



AGIS: Evolution of Distributed Computing Information system for ATLAS



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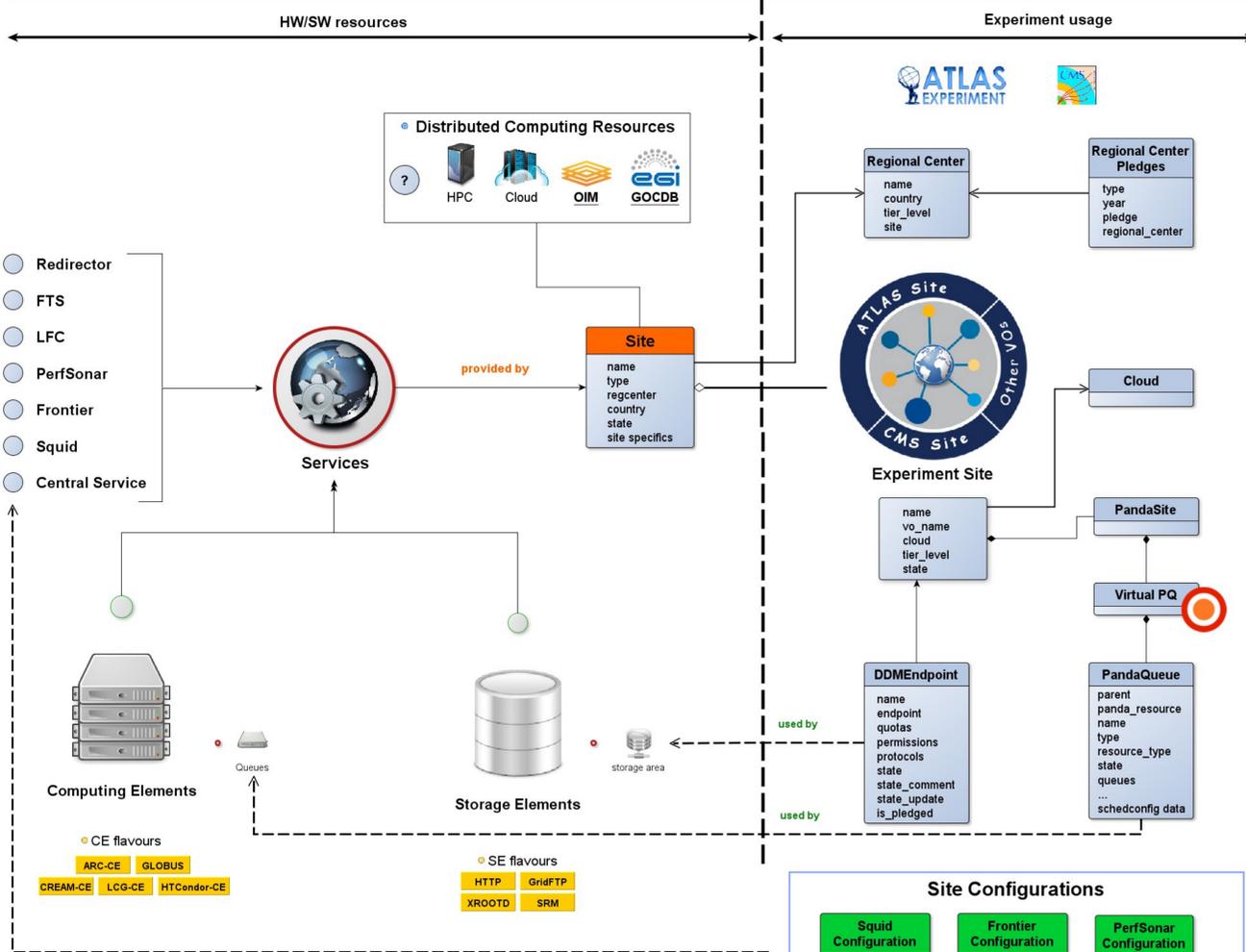
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AGIS is the information system designed to integrate configuration and status information about resources, services and topology of the computing infrastructure used by ATLAS Distributed Computing (ADC) applications and services. Being in production during LHC Run 1 AGIS became the central information system for Distributed Computing in ATLAS and it is continuously evolving to fulfill new user requests, enable enhanced operations and follow the extension of ATLAS Computing model.

Experiment view of Distributed Computing resources

The primary goal of AGIS is to facilitate, enable and define the relationships between physical computing resources **provided by** various sites and ones **used by** the experiment. Providing an abstraction layer from the physical resources AGIS allows the Experiment to define their own real organization of the resources.

The system automatically collects information required by ATLAS, caches and keeps it up to date, removing the external source as a direct dependency for clients but without duplicating the source information itself. Additional data models, object relations are introduced in the system to fit requirements of ADC applications. Flexible approach of resource definitions allows the transparent declaration of any virtual resource, like Cloud and HPC, which have recently become widely used by ATLAS computing.



Key capabilities of AGIS



DEFINE

Define the topology of Distributed Computing resources. AGIS masks the heterogeneity of computing infrastructures and provides a consistent Computing model definition for application services and developers.



CONNECT

Connect physical computing resources to its experiment specific organization. AGIS declares information structures and relationships between physical computing resources provided by various sites and ones used by the experiment.



COLLECT

Collect topology relations and static information about site specifics from various databases and external information sources like gLite BDII, GOCDB, MyOSG, REBUS.



INTEGRATE

Integrate site status and other dynamic information of site resources and services into the system (site downtimes, DDM/PanDA blacklisting, PanDA queue dynamic properties). Automatically keep information up to date.



DECLARE

Declare various site configurations structures related to experiment usage of site resources (Squid Configuration, Frontier Configuration, PerfSonar Configuration, DDM Access Protocols).



COMPLETE

Complete, organize, store and generalize information model to cover any Experiment specific use-cases and simplify user operations.



OPERATE

Operate information via User oriented WebUI portal to easily browse and manage data.



DISTRIBUTE

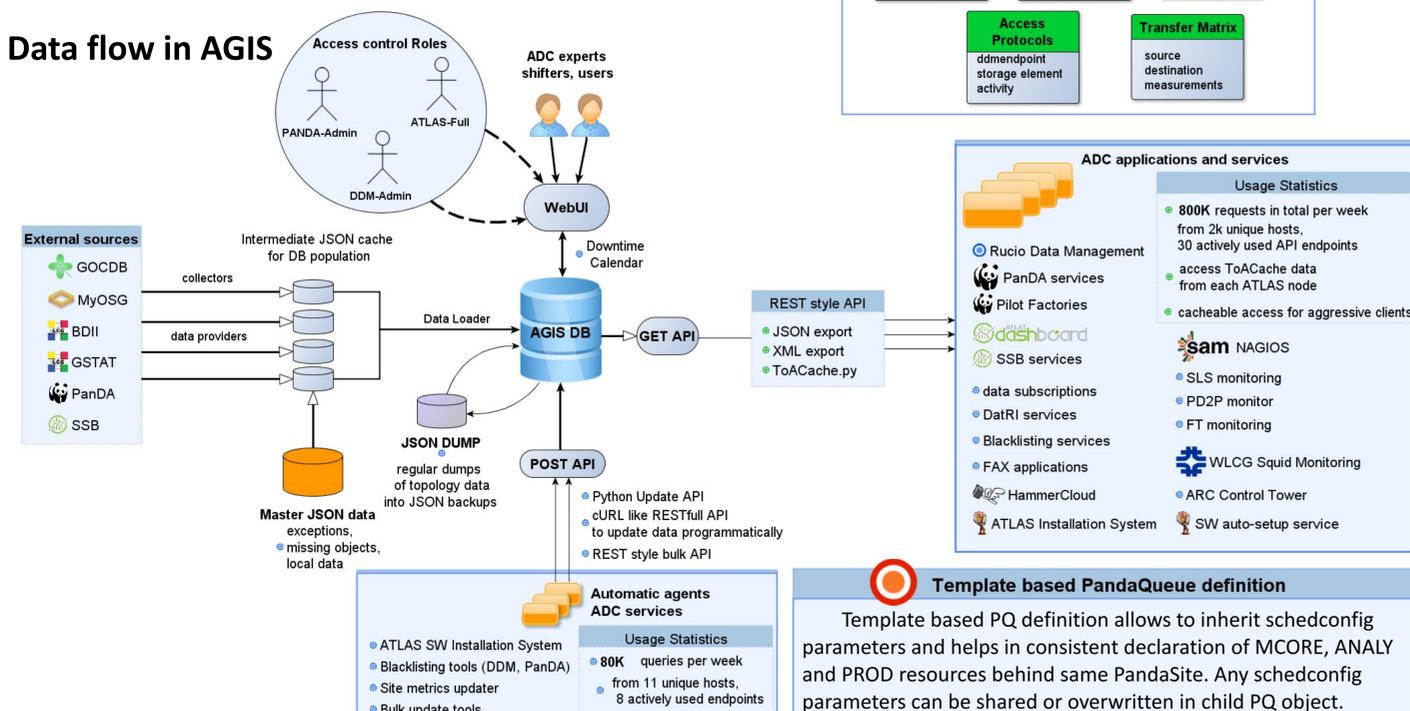
Distribute data through unified interfaces (REST style API and WebUI portal).



ACT!

Play. Full support for ATLAS Experiment. AGIS is central information system for ATLAS Distributed Computing.

Data flow in AGIS



<http://atlas-agis.cern.ch>

AGIS functionalities allow the ADC community, experts and shifters to configure and operate production ADC systems and Grid applications.

AGIS is evolving towards an experiment-non-specific information system.

