Rucio WebUI - The Web Interface for the ATLAS Distributed Data Management

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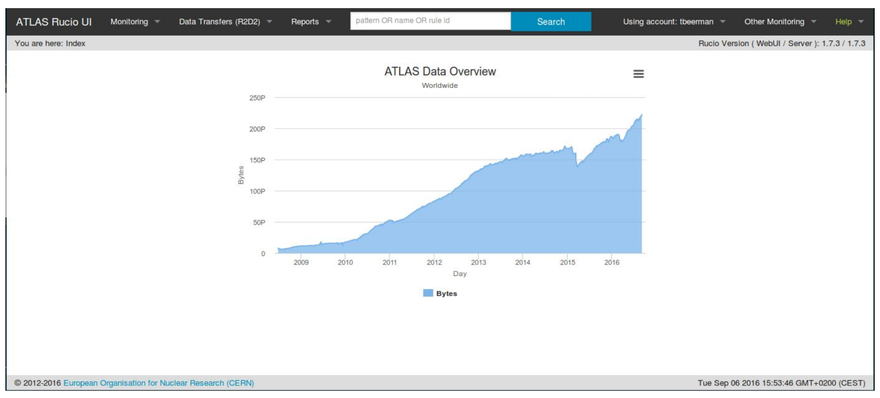
on behalf of the ATLAS Collaboration

What's the Rucio WebUI

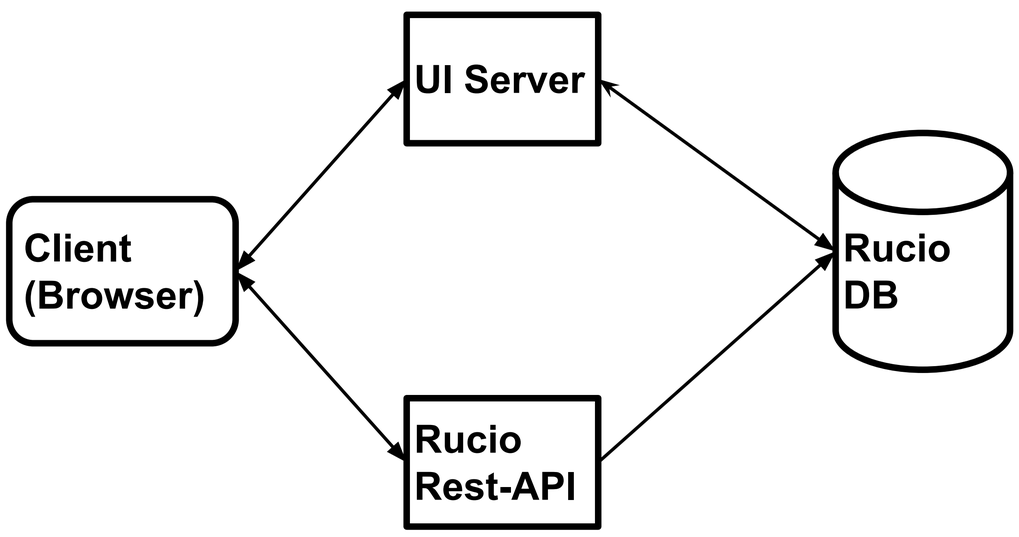
- **Rucio is the distributed data management system of ATLAS.**
- **It provides a catalogue for all ATLAS data on the Grid and takes care of data transfers and deletions.**
- **The WebUI is a convenient tool for the different kinds of users to interact and monitor the system.**
- **The most important views are:**
  - **R2D2: a tool for users to submit transfer requests and for site admins to control transfers to their sites using quotas and an approval system.**
  - **Rule Backlog & Subscription Monitoring: for shifters and operation to check to state of transfers and find problems.**
  - **Group Account Usage: for physics group admins to check the used space and quota for group space.**
  - **Bad replica summary: for operations and site admins to check lost of corrupted files.**



Technologies

- **web.py: minimalistic web framework used to serve the sites and provide authentication.**
- **Foundation: HTML & CSS front-end framework.**
- **jQuery: Javascript library used to communicate with the Rucio Rest API and for site manipulation.**

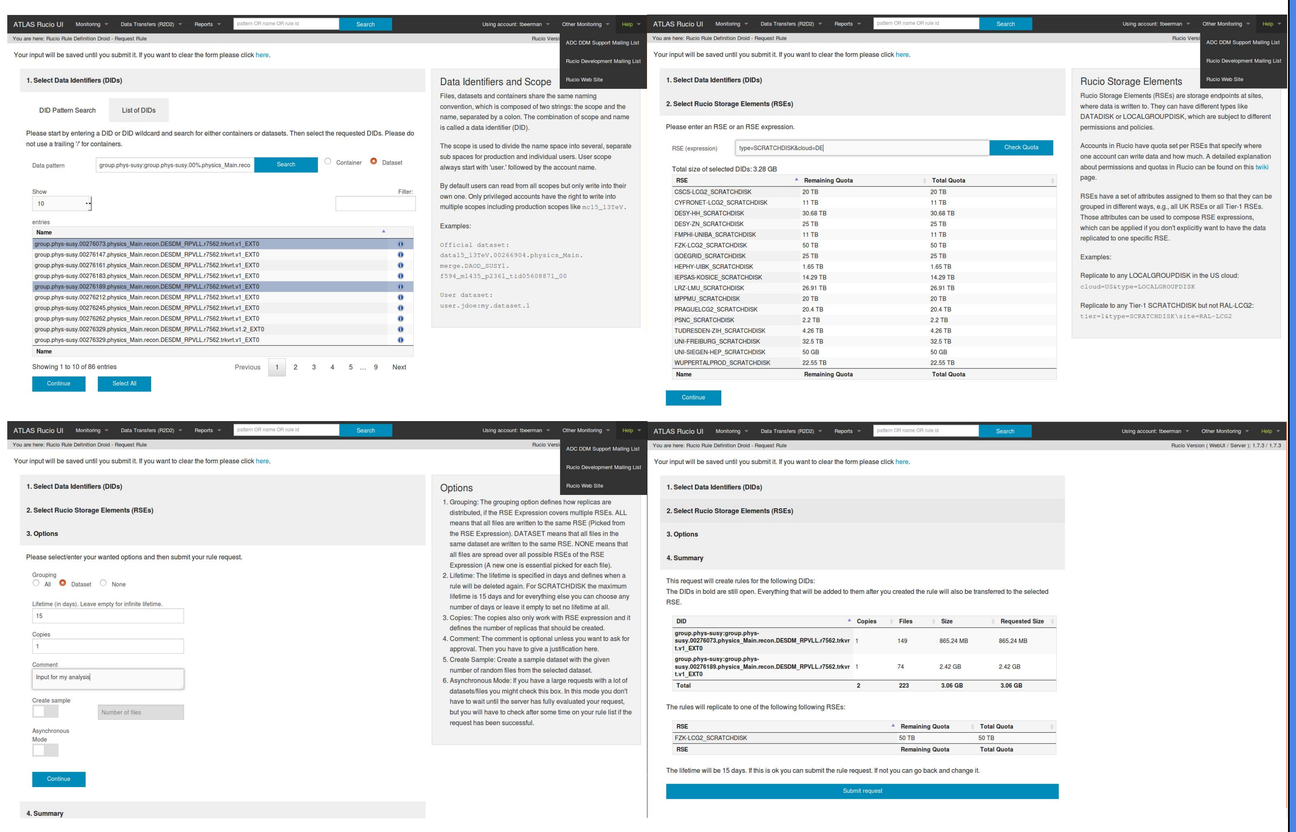
Architecture



Workflow

1. **The client sends a request using HTTPS to the UI server with the certificate registered in Rucio.**
2. **The UI server creates a token that is valid for an hour and stores it in the Rucio DB.**
3. **The token is sent back to the client together with the requested site.**
4. **Now the client can directly communicate with the Rucio Rest-API, e.g. if a user wants to list their rules the browser will send the request to Rucio and will get in return a list of rules, which will be displayed in the page.**

R2D2 - Requesting data replication



- **The tool that is used most is the Rucio Rule Definition Droid (R2D2).**
- **For normal users it allows in just a few simple steps to move data on the Grid:**
  a. **Searching and selecting data.**
  b. **Selecting storage endpoints and checking available quota.**
  c. **Defining options, e.g., lifetime of the new replica.**
  d. **Asking for approval if quota is exceeded or if they want to write where they usually have no access.**
  e. **Checking the state of the rules and extending the lifetime or deleting the rule.**
- **For site admins it gives the possibility to apply quotas for all existing users and for new users as well as adjusting quota per user.**
- **If users ask for approval it sends out notification emails to the relevant approvers, which can be specified.**

Reception

- **The tool has been well received since its introduction in the beginning of 2015 with around 300 users in August 2016 alone.**
- **It sees continuous improvements with the latest being the introduction of fine-grained quota management.**
- **There is a variety of users and it is mostly used by physicists to move data around but also by shifters to check on transfer backlogs.**

References / Contact

https://rucio-ui.cern.ch
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