆ Topic name: `OSG_CE`
 - ◆ Dialects:
 - ◇ `LDIF`: to get information in LDIF format
 - ◇ `OLD_CLASSAD`: to get information in classad format, formatted according the needs of OSG
 - ◇ `NEW_CLASSAD`: to get information in classad format, formatted according the needs of the gLite
 - ◇ `RAW`: to get information as returned by the called script (i.e. unfiltered)

- **GridICE** Returns GridICE information
 - ◆ Topic name: `org.gridice.extended`
 - ◆ Dialects:
 - ◇ `LDIF`: to get information in LDIF format

- **CREAM job** Returns CREAM job state information
 - ◆ Topic name: `CREAM_JOBS`
 - ◆ Dialects:
 - ◇ `CLASSAD`: to get information in classad format

By implementing specific sensors, the CEMon service can also be configured to collect and provide other information types.

It is possible to interact with the CEMon service in a synchronous way (i.e. the client queries the CEMon service to get the required info) or asynchronously (i.e. the client can subscribe to get asynchronous notifications coming from the CEMon service). Moreover the CEMon administrator can configure predefined subscriptions, so the specified clients are automatically notified with asynchronous events, without the need of an explicit subscription.

Specific policies and specific actions can be set on CEMon subscriptions. For example it is possible to define a subscription so that the client is notified only when certain conditions are satisfied (e.g. when the CE queue is empty or the number of queued jobs is less than a certain value).

-- MassimoSgaravatto - 2011-04-20

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