Roadmap to Deprecation of Gen2 Butler

Checklist: Gen3 ready for general use within DM and encouraged for advanced users (DM-DAX-12 Feature Parity)

List of potential

We are aiming for November 1st.

Planned Work

Tickets indicate planned work. Checkboxes without tickets are (hopefully) all statements about functionality that is available.

- [x] **Schema changes (changes requiring wholesale re-ingest could occur but sparingly... migration scripts may be possible)**
  - [x] DM-26407 - Jira project doesn't exist or you don't have permission to view it.
  - [x] DM-21231 - Jira project doesn't exist or you don't have permission to view it.
  - [x] DM-24432 - Jira project doesn't exist or you don't have permission to view it.
  - [x] DM-26476 - Jira project doesn't exist or you don't have permission to view it.
  - [x] DM-27033 - Jira project doesn't exist or you don't have permission to view it.
  - [x] DM-26630 - Jira project doesn't exist or you don't have permission to view it.
  - [x] DM-26738 - Jira project doesn't exist or you don't have permission to view it.
  - [x]

DM-26978 - Jira project doesn't exist or you don't have permission to view it.

- [x] General usability
  - [x] DM-26600 - Jira project doesn't exist or you don't have permission to view it.
  - [x] DM-26726 - Jira project doesn't exist or you don't have permission to view it.
  - [x] DM-26371 - Jira project doesn't exist or you don't have permission to view it.
  - [x] DM-24414 - Jira project doesn't exist or you don't have permission to view it.
  - [x] DM-26739 - Jira project doesn't exist or you don't have permission to view it.
  - [x] DM-27140 - Jira project doesn't exist or you don't have permission to view it.
- [x] **list of needed Gen3 Butler functions/command-line tools**
  - [x] **DM-26684 - Jira project doesn't exist or you don't have permission to view it.** **: simple command-line tool (prune-collection), high priority**
  - [x] **DM-26685 - Jira project doesn't exist or you don't have permission to view it.** **: more complex command-line tool (query-datasets), unblocks many others, only slightly lower priority**
  - [x]

- [ ] DM-26690 - Jira project doesn't exist or you don't have permission to view it. : more complex command-line tool (query-data-ids), may not unblock as much
- [x] DM-26856 - Jira project doesn't exist or you don't have permission to view it. : butler method and command-line tool (prune/unregister/delete/remove-dataset-type)
- [x] DM-26874 - Jira project doesn't exist or you don't have permission to view it. : rename pipetask2 to pipetask, remove old pipetask

- [x] BPS Features needed for developers (single/multi-node)
  - [x] DM-26458 - Jira project doesn't exist or you don't have permission to view it.
  - [x] DM-27039 - Jira project doesn't exist or you don't have permission to view it.
  - [x] DM-26402 - Jira project doesn't exist or you don't have permission to view it.
  - [x] DM-26734 - Jira project doesn't exist or you don't have permission to view it.
  - [x] DM-26408 - Jira project doesn't exist or you don't have permission to view it. (Initial unit tests are not explicitly a requirement for Gen2 deprecation)
  - [x] DM-26385 - Jira project doesn't exist or you don't have permission to view it. (Again not explicitly a requirement for Gen2 deprecation, but should be a small change that will be less confusing for users and remove code.)

- [ ] **Documentation**
  - [x] DM-21687 - Jira project doesn't exist or you don't have permission to view it.
  - [ ] DM-26724 - Jira project doesn't exist or you don't have permission to view it.
  - [ ] DM-26406 - Jira project doesn't exist or you don't have permission to view it.
  - [x] DM-24329 - Jira project doesn't exist or you don't have permission to view it.
  - [x] DM-26736 - Jira project doesn't exist or you don't have permission to view it.

Open Questions

- Raw Ingest works (caveat: DM-21706 - Jira project doesn't exist or you don't have permission to view it.) but:
  - still an open question as when to run define-visits.
  - Handling of photo diodes for BOT will need special ingest script and associated formatter infrastructure.
- We are still dependent on the Filter singleton being removed if we wish to combine multiple instruments in a repository.

Acceptance Tests

We regularly run small test pipeline with Postgres. ci_hsc_gen3 runs entirely with gen3 on a single node with multiprocessing and sqlite/local file. Google POC has demonstrated we can run an RC2 tract with condor using S3+Postgres (DMTN-157). These tests all assume shared everything where multiple users are using a shared datastore and a shared postgres database. These tests can not be complete given the current status of cp_pipe with Gen3 and the lack of jointcal.

- [ ] **Run a pipeline on a single node using pipetask**
  - [ ] **Access data products of that run from a notebook**
- [ ] Run a 3 tract RC2 in under a week on NCSA Condor system using BPS
- [ ] **cp_pipe equivalent available (recipe + example)**
- [ ] **run RC2-like processing (not necessarily full-scale)** (https://github.com/lsst-dm/gen2-hsc-rc2 & https://paper.dropbox.com/doc/Using-HSC-RC2-to-test-algorithms-on-tract-scale-LIXxHweXU2ZOnuJB6cMZ0)
- [ ] **run DC2-like processing (not necessarily full-scale)**
- [ ] **can run CPP - corresponding to appropriate above scales**
- [ ] Ingest all the raw datasets that are currently hosted at NCSA for supported instruments.

Below this point is open for discussion but pertains more to Gen2 deprecation (list of appropriate tickets)

- [ ] DM-26173 Write plan for Gen2 deprecation

Remaining Checklist: DM-DAX-13 (Gen3 ready for Gen2 Deprecation)

Select any items below that are required for Gen2/3 parity and hence need to be completed by Nov 1st.

- [x] **All Schema changes are accompanied but a migration mechanism (or have appropriate CCB approval).**
- [ ] **Additional command-line tooling (functionality already accessible from Python, which we think is adequate for declaring feature parity in these cases)**
  - [ ] **DM-26686 - Jira project doesn't exist or you don't have permission to view it.**
  - [x] **DM-26688 - Jira project doesn't exist or you don't have permission to view it.**
  - [x] **DM-26689 - Jira project doesn't exist or you don't have permission to view it.**
- [ ] **Gen3 continued development (would be on-going and even supplemented/aided by general DM users/developement)**
  - [x] DM-21333 - Jira project doesn't exist or you don't have permission to view it.
  - [ ] DM-21832 - Jira project doesn't exist or you don't have permission to view it.
  - [x] DM-23985 - Jira project doesn't exist or you don't have permission to view it.
  - [x] DM-26277 - Jira project doesn't exist or you don't have permission to view it.
  - [x]

DM-20695 - Jira project doesn't exist or you don't have permission to view it.

- [ ] DM-21871 - Jira project doesn't exist or you don't have permission to view it.
- [x] DM-19470 - Jira project doesn't exist or you don't have permission to view it.
- [ ] DM-21904 - Jira project doesn't exist or you don't have permission to view it.
- [ ] DM-21872 - Jira project doesn't exist or you don't have permission to view it.
- [x] DM-26483 - Jira project doesn't exist or you don't have permission to view it.
- [ ] DM-15257 - Jira project doesn't exist or you don't have permission to view it.
- [x] DM-25013 - Jira project doesn't exist or you don't have permission to view it.

- [ ] **Support for core testing/development**
  - [x] DM-23576 - Jira project doesn't exist or you don't have permission to view it.
  - [ ]

DM-21865 - Jira project doesn't exist or you don't have permission to view it.

- [ ] DM-22038 - Jira project doesn't exist or you don't have permission to view it.
- [x] DM-22663 - Jira project doesn't exist or you don't have permission to view it.
- [x] DM-21888 - Jira project doesn't exist or you don't have permission to view it.
- [x] DM-21916 - Jira project doesn't exist or you don't have permission to view it.

- [x] **BPS Continue/Parallel development needed**
  - [x] DM-26385 - Jira project doesn't exist or you don't have permission to view it.
  - [x] DM-20406 - Jira project doesn't exist or you don't have permission to view it.
  - [x] DM-26494 - Jira project doesn't exist or you don't have permission to view it.
- [x] Full Gen3 (weekly-scale) runs of RC2 and DC2 occur and are now the source of truth weekly regressions.
- [ ]

HSC RC2 Data Processing Parity Checklist (Tasks for Science Pipelines)

- [x] DM-20695 - Jira project doesn't exist or you don't have permission to view it. : PsfWcsSelectImagesTask: Task to select images for coaddition
- [x] DM-19470 - Jira project doesn't exist or you don't have permission to view it. : Fit astrometry via Jointcal
- [x] DM-26791 - Jira project doesn't exist or you don't have permission to view it. : Fit photometry via FGCM
- [x] DM-17062 - Jira project doesn't exist or you don't have permission to view it. : Apply Jointcal and FGCM calibrations during coaddition
- [x] DM-22277 - Jira project doesn't exist or you don't have permission to view it. : Write|Transform|Consolidate Source Table Task
- [x] DM-24638 - Jira project doesn't exist or you don't have permission to view it. : Write|Transform|Consolidate Object Table Task
- [x] Calibration Products Generation
  - [x] DM-21786 - Jira project doesn't exist or you don't have permission to view it. : Convert PTC code for Gen3.
  - [x] DM-24704 - Jira project doesn't exist or you don't have permission to view it. : Convert Brighter-Fatter Kernel code for Gen3.
  - [x] DM-25424 - Jira project doesn't exist or you don't have permission to view it. : Convert Defects for Gen3.
  - [x]

DM-25425 - Jira project doesn't exist or you don't have permission to view it.

: Convert Curve for Gen3.

QA tools intentionally not on this list.