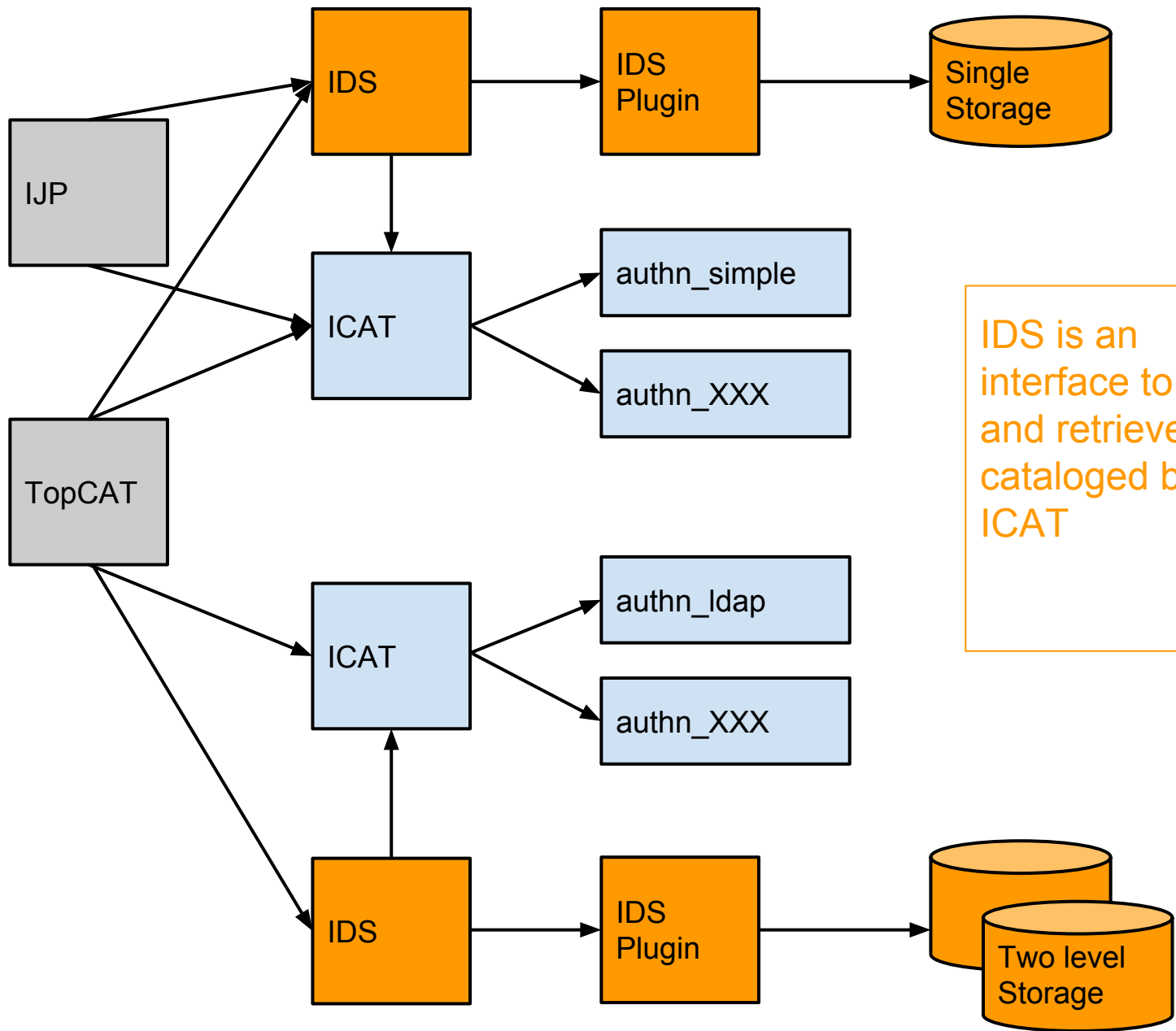




# The IDS

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IDS is an interface to store and retrieve data cataloged by ICAT

# The IDS Interface

- ICAT Data service.
- When a file is uploaded metadata are stored in ICAT.
- Facility can define how datafiles are stored.
- ICAT authorization rules for the datafile metadata applied to control read/write access to IDS files.
- Multiple downloaded files are zipped.
- Can support two level storage (active and archive)

# IDS Calls

Written here as if java calls (but uninteresting arguments are omitted)

- long `getSize`(String investigationIds, String datasetIds, String datafileIds)
- InputStream `getData`(String investigationIds, String datasetIds, String datafileIds, boolean compress, boolean zip, String outname, String range)
  
- String `prepareData`(String investigationIds, String datasetIds, String datafileIds, boolean compress, boolean zip)
- boolean `isPrepared`(String preparedId)
- InputStream `getData`(String preparedId, String outname, String range)
  
- Path `getLink`(long datafileId, String username)
- `put`(InputStream body, String name, long datafileFormatId, long datasetId, String description, String doi, Long datafileCreateTime, Long datafileModTime)
  
- void `archive/restore/delete`(String investigationIds, String datasetIds, String datafileIds)
  
- `isReadOnly/isTwoLevel/getApiVersion`()
  
- void `ping`()
  
- String `getServiceStatus`()

# Recent Developments

- Bug fixes
  - Code
  - Documentation
- Support of secondary storage by Datafile
  - DLS store their data that way so important to be able to cope with this.
  - Unfortunately it required quite a lot of extra code to be written
- Optional cryptographic hash for the Datafile.location field
- Handling of prepared data avoids copying data
- Added link mechanism to avoid copying data
  - Only useful if the data are on user accessible file storage
  - Potentially useful for
    - IJP applications
    - Alternative data delivery mechanisms.

# IDS Future

- Provide documentation on icatproject web page to help readers understand at least what it is.
- Ability to work with very large downloads - many files and big files.
  - Talk coming later
- Ensure that multiple IDS deployments can share the same archive storage
  - should “just work”
  - might make one IDS instance able to use another to reduce accesses to archive storage