QAWG Revisited

Large Synoptic Survey Telescope

Aims

- At the DMLT vF2F of February 2019, we reviewed the recommendations of the QAWG (as described in DMTN-085) and the DMLT made recommendations about high priority items.
  - https://confluence.lsstcorp.org/display/DM/DMLT+Discussion+of+QAWG+recommendations
- We did not assign them as specific action items, but instead agreed to revisit them at the next DMLT meeting to review progress.
- I have attempted to group recommendations by theme in the following.

DM glossary

QAWG-REC-1: Adopt the definitions of QA-related terms in the DMTN-085 glossary subsystem-wide

- This glossary should be audited for correctness and for clashes with higher LSST glossaries. Perhaps via an RFC?
- Following that process, the DMLT agrees that with this recommendation.
- We suggest the DM-SST (@Leanne Guy) be tasked with it.

- Per discussion with Leanne yesterday (please correct me if I'm wrong):
  - No progress on this so far (Leanne was unaware of it)
  - Will be added to the DM-SST todo list for upcoming work.

Debugging framework

QAWG-REC-2: Develop a new pipeline instrumentation and debugging system, replacing lsstDebug

- The DMLT regards this as purely an internal matter for the Science Pipelines leadership (@John Swinbank , @Yusra AlSayyad).

QAWG-REC-3: Guidelines for the effective use of the pipeline debugging system should be supplied to developers

- Accompanying documentation is implicit if we act on QAWG-REC-2.
- Otherwise, the DMLT agrees that refreshed documentation for the existing system is appropriate.
- This is a matter for Pipelines (@John Swinbank, @Yusra AlSayyad)

QAWG-REC-4: Debugging mode should be binary: it is either enabled or disabled, with no further configuration

- This recommendation was considered to be part of QAWG-REC-2 & 3, and was not considered separately.

- Pipelines are tracking this at https://jira.lsstcorp.org/browse/PIPE-28.
- This has not been prioritized so far, but remains on the backlog.

Pipeline log aggregation

QAWG-REC-5: A log aggregation and monitoring service should be provided for large-scale processing jobs at the Data Facility

- The DMLT regards this as a high priority for the Architecture and LDF teams (@Kian-Tat Lim , @Margaret Gelman)

- ...?

Pending new middleware

QAWG-REC-6: Tutorial and reference documentation for developers attempting to run jobs at scale should be refreshed

- The DMLT considers that this should be a high priority for the LDF team *after* the new middleware is in place. (@Margaret Gelman)

QAWG-REC-10: The design and implementation of the provenance system should have high priority in the project scheduling

- The DMLT is not confident that existing Gen 3 middleware effort will adequately address all relevant use cases.
- However, there was no appetite for further work before the Gen 3 effort has fully converged; at that point, further investigation or work may be necessary.

- New middleware is not in place, so I assume there is no progress here.

PyViz

QAWG-REC-7: DM should formally adopt the PyViz ecosystem

- The Architecture team was tasked with reporting on the possibility of interfacing PyViz with existing tools, and, in particular, with the LSP. (@Kian-Tat Lim)

- ...?

Dask

QAWG-REC-8: DM should adopt Dask to enable users to work with larger than memory data

- This is already possible for internal users (ie, DM developers) thanks to SQuaRE.
- Contact @Frossie Economou for details.

- ✅

Image display

QAWG-REC-9: DM should provide clear, written guidance to developers about the availability, status and expected usage of image display tools

- The DMLT did not regard this recommendation as sufficient to address outstanding use cases.
- It was agreed that a new working group should be convened to further address this topic,

☑ @Wil O'Mullane — convene an “image display working group”. 01 Apr 2019

- ✅

Development process documentation

QAWG-REC-11 & QAWG_REC-12: Obsolete and unclear sections of the Developer Guide should be rewritten to provide clearer guidance on unit tests & The Developer Guide should be expanded to provide checklist-style documentation for code reviewers making clear what is expected from them during the review.

- The Architecture team was asked to refresh the Developer Guide (@Kian-Tat Lim)

QAWG-REC-17: The Developer Guide should provide guidance about expected responses to Jenkins failures

- @Kian-Tat Lim agreed to draft text.

- ...?

Documentation improvements

QAWG-REC-14: The Project should adopt a documented (in the Developer Guide) policy on the maintenance of example code

- The DMLT agrees that a robust approach to broken examples is appropriate.
- The caveat that some examples may simply by didactic, and were never expected to work, was noted.
- This should be rolled into SQuaRE updates to the documentation system (@Frossie Economou).

QAWG-REC-15: The Project should prioritize the development of a documentation system which makes it convenient to include code examples and that tests those examples as part of a documentation build

- The DMLT regards this as a high priority for SQuaRE (@Frossie Economou).

QAWC-REC-16: When running regularly scheduled (timer) jobs on the master branch of any releasable product, any build failure should be announced prominently to key stakeholders

- The DMLT regards this as important.
- Work is currently underway in SQuaRE. (@Frossie Economou)

- ...?

Dependency versioning

QAWG-REC-18 & QAWG-REC-19: The versions of external packages used in the Jenkins system must always correspond to the minimum versions specified in stub packages and/or in the document list of prerequisites & The project should adopt a single source of dependency information and versions

- Widely agreed, and effectively done or currently in progress.

- ✅

Dataset packaging

QAWG-REC-20 & QAWG-REC-21: A standardized format for dataset repositories should be adopted across DM & Each dataset should have an explicitly named product owner

- The DMLT considers the effort to design a standardized format and then make all existing repositories adhere to it is too great.
- The idea of product owners was accepted, except the DMLT requests they be called “dataset owners” to avoid any possible ambiguity.
- @Simon Krughoff (SQuaRE) will act as a centralized point of contact for information about datasets.
- @John Swinbank & @Simon Krughoff can collaborate on figuring out named owners for other datasets.

QAWG-REC-22: Datasets may be stored on either shared filesystems or Git LFS as appropriate, depending on the total size of the dataset

- Nothing here to discuss.

- Pretty sure I have not done any collaborating here… Simon?

Test packages and plans

QAWG-REC-23: A standardized test package design should be developed which addresses all existing use cases

- The DMLT regards this as a Pipelines-internal matter upon which they did not wish to opine further. (@John Swinbank, @Yusra AlSayyad)

QAWG-REC-24: A coherent plan for integration testing at all scales should be developed and published

- The Pipelines and DM-SST groups should collaborate on developing this. (@Leanne Guy, @Yusra AlSayyad, @John Swinbank)

- No significant progress here that I'm aware of.

Metrics

QAWG-REC-25, QAWG-REC-26, & QAWG-REC-35: Formalise the lsst.verify.metrics system as the source of truth for metric definitions, by e.g. describing it in LDM-503 and LDM-639, Provide a high-level overview and data-model describing the metric definition system, & Provide a single, reliable source of documentation describing the SQuaSH system and a vision for its use in DM-wide metric tracking.

- The DMLT agreed with the thrust of these recommendations, although detailed implementation was unclear.
- It was agreed that @John Swinbank should convene a small group of Pipelines & SQuaRE developers to discuss further.

☐ @John Swinbank — convene a mini-working group to refine the design of `lsst.verify.metrics`. 29 Apr 2019

- No progress.

QAWG-REC-33: Pipelines leadership should start using the metric definition and collection system

- Agreed by the DMLT; action is on Pipelines leadership (@Yusra AlSayyad , @John Swinbank)

- Done by AP.
- https://jira.lsstcorp.org/browse/PIPE-27 for DRP.

SQuaSH upgrades

QAWG-REC-37: It must be possible to submit metrics to SQuaSH from arbitrary pipeline execution environments.

- On SQuaRE's radar (@Frossie Economou).

QAWG-REC-38: SQuaSH should be able to store and display appropriate metric values per DataId

- On SQuaRE's radar (@Frossie Economou)

- ...?

QAWG-REC-34: SQuaSH should issue alerts to developers and key stakeholders on regressions in important metric values

- Already addressed by Chronograf.

- DM-18191 – not sure of scheduling

Drill-down dashboard

QAWG-REC-39 & QAWG-REC-40: DM should develop a browser-based interactive dashboard that can run on any pipeline output repository (or comparison of two repositories) to quickly diagnose the quality of the data processing & The dashboard should enable the analyst to start a Jupyter notebook session with the relevant datasets already loaded.

- We are currently in negotiations with an external contractor (Quansight) about the development of such a tool.
- This effort is being led by Tim Morton (Pipelines), but with input from the DM-SST, SQuaRE, and others as necessary.

- Putting the final details of this contract together this week.
- Hope to have something (likely incomplete) to show by the PCW.