The design and implementation of Paper Data Repository

Changhua Li, Boliang He, Chenzhou Cui, Dongwei Fan, Shanshan Li, Yihan Tao, Yunfei Xu, Jun Han, Lan He

National Astronomical Observatories, Chinese Academy of Sciences (CAS), 20A Datun Road, Beijing 100012, China

Contact: lich@nao.cas.cn

1. INTRODUCTION

Paper Data Repository is a data storage service for astronomical paper by China-VO. It provides long-term storage and open access service for your paper data, which includes but not limited tables, figures, pictures, movies, source codes, models, software packages mentioned in your scientific papers. A permanent but user specified URL will be provided for each item. Furthermore, copyrights of these properties are still owned by yourself.

The website address is http://paperdata.china-vo.org.

China-VO PaperData allow user to apply DOI for their data used in the paper through this platform. A China-VO PaperData DOI (https://doi.org/10.12149/100XXX) will be issued within 2 working days after we get the notification that the paper is accepted by the journal.

AAS has officially recommended China-VO PaperData in their tutorials. For your convenience, please include the fact that a PaperData DOI will be issued for these results in your submission notes to AAS journal (AJ/ApJ/ApJL/ApJS/RNAAS) and Research in Astronomy and Astrophysics (RAA).

2. Architecture

PaperData repository system is a subsystem of astronomical cloud computing environment (ACCE) of China-VO. ACCE is a cloud computing platform based on virtualization technology, which realizes the sharing of computing and storage resources. At present, the geographically distributed, but logically unified cloud computing environment has been established. Fig. 1 shows the architecture of ACCE and the relation of PaperData Repository.
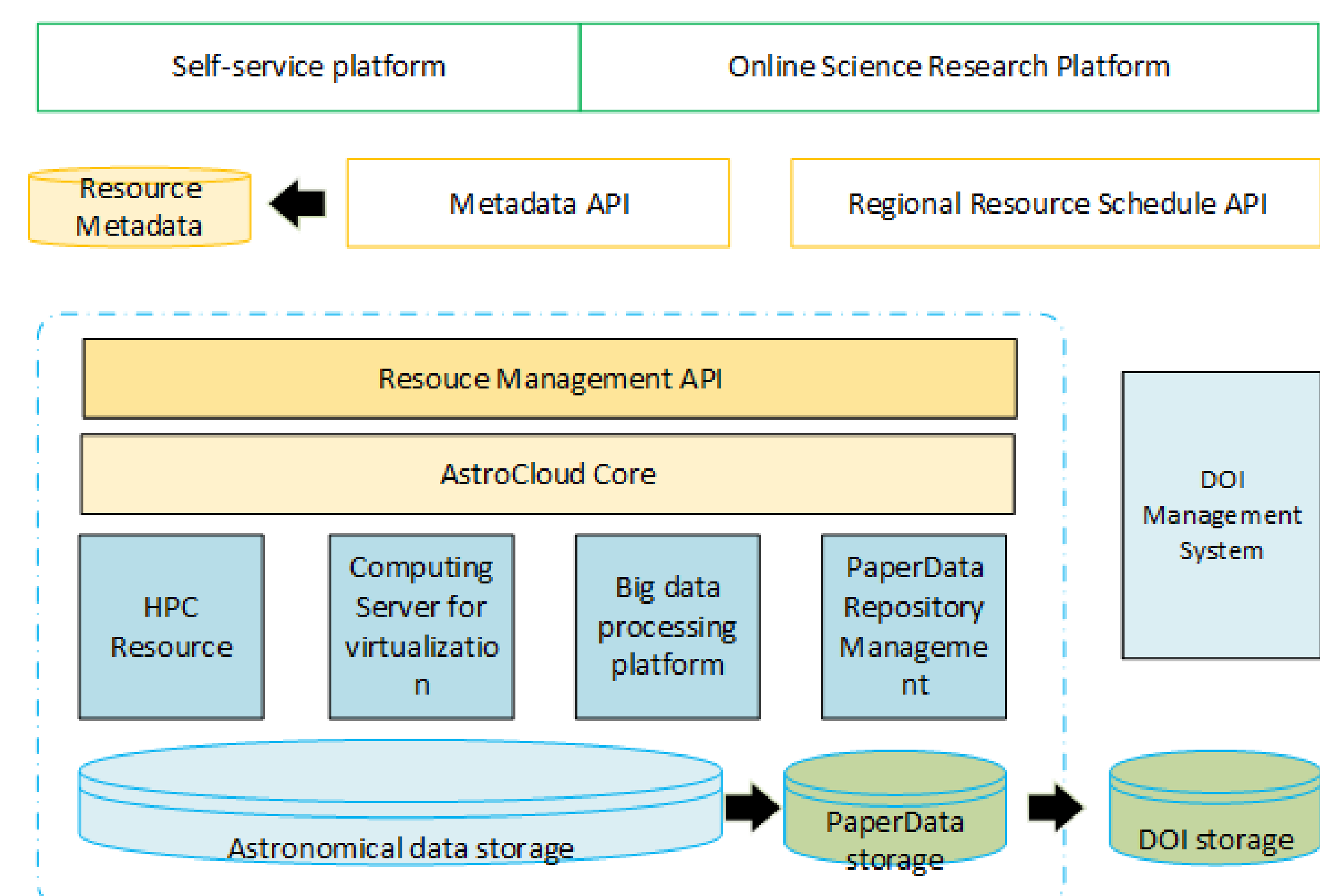

Fig. 1 the architecture of ACCE

Paperdata storage can be accessed and managed in user's virtual machines. A custom paperdata link will be created for each file in paperdata storage.

3. PaperData Repository & DOI

DOI is an acronym for "digital object identifier". A DOI name is an identifier of an entity on digital networks. DOI is supported in Paper Data Repository. A online DOI application platform was provided in PaperData Repository. Fig. 2 shows the DOI application process.
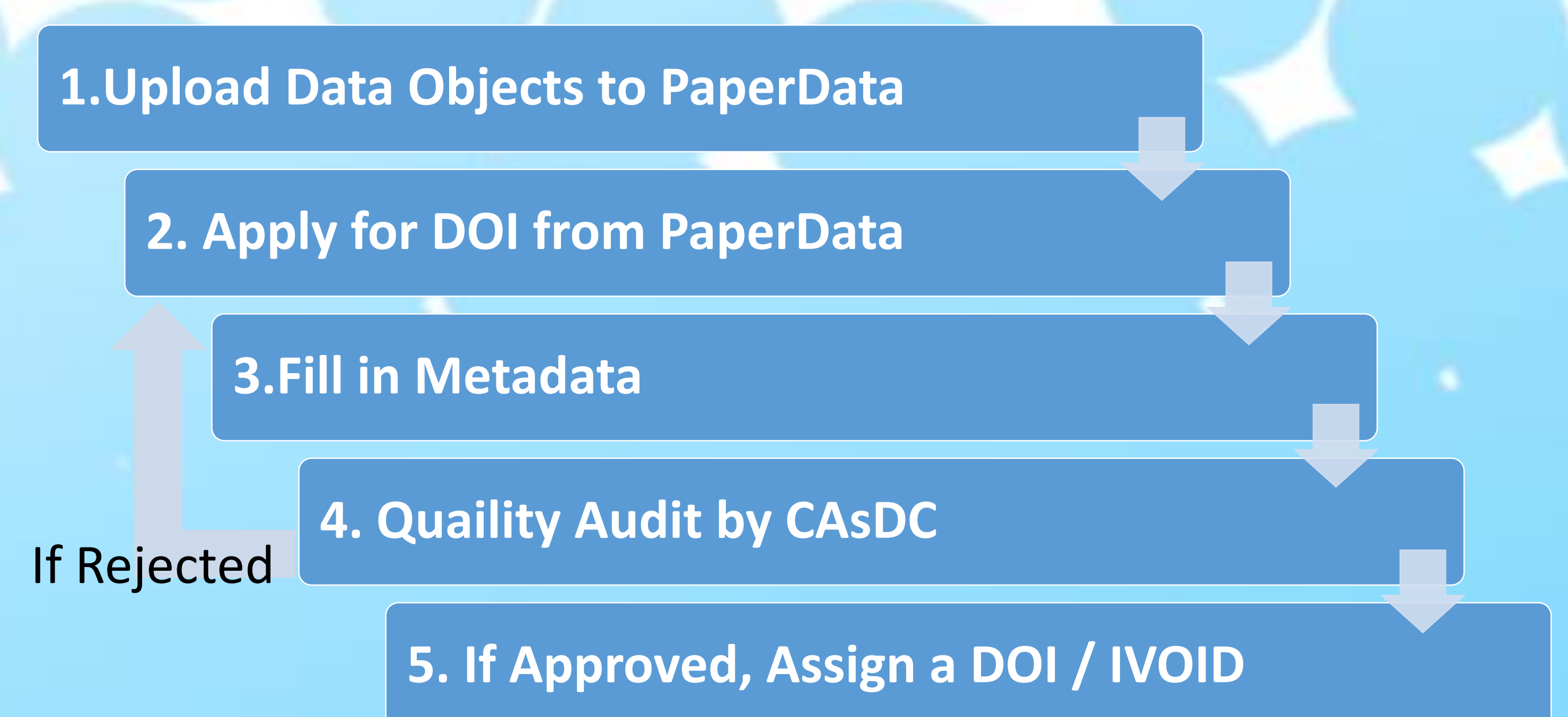

Fig. 2 the DOI application process

Once an DOI number is issued, no change of content allowed. Data will be copied to DOI Storage. Different DOI number will be supported for each version of a data object.