



Distributed analysis in the ATLAS experiment

The *ATLAS Distributed Analysis (ADA)* system is being developed to support the experiment's analysis activities, providing for a worldwide user community that must access distributed data and resources with full provenance tracking through an easy-to-use interface.



ADA is required to work across major Grid developments such as *LCG* (LHC Computing Grid), *Grid3* (US Application Grid Laboratory for Science), *Nordugrid* (evolved from the Nordic Testbed for wide area computing and data handling) and emerging new systems, such as *gLite* (lightweight middleware for Grid computing) and *OSG* (Open Science Grid).



ADA is based on a client-service architecture, where the main components (Fig. 1) are analysis services that manage processing, catalogue services that record data and its provenance, clients through which the user interacts with the services, and an *Abstract Job Definition Language (AJDL)* that is used to format messages between clients and services. ADA also has additional components that deal with data transfer, software management and monitoring.

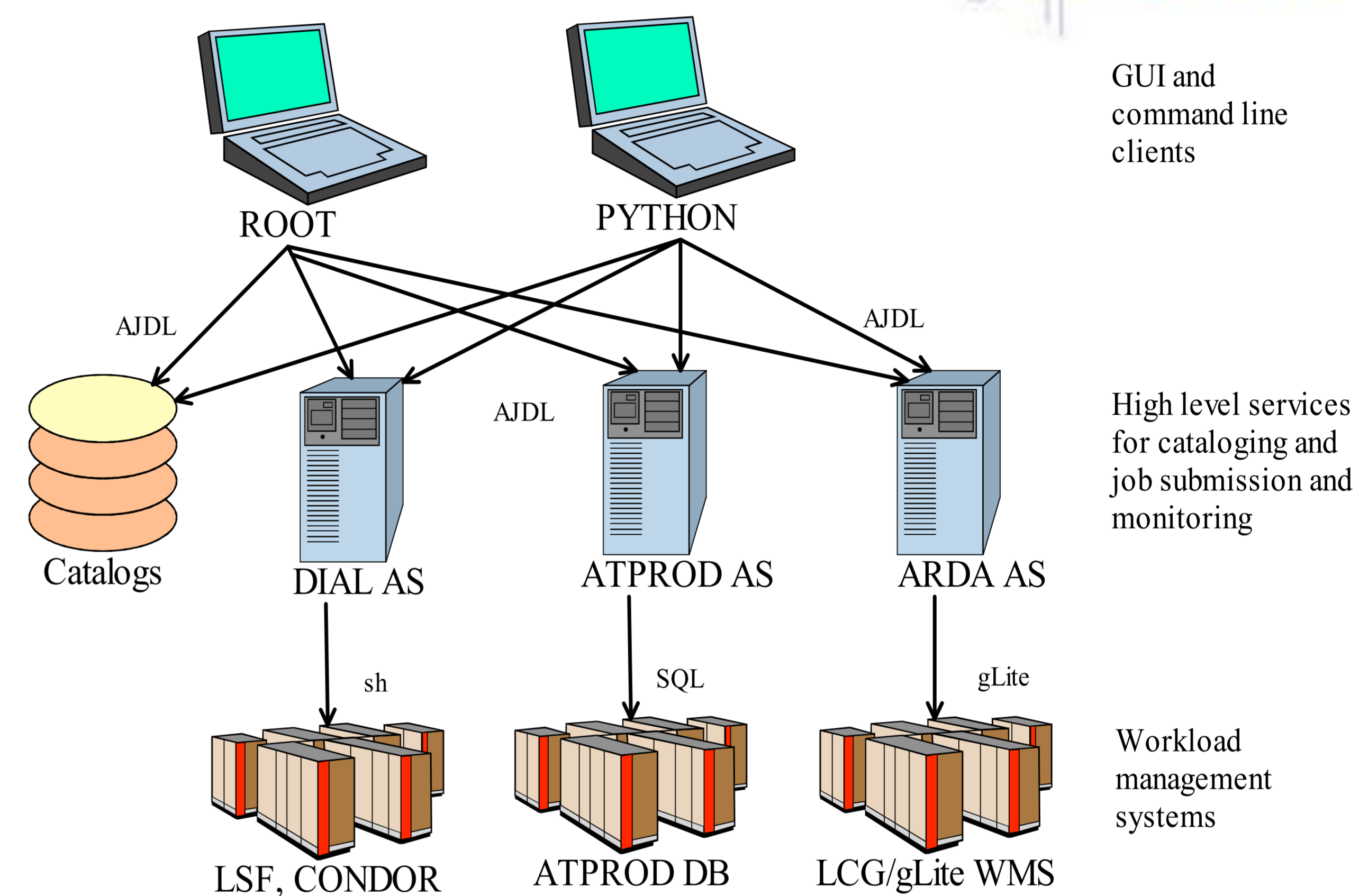


Figure 1: ADA architecture

Projects contributing to in first ADA release

DIAL (Distributed Interactive Analysis for Large datasets) has provided many service implementations and a number of client tools.

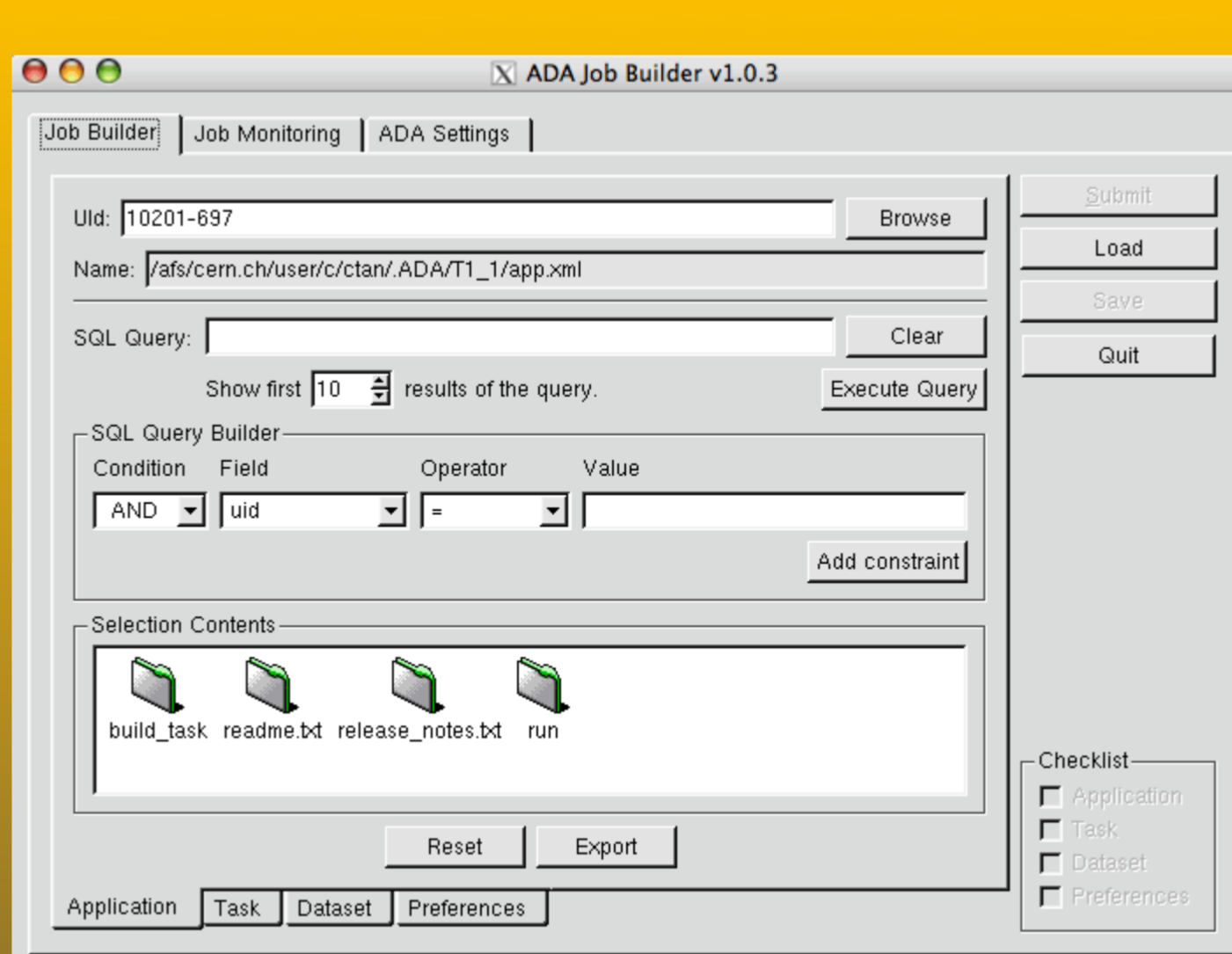
An analysis service has been contributed by **ARDA** (A Realisation of Distributed Analysis for LHC).

URL	Site	Status	Description
adial01.usatlas.bnl.gov:20011	BNL	Valid	ATLAS interactive analysis service [1.20]
adial01.usatlas.bnl.gov:20001	BNL	Valid	ATLAS unique ID service [1.20]

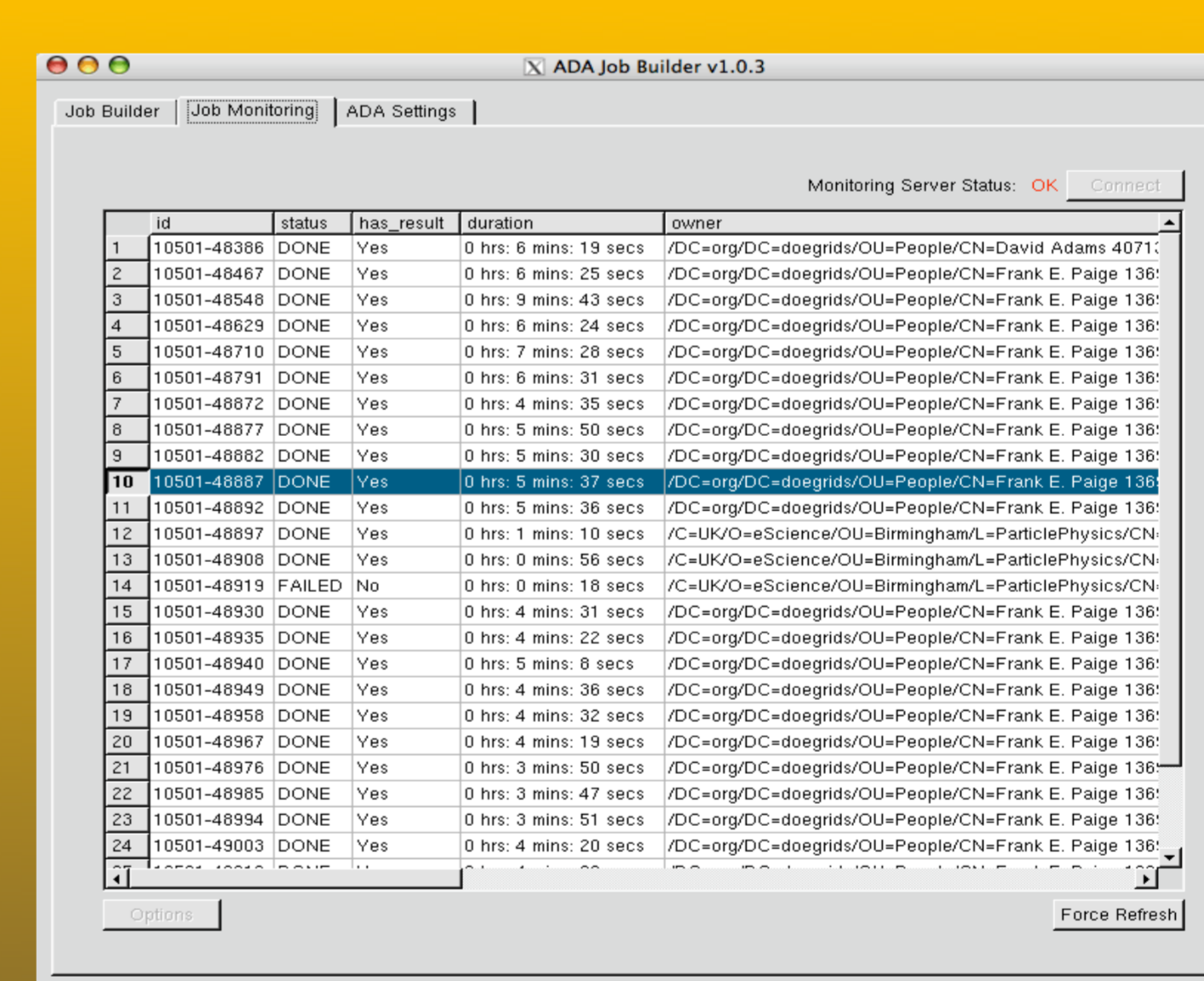
Last update: 03:06:41 07/13/05 EDT
Next update in about 5 minutes.

ADA service monitor

Dynamic ADA service status monitor provided by **GANGA**.



ADAJB job building



ADAJB job monitoring

Graphical user interface (ADAJB) for ADA job building and monitoring built on PyDIAL (Python client for DIAL) developed by **GANGA**.

ADA is actively evolving and there is much development currently underway to integrate ADA with the second generation ATLAS Production System and the ATLAS Data Management System. The product of the synergy of projects is *PanDA* (Production and Distributed Analysis) which will establish a unified approach to production and analysis activities in ATLAS.