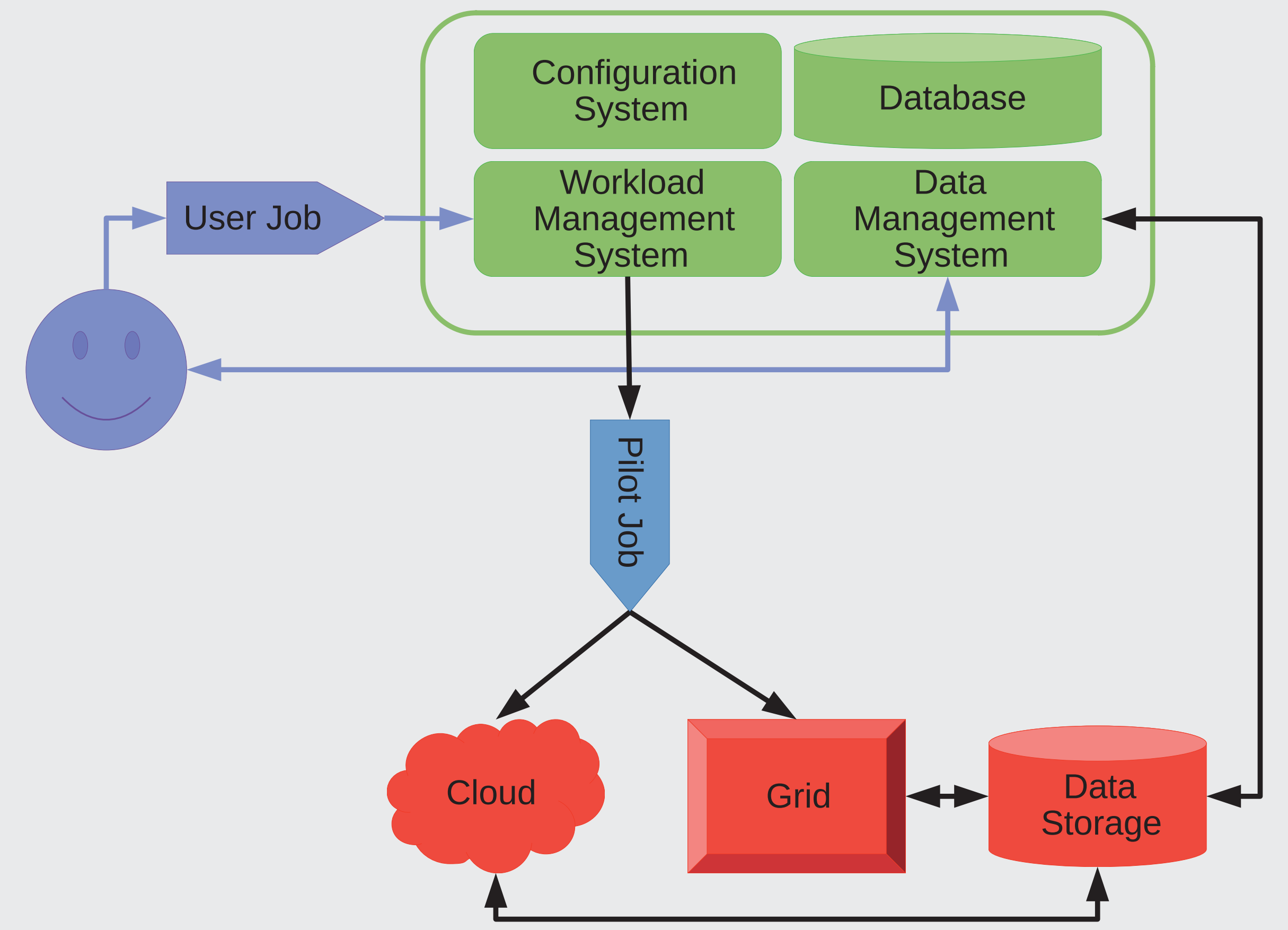


# Standardizing DIRAC's Cloud Interfaces

D. Bauer & S. Fayer  
lcg-site-admin@imperial.ac.uk

## DIRAC in the UK

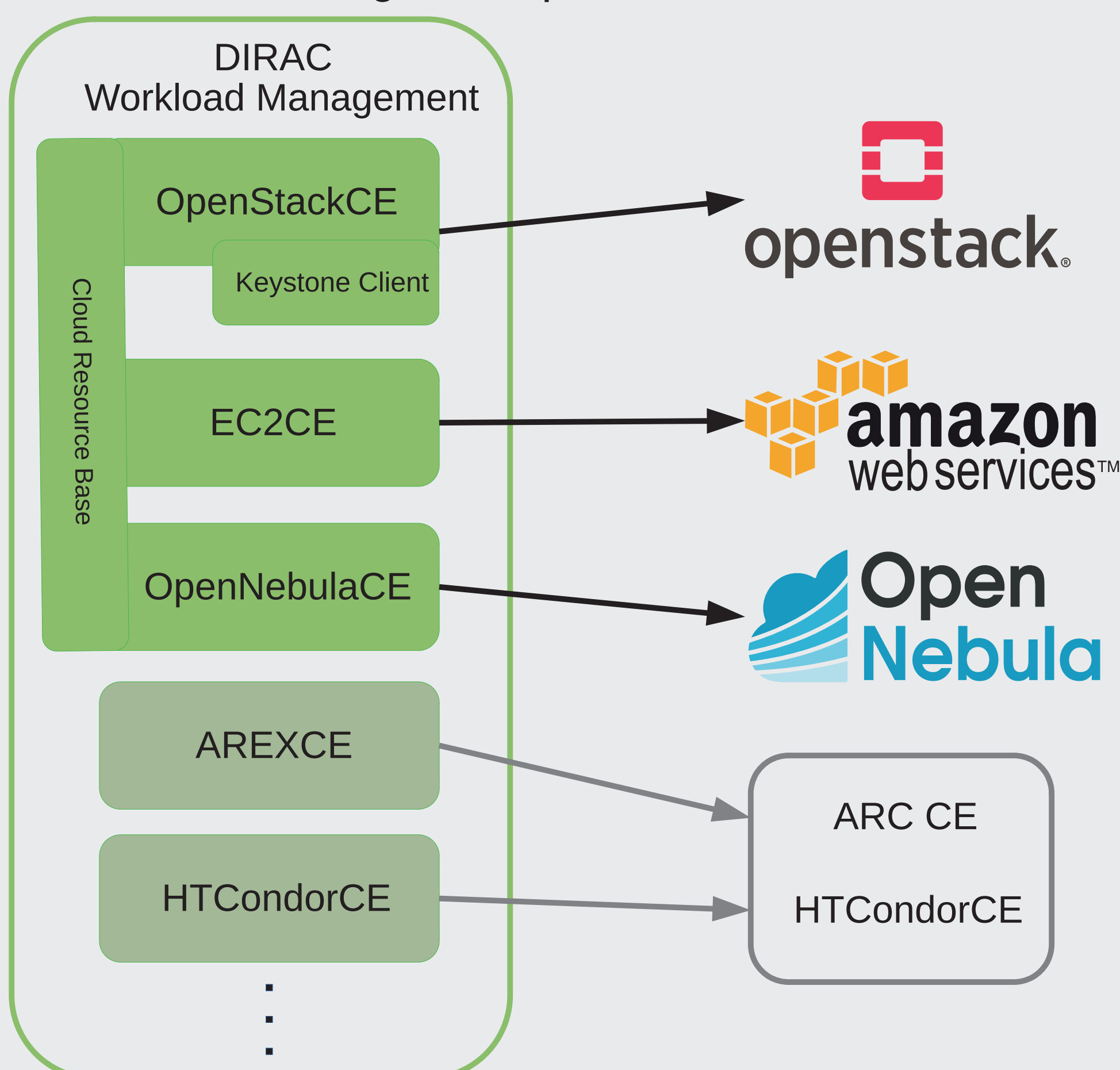
- DIRAC is a middleware framework used by a number of communities to manage various aspects of their workflows and data processing.
- The UK grid computing project (GridPP) hosts an instance of DIRAC as a unified interface to Grid and Cloud resources for non-LHC projects with UK participation.
- The IRIS project funded developing a replacement cloud backend to improve support for IRIS Cloud resources.
- New backend must be compatible with all clouds currently used by DIRAC communities worldwide.



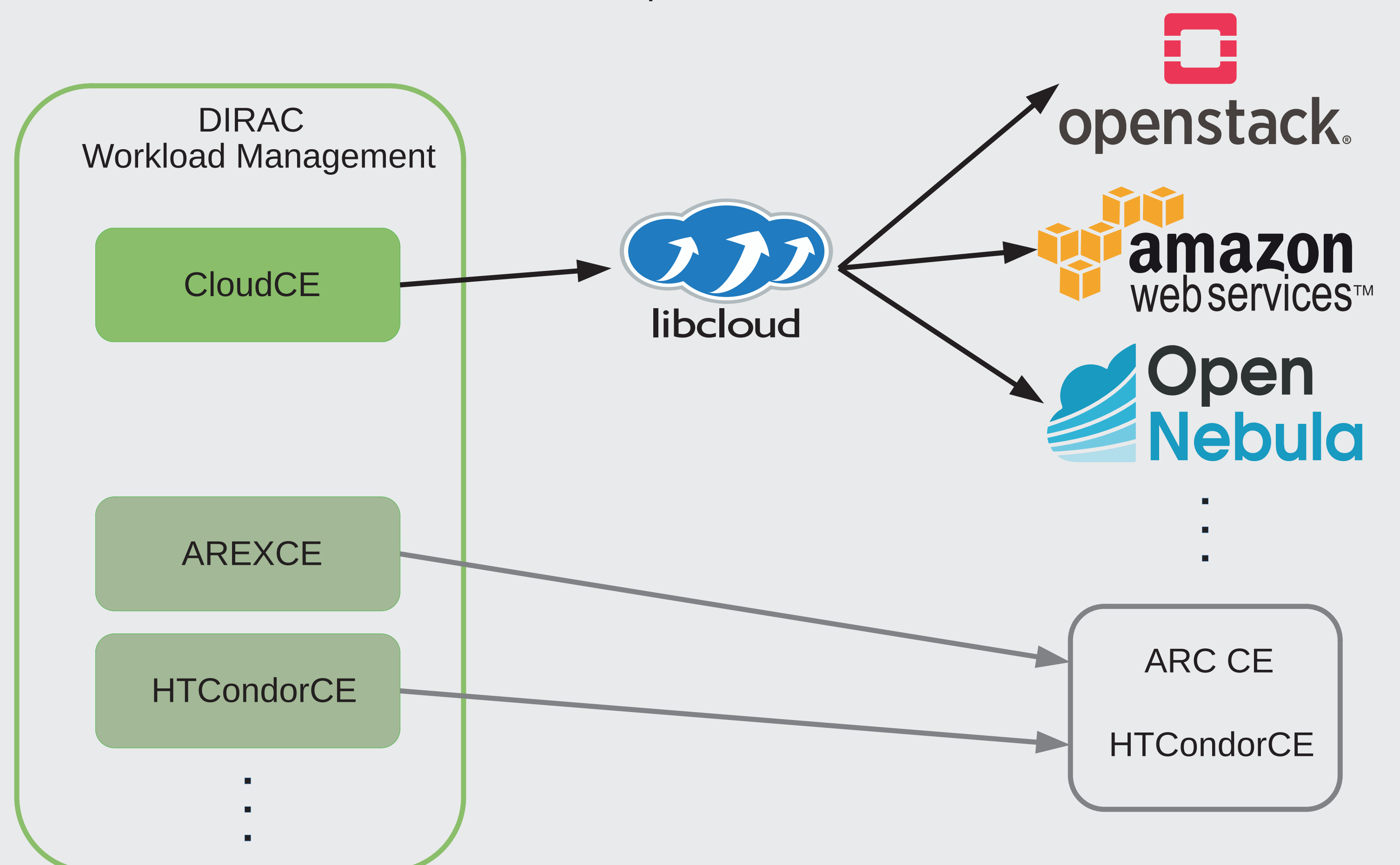
Schematic of the GridPP DIRAC Service

## The CloudCE Project

Original Implementation



New Implementation

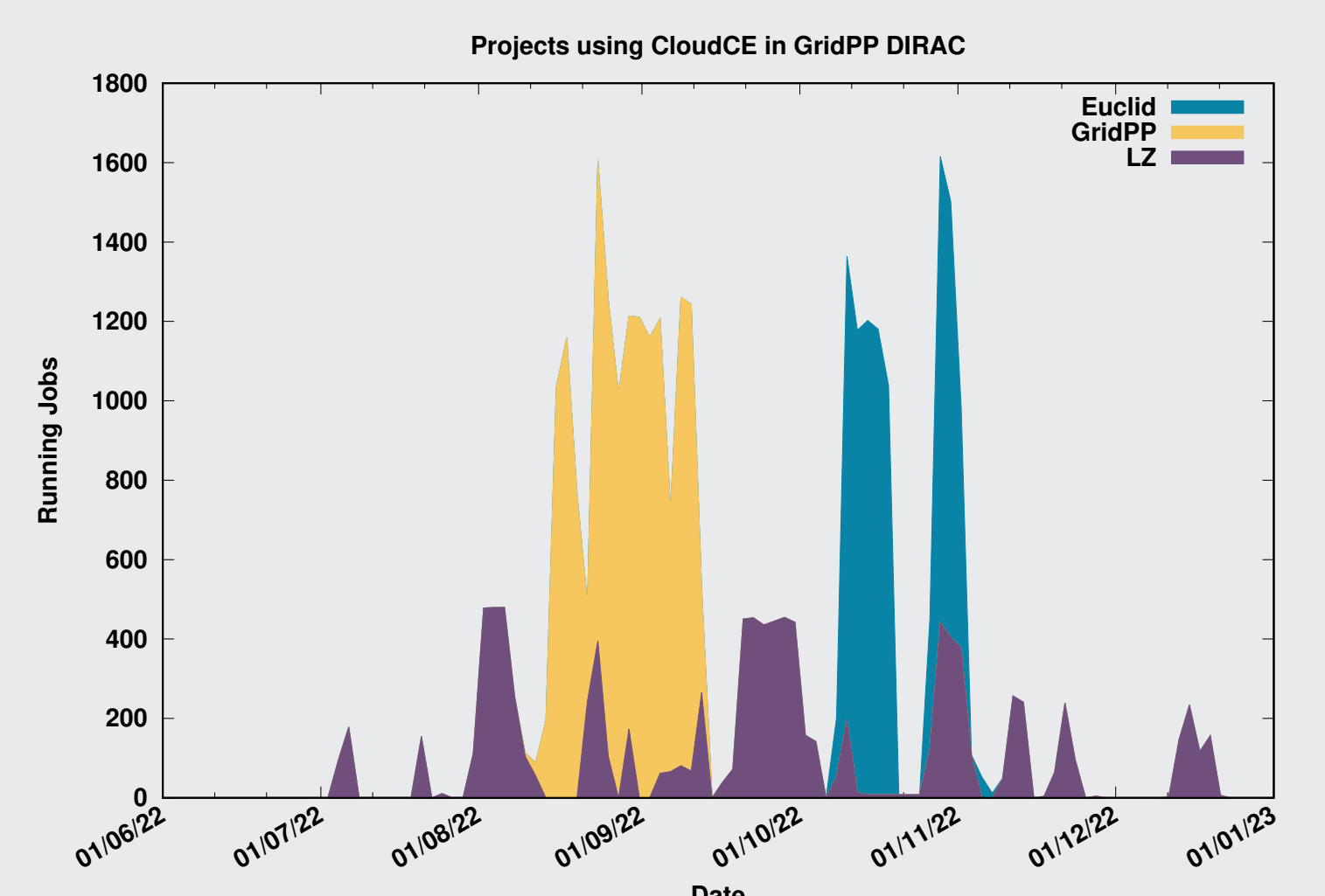


## CloudCE Implementation

- Normalize clouds to look like any other grid resource.
- Treat each VM as a single pilot and store the reference in a standard way.
- Multiple backend modules replaced with one single libcloud based CloudCE module.
- Added OpenStack Application Credential support to upstream libcloud.

## Deployed in Production

- Available in DIRAC release v7r3p21.
- Deployed on GridPP DIRAC instance in July 2022.
- Works reliably for a large number of jobs.



<https://github.com/DIRACGrid>

