PDAC Meeting 2017-05-04

Date

04 May 2017

Attendees

- Gregory Dubois-Felsmann
- Unknown User (xiuqin)
- David Shupe
- Fabio Hernandez
- Simon Krughoff
- Kian-Tat Lim
- Brian Van Klaveren
- John Gates
- Unknown User (pdomagala)
- Krzysztof Suberlak

Goals

- Status update and problem reports with the PDAC systems at NCSA.

Discussion items

Time	Item	Who	Notes
	WISE data loading	Igor Gaponenko	- Received input from Xiuqin with information about image metadata tables to be loaded - Renaming previously-loaded tables to be closer to their original names instead of the nominal LSST names **UPDATED on 2017-05-08**: 8 out of 11 tables are now available in PDAC. This covers all relevant image metadata tables. Three other multi-billion row tables representing single exposure sources of **All-Sky, 3-Band Cryo** and **Post-Crio** missions are currently on hold due to unavailability of data from IRSA. See the current status of all tables in: PDAC v2 data list - Brian Van Klaveren working on organizing the metadata, main issue is the data transformation before loading - John Gates working on problem with joins between tables in different databases in Qserv (applies to WISE "Reject"-to-ForcedSource joins, and on WISE-to-SDSS spatial joins) - issue is in sub-chunk handling
	Metaserv	Brian Van Klaveren	`metaserv` v0 is up and running but doesn't provide the expected APIs, mostly just table names at this point - column metadata is basically in "CREATE TABLE" format, does not include UCDs or units - Planning on working on `metaserv` v1 this month, though there are scheduling issues with other meetings/activities
	Portal status	Unknown User (xiuqin)	- IPAC wants to start using the current `metaserv` information next week; not sure whether to wait for `metaserv` v1, will decide shortly and let Brian Van Klaveren know - Working on time-series and other improvements for IRSA; the non-IRSA-specific parts of this will show up in PDAC as well, as well as some new features - Cone search starting from a list of objects/positions has been deployed in PDAC but this PDAC-specific implementation hasn't been fully tested yet in-house - The usual IRSA way of doing this relies on the ability to upload a temporary table and can't be used against the PDAC DAX services, which are read-only. - IPAC has developed an alternate implementation for PDAC which loops over single-object searches. - Have gone through Krzysztof Suberlak's writeup; lots of good feedback, will be making tickets from it. Briefly discussed today: - Looking into supporting a natural UI for extending object name searches beyond just NED and Simbad - Will improve parsing of negative coordinate values in the main catalog search field ☑ Unknown User (xiuqin) Can you provide a list of and/or tag the tickets that were triggered by user feedback? 11 May 2017 label "pdac-feedback" will be used to track those tickets. Filter 0 issues

User feedback	Krzysztof Suberlak	Discussed several issues Chris has observed:

Discussed several issues Chris has observed:

- Discussion of UI for finding time series data for a specific object
  - Observed that cone searches on the ForcedSource table can't be guaranteed to produce a time series for a single Object. Seems awkward to require a WHERE clause to clean this up.
  - Unknown User (xiuqin) There is already a dedicated button on ForcedSource search result screens that you can use to generate a time series for the specific Object that is behind any row in the table.
  - Gregory Dubois-Felsmann Driving this from the Object ("DeepSource" in the temporary language of PDAC) table instead is what the Portal is supposed to do, to lead users to the data.
    - Unknown User (xiuqin) Yes, but this didn't work out well when first tried because so many Objects didn't lead to ForcedSources at all. Gregory Dubois-Felsmann: this requires SDSS-Stripe82-Summer2013-specific logic: *only the i band Objects were used to seed forced photometry (in all bands)*. So what's needed is a button on the Object result screen that allows this action to be taken and that provides user feedback to educate them about the nature of the data. (This is what the Portal is all about!)

  - ☑ Unknown User (xiuqin) will work with Tatiana Goldina to develop a button that is clickable when an i-band Object row is selected, greyed-out when a row from a different band is selected, and provides a (long) tooltip that explains the point about forced photometry being limited to i-band Objects. The has been scheduled in June 2017.

    > ⚠ DM-10463 - Jira project doesn't exist or you don't have permission to view it.

    - We should also remind the users somehow in the UI that the Objects in the different bands are not in any way linked to each other. (No associations were performed.)

- Discussion of connection problem reported on #dm-pdac
  - First time connecting to PDAC after a long gap, the first search seems to fail; future ones are OK. Error reported is "Fail to load table. Error: edu.caltech.ipac.firefly.server.query.DataAccessException: DataAccessException:ERROR:DAX Error: OperationalError from:unknown" which suggests a DAX origin.
  - Brian Van Klaveren has an idea what could be causing this, associated with the maintenance of persistent database connections.
  - ☐ Brian Van Klaveren will investigate and fix or report back 17 May 2017

- Discussion of coordinate rotation issues in external searches on M81 from multiple archives
  - Reported by Krzysztof Suberlak at this link on #dm-pdac
  - Basic solution is: the retrieved images have different pixel grid orientations and are shown in their natural orientation by default; click on "WCS match" to rotate them to a common orientation
    - NB: this issue will arise with LSST single-epoch images, which will all be at different rotation angles. With user feedback, we will have to decide what users are most likely to want when requesting an image cutout series.
  - Secondary issue: on the specific images selected, even after "WCS match" the coordinate grids don't appear to be exactly parallel, perhaps a few degrees out of alignment.
    - The example was constructed from images of m81 from WISE coadd band 1, SDSS (DR7?) u band, 2MASS J, and DSS "red"
    - (**Updated:** issue has been investigated, see

      > ⚠ DM-10461 - Jira project doesn't exist or you don't have permission to view it.

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  - ☑ Unknown User (xiuqin) will investigate with the IRSA archive science team and report back 17 May 2017

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| | Infrastructure | Unknown User (pdomagala) | • [Simon Krughoff](#) pointed out the reports ([here](#), and following) in [#dm-infrastructure](#) of problems with GPFS filesystems returning `ENOSPC` errors (at least `/home` and `/datasets`).
• [Unknown User (pdomagala)](#) will pass the word on as an incident report. (**Updated:** NCSA JIRA ticket [https://jira.ncsa.illinois.edu/browse/LSST-891](#) filed.)
• Discussion of how to report current-infrastructure problems.
  ○ Current answer remains: send email to `lsst-sysadm@ncsa.illinois.edu` to report a problem.
  ○ [Unknown User (pdomagala)](#) will take another look at past suggestions that LSST users not directly file NCSA JIRA tickets.
  ○ He is also working with LSST admins in Tucson to see if problem reporting can be consolidated further.
  ☑ Unknown User (pdomagala) will post and pin a message to #dm-infrastructure with the current advice for problem reporting. 08 May 2017 (It would be useful to get this stated on Paul's LSST Service Status page as well.) |
| | Planning | Gregory Dubois-Felsmann | • DM Leadership Team meeting next week in Seattle will decide on the PDAC development plan for the next 6-12 months. The input to this discussion is on the page [Science Platform and PDAC development and deployment in 2017](#).
☑ Gregory Dubois-Felsmann will report on F17+ planning at the next PDAC meeting, on 18 May 2017. |

Action items

(Action items are integrated with their respective sections in the meeting notes above.)