



Resource Status system

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Overview

- ▶ What's this
- ▶ Motivations
- ▶ How it works: an RSS cycle
- ▶ What's in development

- ▶ A DIRAC system, as usually comprising:
 - ▶ MySQL tables
 - ▶ DIRAC Services
 - ▶ DIRAC Agents
 - ▶ Clients
 - ▶ Scripts
- ▶ The core is a generic policy system
 - ▶ Used for Monitoring and Management
 - ▶ An “autonomic computing” tool
 - ▶ It is becoming the central point for resource management in DIRAC

1. An advanced monitoring tool
 - ▶ Aggregating dispersed information
2. An autonomic management tool
 - ▶ Auto ban/unban, triggering tests, etc.
3. A central point for storing information on Resource's status [in DEV]

The Resource Status System evaluates policies to assess the status of Grid resources

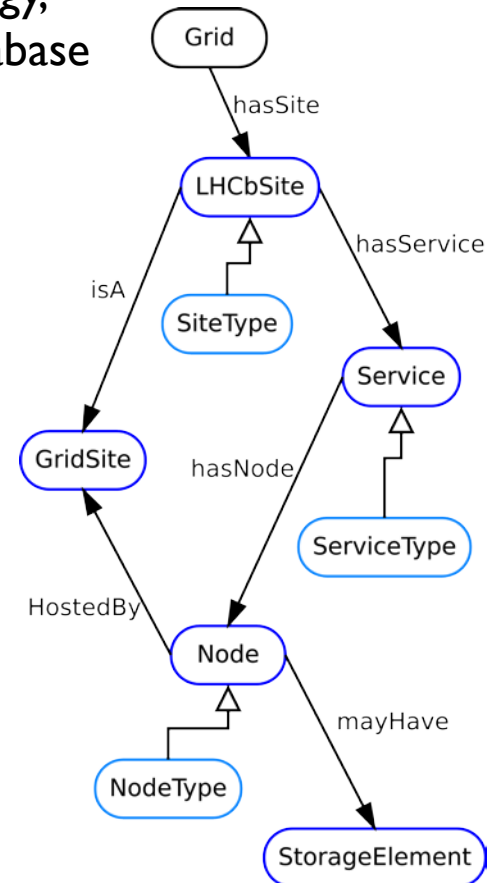
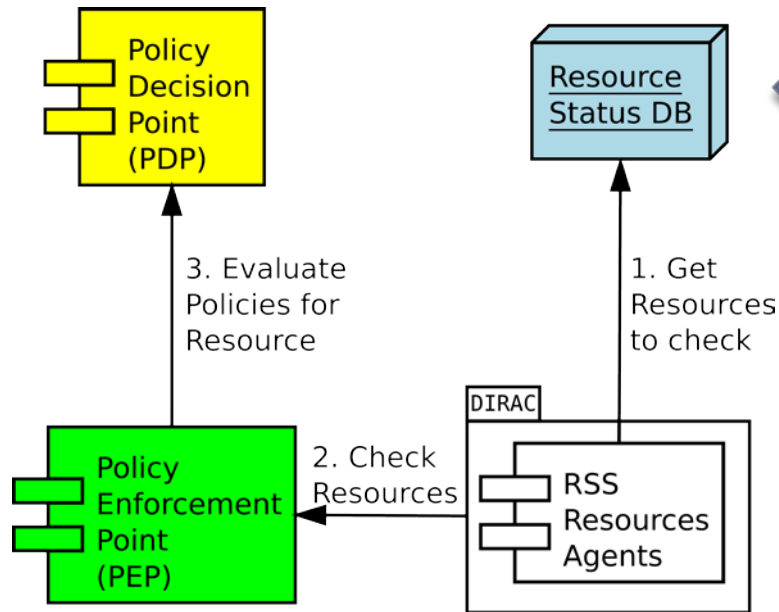
Motivations	Implemented Solution
A lot of monitoring info, dispersed in too many links	Dispersed information are aggregated
Experts have to be always on call	Policies are created, formalizing the experts' experience
Lack of well-exercised policies on how to use and connect them	The RSS implements a generic policy system inside DIRAC
Lack of automation for trivial operational tasks	Policies' decision can be automated

A policy system does nothing without policies, and policies are VO specific: a VO extension is needed.

RSS cycle – phase 1: Resources

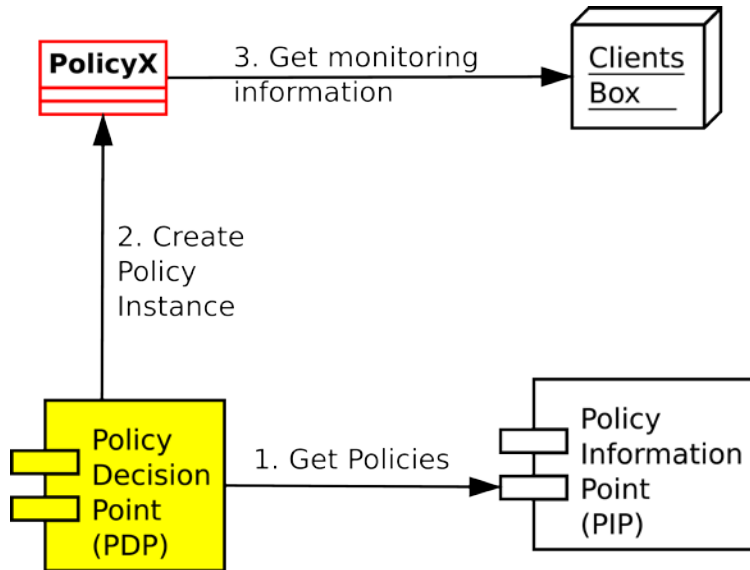
Resources are organized in a simple ontology, persisted in a database

The DB is kept in sync with the CS

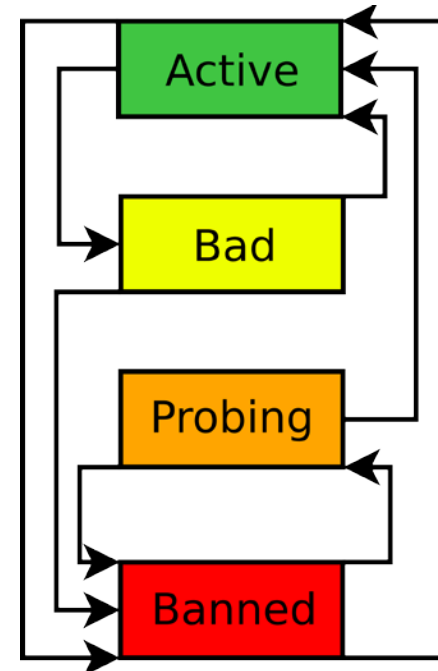


RSS cycle – phase 2: Policies

Policies are part of the VO extension:

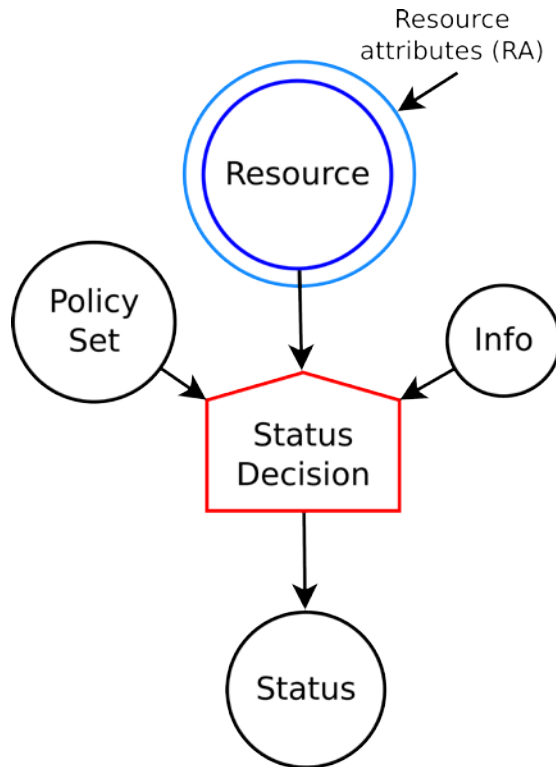


Policies evaluates a status. E.g.:

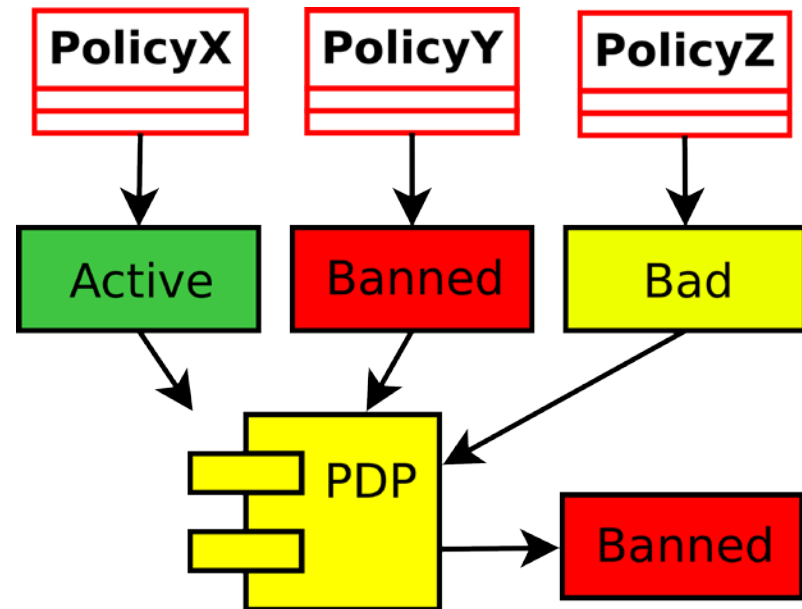


RSS cycle – phase 3: decision

Each policy evaluates to a status:

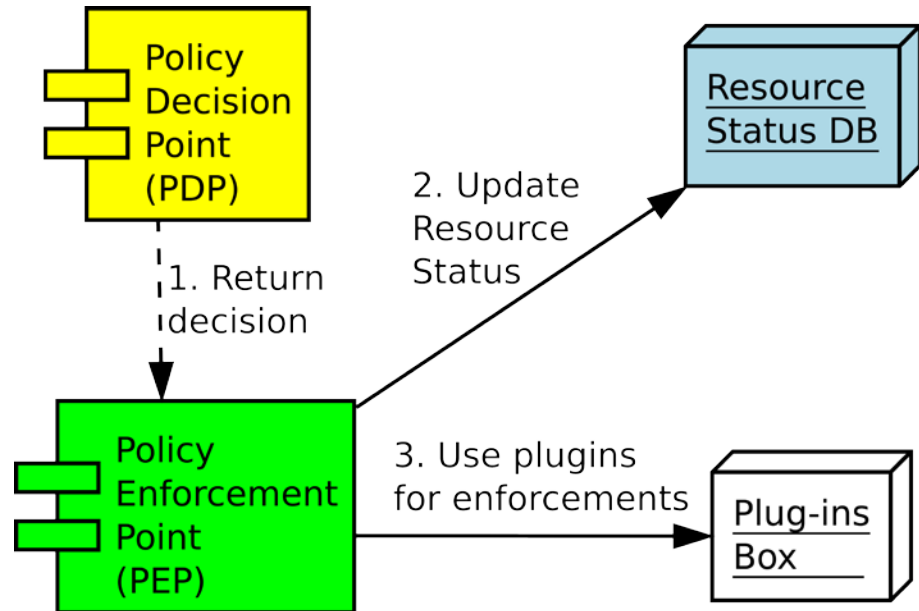


The PDP combines the policy results (again, this is an example)



RSS cycle – phase 4: enforcement

Enforcing: ban,
un-ban, throttle...
Whatever is
decided by the
VO



What's in development

- ▶ RSS is about to store all the resources' status information
- ▶ A central point for a frequently changing info
 - ▶ The CS is for rarely-changing info
- ▶ Status information can be made available to the jobs, at runtime
 - ▶ E.g.: where to upload the output? To available SE

