

2022-06-06 DM-SST VF2F Agenda and Meeting notes

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Logistics

Date & Time

Date : 06 Jun 2022 , 09:00 - 14:00 Pacific

This precedes the [DMLT vF2F \(07-09 Jun 2022\)](#)

Location

Browser	Room System	Phone Dial-in
Short : ls.st/dmsst Zoom: https://noirlab-edu.zoom.us/j/97839121776?pwd=K1JPeUpSMXFvSXJSa2xORGkyVk5zdz09 Zoom Meeting ID: 978 3912 1776 Zoom Password: 512314	Dial closest IP: 162.255.36.11 (east coast) and 162.255.37.11 (west coast) then use the Zoom meeting ID 978 3912 1776 as the dialing extension. For example: 978 3912 1776 @162.255.37.11 or: 162.255.37.11##978 3912 1776 Password: 512314	Dial-in numbers: +1 346 248 7799 (US Toll) +1 669 900 6833 (US Toll) Meeting ID: 936 2540 1560 International numbers available: https://gemini.zoom.us/j/9362540

Participants

- [Leanne Guy](#)
- [Eli Rykoff](#)
- [Yusra AlSayyad](#)
- [Colin Slater](#)
- [Jim Bosch](#)
- [Hsin-Fang Chiang](#)
- [Eric Bellm](#)
- [Keith Bechtol](#)
- [Gregory Dubois-Felsmann](#)
- [Jeffrey Carlin](#)
- [Melissa Graham](#)

Agenda

Time (Pacific)	Topic	Coordinator	Pre-meeting notes	Running notes and actions
Moderator: Gregory Dubois-Felsmann	Note taker: Colin Slater			

09:00 - 9:15	Welcome, project science updates	<p>Leanne Guy</p> <p>Volunteers for moderating and taking notes?</p> <p>Project science updates:</p> <ul style="list-style-type: none"> Forecast for ComCam on telescope is being pushed out 2-4 weeks. mid-late August 2022. not expected to affect on-sky in 2023 unless TMA verification runs over FDR for pumped coolant system for 1st week Aug DESC SC meeting also in 1st week of August DM presentation series to PST. <ul style="list-style-type: none"> Yusra - Status update on pipelines: 22 Jun 2022 Eric - Image differencing pipelines: 07 Sep 2022 (tentative) <ul style="list-style-type: none"> subsequent talks will be scheduled based on feedback from PST <p>Task review</p>	<ul style="list-style-type: none"> GPDF: If the camera is on the telescope for so long (prior to the official start of data taking), are we going to get a "surprise" request to take data? <ul style="list-style-type: none"> Mirror is not on the telescope. Much of the purpose is for testing refrigeration, interfaces, etc. Being used for mechanical and electrical verification. Might take darks/biases. Keith will look up a schedule. <p><input checked="" type="checkbox"/> Keith Bechtol to look up more information on schedule of camera going on telescope and when data taking would occur, including calibration data such as biases, darks 18 Jul 2022</p> <p><input checked="" type="checkbox"/> Robert Lupton Work out who from DM/Commissioning /Science should try to go to DESC meeting, useful to attend in person. 20 Jun 2022</p> <p><input checked="" type="checkbox"/> Robert Lupton Ask how many people from DESC will be at PCW? 20 Jun 2022</p> <p>DM presentations to PST:</p> <ul style="list-style-type: none"> Eric is tentatively ok with the PST talk time. YA: June talk is the menu of topics for future deep-dive talks. <p><input checked="" type="checkbox"/> Yusra AISayyad Leanne Guy Confer on a schedule for PST talks in June/July 20 Jun 2022</p> <p>Multi-resolution cutouts:</p> <ul style="list-style-type: none"> Followed up with Francisco et al. They did more testing on (ZTF?) were able to identify space-junk-glints more effectively. Not a huge selling point, could think of other ways for DM to do this. Encouraged them to think more about packaging cutouts, and we'd review further as it progresses. Waiting for a more compelling case. Fink broker has a paper on the space-junk-glints (not to be confused with multi-surface reflections in the telescope). https://ui.adsabs.harvard.edu/abs/2022arXiv220205719K/abstract <p>Brokers aren't available for PCW, so no session there. Melissa has been communicating with them. They can all have RSP accounts when it's useful to them.</p> <p>Still need to set up an RSP-capabilities meeting for broker teams with Gregory Dubois-Felsmann et al.</p> <p><input checked="" type="checkbox"/> Eric Bellm will circulate a Doodle to find a time for a brokers-RSP virtual meeting in June/July 10 Jun 2022</p>
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9:15 - 10:15	a_draft_of_an_idea_of_a_plan_for_photometry.pdf	Eli Rykoff		<p>slide 7:</p> <ul style="list-style-type: none"> Jim: Surprised that surface brightness images are better for model fluxes. <ul style="list-style-type: none"> Eli: it's possible to do model fluxes with fluence images, but you'll need to make sure to include all the right mtah. RHL: Are we going to assume gray clouds? <ul style="list-style-type: none"> Have been so far. RHL: have to worry about what SED you use for the flat field <ul style="list-style-type: none"> SED of the sky is different from SED of the sources. LPG: what are the pipelines using right now for images? <ul style="list-style-type: none"> Jim: Calexps are ("mostly") surface brightness images, because that's what you get from flat fielding. Coadds are fluence images. Should be converting to fluence images much earlier, right after doing background subtraction, and then you don't need to deal with surface brightness ever again. Not currently careful enough in the pipelines about treating the difference between these images types. Have to be sure we're describing this accurately to our users, including in metadata in the RSP services. <p>Slide 32:</p> <ul style="list-style-type: none"> What is the plan for doing wavelength scans with the CBP? <ul style="list-style-type: none"> Not yet determined. Not going to be able to do a narrow wavelength scan every day. Instinct is we'll need a couple of times per year. Can monitor shifts with much less CBP time, and hoping that will be sufficient. Can use on-sky observations to check that the throughput isn't changing; won't tell you what changed, but would at least provide monitoring. Have to follow up to determine what happened after a throughput change. CTS : how safe is it to assume that measuring dust accurately is out of scope and can it be left to DESC? <ul style="list-style-type: none"> KB: Understanding that it is a science research project - project will adopt what the community provide ER: MW dust is not a limiting factor in our calibration process GPDF: need to store the weights per-source in the catalog so that recomputation is possible. <ul style="list-style-type: none"> RHL: think it's possibly one number per source(? not sure if i'm copying this down correctly) Need to settle on what this will look like, can this be an item on the Calibpalooza agenda? Two topics: the <i>data model</i> for preserving enough information to make the corrections possible against the released data (perhaps Calibpalooza-relevant); and the <i>service model</i> in the RSP for enabling users to get the corrections applied, e.g. in a light-curve query for an SN (can be worked out later). Cell-based coadds may make this easier, at least for the atmospheric part. Chip-spatial-position variation may still not be constant over a cell (but Eli hopes it will be) Some per-visit calibration details matter more to the SNe users, but those are not worried about the coadd <p>Keith: DES Y3 Appendix A has info on chromatic corrections: https://arxiv.org/pdf/2011.03407.pdf</p>
10:15 - 10:30	Plans for CalibPalooza	Eli Rykoff Leanne Guy	Leanne and Eli are organizing a 2-day workshop on calibration strategy, affectionately named "CalibPalooza". The goal of the workshop is to define and document the full end-to-end strategy for LSST calibration, from ISR through global astrometric and photometric calibrations. A lot of work has already been done on various aspects of calibration; what lacks is an overall vision for how it all comes together. The outcome of the 2-days should be an initial draft of a document that defines the full LSST end-to-end calibration strategy.	<ul style="list-style-type: none"> Want to avoid spending all the time on intro material, and focus more on answering open questions. At SLAC, looking like -end of August. Keith: is this thinking about "Calibration at year 1" as the goal, or year 5, etc? <ul style="list-style-type: none"> Eli: End of Construction, for DRP.
10:30 - 11:00				
Moderator:	Note taker: Leanne Guy			
Eric Bellm				

11:00 - 11:45	Completion of DAX /RSP construction capabilities	<p>Gregory Dubois-Felsmann Colin Slater</p> <p>What does it take to define DAX development as complete . What remains to be done , what is the verification process</p> <p>Missing functionality : Traceability of missing DAX functionality</p>	<ul style="list-style-type: none"> Qserv deployed for DP0.2, scaling tests continuing ... confidence in meeting goals Images services just deployed in previous weeks - needed geometrics query capability development in Qserv - new functionality in Qserv LPG: What is the problem with implementing geometric queries in Qserv GPDF: Underlying mariaDB does not support geometric queries CTS: Qserv does support geometry in the query and the data are points. GPDF: Point in catalog contained in user supplied shape /query. Do not support shape in shape intersects shape queries. Has impacts mostly on image MD type queries Query history service : 2 possible designs 1) extension to TAP standard, 2) table of queries that is queryable LPG: Query history service is in Gaia archive - very useful. Should this requirement in LSST be higher priority? GPDF: User databases - story was to have a large conventional DB service (Postgres) that contains a lot of system tables and MD about production processing (not in Qserv). Could be accessed via API. JB: Pushing up to Qserv to share with users? PG DB also shareable, pushing not only way JB: if there is transactional user DB space, would really like to put butler space there CTS: Consolidated DB was an NCSA deliverable - who now? GPDF: USDF - transformed EFD, butler registry also there. RHL: Audit on all the DBs in project and query patterns, time series DB, visit based DB, Butler, scheduler DB as well GPDF: Still questions about the hybrid model. Consolidated DB - the idea was to have one DB in addition to Qserv for all other DBs - common infrastructure JB: Identify those that have user owned DBs - permissions, authentication, etc. GPDF: Summit system as well as USDF. <p>✓ Robert Lupton Review the inventory of DBs that we need and think about how we will get these deployed. Should be raised with DMLT 20 Jun 2022 Update 2022-10-11: Robert Lupton will handle this in the commissioning context</p> <ul style="list-style-type: none"> VOSpace - looking at alternatives to WebDav, connected to user butler (user images, custom coadds) Recall discussion on DOIs for datasets in addition to queries. 10millions row table presents resource management issues <p>✓ Leanne Guy to take the question of what to do about not scoped functionality (e.g DOI) to ops-exec. 30 Sep 2022 Raised with Bob 2022-06-06 – Ops will put together a plan. There are ideas for a DM-SST -like entity in operations who could be the guardians of requirements inherited from construction (either missing scope or scope that did not get implemented)</p> <p>LPG: DAX must be finished construction by end FY23</p> <p>CTS: Need to show we have met the requirements. Clarify what is DAX, what is services</p> <p>LPG: Special Programs DB - will be next to the main DBs in Qserv. GPDF - lack of clarity on scope and scale of special programs DBs</p> <p>CTS: UG databases is the biggest missing piece and main focus on development activities until end FY23</p> <p>CTS: Will claim what we can on DP0.2 behaviour. APDB/PPDB are user facing but requirements are lacking . No checkbox for APDB /PPDB</p> <p>EB: implicit requirement on scheduler to provide notification 2hrs in advance - testing has tested loading the history successfully, but requirements are lacking.</p> <p>CTS: Add PPDB into Database-Consolidating Working Group effort.</p> <p>GPDB: Why are PPs not in Qserv (not transactional) - once per night /day is a heavy lift. Has it been absolutely excluded though?</p> <p>GPDF: Backlinks to PPDB to Object table -</p> <p>EB: Narrow table -local copy that does not live in Qserv.</p> <p>GPDF: What fraction of the Object Table would be sucked in after 1 yr of PP? have TAP in front of the PPDB - would work but not as efficient as a DB table join.</p>
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11:45 - 12:30	Plans for compressed PVis	Gregory Dubois-Felsmann	What do we still need to know?	<p>Haven't concluded whether the compressed PVis will be usable for downstream processing, or whether users who want to do e.g. custom coadds will need to rely on the PVI-recreation service to get uncompressed coadds. That affects the load we expect the recreation service to have to support.</p> <ul style="list-style-type: none"> • JB: Applied a criteria that we must prove (not just assert) that coadds from compressed images are safe, but there's sufficient experience DES showing that it was successful for them. So maybe we should just go ahead and make compression the baseline, rather than waiting on proof of safety. • Eli: Images are read and then written multiple times during single frame processing, not compatible with the need to only do lossy compression once. <ul style="list-style-type: none"> ◦ Jim: Most of that is either changing the background or changing the mask plane, and those are different problems than modifying the compressed pixels. • RHL: unlikely to be accepted by the project without a sufficiently convincing study. <ul style="list-style-type: none"> ◦ Substantial work to organize the pipelines for a single instance of compression. ◦ DES order of operations was different, did no additional background subtraction after their "final cut" compressed image stage. ◦ Other order-of-operations problems (from a calibration standpoint) exist in the pipelines, will need refactoring anyways. • GPDF: need to know what the new baseline would be, so filling out the story on e.g. bg subtraction is necessary. • JB: the bg subtraction changes are necessary anyways. <ul style="list-style-type: none"> ◦ Must make sure that the standard is not "must cause no change to any science cases ever". • Eli: should make this a constraint on the calibration refactor; we should do the refactor such that this becomes possible, but compression not be the goal itself. <ul style="list-style-type: none"> • AP baseline includes a gap between images expiring out of the 30 day cache and them becoming available via the data release. <ul style="list-style-type: none"> <input type="checkbox"/> Leanne Guy Gregory Dubois-Felsmann Raise the AP image-availability gap (between 30 days and the DR) issue to the PST 31 Dec 2022 • Eric: If the budget required us to pick, would assert that the trailing-year AP single visit images will be more heavily used than the DRP single visit images. <ul style="list-style-type: none"> <input type="checkbox"/> Eli Rykoff Report on what information DES used for their decision on using compression? 25 Jul 2022
*12:30 - 13:00				
Moderator: Leanne Guy	Note taker: Colin Slater			
13:00 - 13:30	Plans for the AFS	Eric Bellm Leanne Guy	https://dmtn-226.lsst.io/v/DM-34292/index.html	<ul style="list-style-type: none"> • CTS: 2 yrs into the survey - what is the distinction on ANTARES strategy vs any other broker - ignoring the construction history • EB: A service would have a special status, prominently linked and supported by Rubin, connection with CET, long term financial entanglement. Joint operational umbrella - we will make sure ANTARES keep running • CTS: Do we need to financially support SNAPs as well? • EB: Smaller team, not servicing a large community • MLG: ANTARES/AFS uses cases are a bit different, users might write different filters each night, change, not as easy with ANTARES, are we asking for more functionality? • EB: No requirement to drop a filter in on the fly - certainly desirable. ZTF filters do not change nightly. ANTARES have a lot of sample data to run on. User deployable filters that execute custom code is hard, happy to hand off. AFS requirements are lax, 20 simultaneous users. • CTS: Have the SAC seen this? No. Will there be an issue with perceived favouritism? • EB: We left this until after the selection and all brokers were selected. ANTARES and Rubin are part of NOIRLab • LPG: transfer of money between 2 projects within one organization - consolidation of efforts. <input checked="" type="checkbox"/> Eric Bellm Merge PR and issue DMtn - deliver to ANTARES. Take to SAC after iteration with ANTARES. 20 Jun 2022

13:30 - 14:00	Plans for measuring non-standard alerts (DMS-REQ-270)	Eric Bellm Melissa Graham Leanne Guy	https://dmtn-228.lsst.io/v/DM-35100/index.html	<p>GPDF: are we confident we can achieve 5sigma as the threshold?</p> <p>EB: That is the baseline, only reason we'd use a higher threshold is if we couldn't handle 5sigma</p> <p>EB: DPDD - does explicitly say to alert on not less than 10% of detections below threshold even if DMSR is not explicit. 2 separate use cases.</p> <p>JB: Request from SL for early access to postage stamps - triggered us to come back to this. This was a way to use existing requirements to cover this request.</p> <p>MLG: Zero-flux alerts at these positions to send out the postage stamp.</p> <p>EB: We will not run their custom code so they need the pixels and alerts is the only way to get the data. Wouldn't do this if they could get to images some other way.</p> <p>JB: Volumes order 100s 1000s</p> <p>GPDF: Targets need to be exposed publicly - make sure the SLSC understands they can get this service but only by disclosing their targets.</p>
14:00 - 14:15	Closeout & task review	Leanne Guy		
14:15	Close			

Description	Due date	Assignee	Task appears on
<input type="checkbox"/> Robert Lupton Clarify the meaning of time in the object table. 1 sentence description in sdm_schemas, can link to a short DMTN. <i>Update 2022-02-09: Meeting to resolve this on 2022-02-21</i> 28 Feb 2022	28 Feb 2022	Robert Lupton	2018-11-05 DM SST F2F Agenda and Meeting notes
<input type="checkbox"/> Gregory Dubois-Felsmann check if SDM standardization is adequately represented in project documents, and whether DMTN-067 should be required. 31 Mar 2022	31 Mar 2022	Gregory Dubois-Felsmann	2022-02-14 DM-SST Virtual F2F Agenda and Meeting notes
<input type="checkbox"/> Leanne Guy read RFC-842 and work out how much of this is in DM scope. Work with Eli Rykoff and Robert Lupton to make a plan to address this 28 Feb 2023	28 Feb 2023	Leanne Guy	2023-01-23 DM-SST Agenda and Meeting Notes
<input type="checkbox"/> Leanne Guy talk to Steve R about presenting plans for the ShearObject table to PST and SciCollab chairs 20 Mar 2023	20 Mar 2023	Leanne Guy	2023-02-27 DM-SST Agenda and Meeting Notes
<input type="checkbox"/> Jim Bosch Provide an example of a file containing a cell-based coadd for Gregory Dubois-Felsmann to examine to assess implications for firefly 31 Mar 2023	31 Mar 2023	Jim Bosch	2023-02-27 DM-SST Agenda and Meeting Notes
<input type="checkbox"/> Leanne Guy talk to Gregory Dubois-Felsmann to review the original intent of the AFS-related Portal requirements before deciding on a course of action 29 May 2023	29 May 2023	Leanne Guy	2023-05-01 DM-SST Focus Meeting - Brokers in Commissioning
<input type="checkbox"/> Leanne Guy Prepare to consult the PST on the question of providing compressed PVI for AP outputs, to cover the period before the data become available in a DR. 02 Jun 2023	02 Jun 2023	Leanne Guy	2023-03-27 DM-SST Agenda and Meeting Notes
<input type="checkbox"/> Jim Bosch Incorporate 30-60 day period for raws on disk into the strawman proposal and present to KT 26 Jun 2023	26 Jun 2023	Jim Bosch	2023-05-08 DM-SST Agenda and Meeting Notes

<input type="checkbox"/>	Parker Fagrelus Patrick Ingraham how long will it take to do a scan as described? No need to scan the whole WL range but will require additional points outside nominal lambda range. 30 Jun 2023	30 Jun 2023	Parker Fagrelus	2023-03-27 DM-SST Agenda and Meeting Notes
<input type="checkbox"/>	Colin Slater Gregory Dubois-Felsmann Robert Lupton Jeffrey Carlin Convene meeting/vf2f session on definition of dataset selection requirements in DMS-REQ-293 31 Jul 2023	31 Jul 2023	Colin Slater	2023-07-10 DM-SST Agenda and Meeting Notes
<input type="checkbox"/>	Eli Rykoff , Leanne Guy Develop a proposal for what calibration processing, hardware, data we actually need and what will be needed for DR1. This has implications for the ORR and for prioritisation of work in commissioning 31 Jul 2023	31 Jul 2023	Eli Rykoff	2023-01-30 DM-SST Agenda and Meeting Notes
<input type="checkbox"/>	Yusra AlSayyad will look to see if there is any effort to help on option 1 28 Aug 2023	28 Aug 2023	Yusra AlSayyad	2023-08-14 DM-SST Agenda and Meeting Notes
<input type="checkbox"/>	Jim Bosch Provide a physical example of that a up on cell table would look like fo the Colin Slater / DAX team to review 31 Aug 2023	31 Aug 2023	Jim Bosch	2023-02-27 DM-SST Agenda and Meeting Notes
<input type="checkbox"/>	"What is the pathway to defining the data products that are required to meet DMS-REQ-0266" Jeffrey Carlin 30 Nov 2023	30 Nov 2023	Jeffrey Carlin	2023-10-23 DM-SST vF2F Agenda and Meeting Notes
<input type="checkbox"/>	Gregory Dubois-Felsmann Eli Rykoff to investigate splitting DMS-REQ-0298 (data access services for provenance) into separate 1a and 1b reqs. 30 Nov 2023	30 Nov 2023	Gregory Dubois-Felsmann	2023-10-23 DM-SST vF2F Agenda and Meeting Notes
<input type="checkbox"/>	Leanne Guy Gregory Dubois-Felsmann , possible others small group to write description of how our deployment strategy meets DMS-REQ-0297. 30 Nov 2023 2024-01-30, See DMS-REQ-0297 -- Deployment Strategy	30 Nov 2023	Leanne Guy	2023-10-23 DM-SST vF2F Agenda and Meeting Notes
<input type="checkbox"/>	Jeffrey Carlin follow up with KT on DMS-REQ-0176 and DMS-REQ-0315 to update /disaggregate this for latest base/summit infrastructure split. 30 Nov 2023	30 Nov 2023	Jeffrey Carlin	2023-10-23 DM-SST vF2F Agenda and Meeting Notes
<input type="checkbox"/>	Jim Bosch Follow up on the possibility of investigating further the ability to process 2 collections in parallel. 31 Jan 2024	31 Jan 2024	Jim Bosch	2023-12-04 DM-SST Agenda and Meeting Notes
<input type="checkbox"/>	Jeffrey Carlin Gregory Dubois-Felsmann Colin Slater Define verifications for the consistency of collections part of this requirements - e.g. OSS-118 31 Jan 2024	31 Jan 2024	Jeffrey Carlin	2023-12-04 DM-SST Agenda and Meeting Notes
<input type="checkbox"/>	Gregory Dubois-Felsmann Jim Bosch Setup a meeting between science platform and middleware regarding user storage for butler purposes.		Gregory Dubois-Felsmann	2023-10-23 DM-SST vF2F Agenda and Meeting Notes