

Previous month PT1.2 - Mgt/SE

Current month PT1.2

Next month PT1.2 - Mgt/SE

**Note:** Please place an asterisk (\*) after the percent if you updated this value in this report.

Task	Start	Finish	Resources (lead first)	% Complete	Comments
LSST DMS System Engineering, Proposal, Review Support	20050901	20130405		65%	
Prepare and conduct Preliminary Design Review	20080501	20110701		56%	
<i>Database and Data Access Analyses</i>			<i>Becla Jacek</i>		<i>Arranged 150 nodes for the scalability tests (failed to arrange 250), and prepared the script that generate data (~100 billion rows), expecting to run the tests in early April. Not much progress with documentation for PDR, expecting to focus on documentations in late April and May. Starting stronger collaboration with MonetDB.</i>
Scalability tests phase III (up to 250 nodes)	20110303	20110331	Becla Jacek[10%], Wang Daniel[75%], Dubois-Felsmann Gregory[5%]	5%*	Arranging testbed, will get access to only 150 nodes
SSD Database Tests	20100802	20110224	Becla Jacek	95%	Still need to finalize the summary document
Improve trac db documentation for PDR	20090902	20110406	Becla Jacek[10%]	60%	

Write design document for PDR	20110406	20110504	Becla Jacek[5%],Lim KT[5%],Hanushevsky Andy[20%]	0%	
<i>Pipeline Middleware Analyses</i>	20110222	20110411	<i>Lim KT[0%],Plante Ray[0%]</i>	0%	
<i>Pipeline Execution Middleware Scaling Tests</i>	20110222	20110411		0%	
Define scaling tests	20110222	20110228	Plante Ray[5%]	0%	
Create benchmark stage implementations and pipeline configurations	20110301	20110321	Dauers Greg[25%]	0%	
Execute scaling tests, analyze, report results	20110322	20110411	Dauers Greg[25%]	0%	
Pipeline Execution Monitoring Visualization Tool	20110222	20110404	Plante Ray[25%],Dubois-Felsmann Gregory[25%],Lim KT[25%]	0%	
Develop requirements for pipeline processing visualization tool	20110222	20110228	Plante Ray[5%]	0%	
Design/acquire/review pipeline processing visualization tool	20110301	20110321	Plante Ray[5%],Pietrowicz Steve[25%]	0%	
Implement pipeline processing visualization tool	20110322	20110404	Pietrowicz Steve[75%]	0%	
Demonstrate rescheduling of failed processing	20110222	20110404		0%	
Define demonstration of rescheduling of failed processing	20110222	20110228	Plante Ray[5%]	0%	
Create simulated worker failure mechanism	20110301	20110314	Pietrowicz Steve[50%]	0%	
Enable detection of failure and mapping to job	20110315	20110321	Pietrowicz Steve[75%]	0%	
Enable rescheduling of failed job	20110322	20110404	Pietrowicz Steve[75%]	0%	
Create Calibrated Image on-the-Fly from Raw plus Provenance	20110223	20110308	Lim KT[25%]	0%	
<i>MOPS Analyses</i>	10/10/08	4/19/11	<i>Axelrod Tim[0%]</i>	53%	<i>Candidate tracks found by MOPS are evaluated for plausibility prior to sending them off to the orbit fitter, which is a computationally expensive task.</i>

*The plausibility check in MOPS involved fitting a quadratic in time to the ra and dec of the observed points, and cutting on the rms of the fit. This cut was not tied in any quantitative way to the actual probability that the candidate is a real track. In the last month we have completely overhauled this section of MOPS to use a probability of chi\_squared formalism. Crucially, it was recognized that topocentric corrections must be applied before fitting the polynomial in ra, and this has been incorporated into the procedure. The result is a plausibility cut which is still computationally much faster than full orbit fitting, but is at least 10x better in discriminating true from false tracks. We have also quantified the capabilities of MOPS on different classes of solar system*

					<i>objects. This has confirmed our intuition that, with the current limits on velocities and acceleration, our NEO detection efficiency falls well short of 50%. We are investigating a hybrid approach in which MOPS detects and eliminates the large population of main belt objects, and then leaves the remaining fast movers to a more specialized code.</i>
Complete analysis of runs of FindTracklets/LinkTracklets? and OrbFit? driven by simulated DIASources	10/10/08	3/4/11	Axelrod Tim[20%],Myers Jonathan[75%]	75%	
Estimate amount of CPU required for LSST MOPS	11/8/10	3/11/11	Axelrod Tim[20%],Myers Jonathan[75%]	50%	
Prototype key algorithms in MOPS design	12/6/10	4/12/11	Axelrod Tim[20%],Myers Jonathan[75%]	50%	
Determine requirements for FutureMOPS that will satisfy solar system science requirements as sketched out in SRD	1/17/11	4/19/11	Axelrod Tim[20%],Myers Jonathan[75%]	50%	
<i>Complete DM content in LSR and OSS</i>			<i>Dubois-Felsmann Gregory</i>		LSR review completed and LSR placed under CC. OSS review in progress.
Update star and galaxy counts	20100908	20110225	Dubois-Felsmann Gregory[5%]	75%	Values updated for MREFC resubmission. Awaiting a final MC analysis from Ivezić/Juric? to

					confirm numbers for PDR.
Extract values for Data Quality Requirements	20101020	20110225	Dubois-Felsmann Gregory[5%]	75%	Still need to do a confirmation pass and update numbers associated with MOPS.
Review LSR to place under change control	20110225	20110316	Kantor Jeff[5%],Axelrod Tim[5%],Dubois-Felsmann Gregory[5%]	100%*	
Review OSS to place under change control	20110316	20110425	Kantor Jeff[5%],Axelrod Tim[5%],Dubois-Felsmann Gregory[5%],Allsman Robyn[5%],Plante Ray[5%],Lupton Robert[5%],Becla Jacek[5%],Lambert Ron[5%],Lim KT[5%],Freemon Mike[5%],Connolly Andy[5%],Bosch Jim[5%]	25%	
Capture network requirements in SysML model	20110425	20110426	Dubois-Felsmann Gregory[5%]	0%	
Capture cyber-security requirements in SysML model	20110426	20110503	Dubois-Felsmann Gregory[5%]	0%	
Support establishment of traceability between LSR and OSS	20100901	20110505	Dubois-Felsmann Gregory[15%]	62%	Isolated improvements to traceability in conjunction with additions
Establish bounding requirements in SysML for MOPS	20101206	20110318	Dubois-Felsmann Gregory[5%]	50%	Was awaiting analysis from Tim which is apparently nearly complete now.
<i>Revise DM-FRS</i>			<i>Dubois-Felsmann Gregory</i>		
Restate existing quantitative requirements as constraint blocks	20110223	20110224	Dubois-Felsmann Gregory[50%]	75%*	Needs final review.
<i>Update Structure Model</i>			<i>Dubois-Felsmann Gregory</i>		
Update Structure Model to match revised WBS	20110223	20110224	Dubois-Felsmann Gregory[50%]	50%*	Need to update to final WBS from the MREFC submission.
	20110225	20110225	Dubois-Felsmann Gregory[50%]	50%*	

Create DM internal ICD N2 diagram					Needs SAT review and update to final MREFC WBS definitions.
Update OSS/LSR/FRS/SM traceability	20110502	20110513	Dubois-Felsmann Gregory[0%]	0%	
Establish traceability of FRS to OSS (or elsewhere)	20110502	20110506	Dubois-Felsmann Gregory[50%]	0%	Isolated improvements to traceability in conjunction with additions
Update Structure Model - FRS traceability	20110509	20110510	Dubois-Felsmann Gregory[50%]	0%	
Review traceability with Tim and Chuck, clean up	20110511	20110513	Dubois-Felsmann Gregory[50%],Axelrod Tim[50%]	0%	
<i>Prepare ICDs</i>			<i>Dubois-Felsmann Gregory</i>		Analyzed WBS-level interfaces according to SysEng? group guidelines. Camera-DM sector of N2 diagram sent out for review.
DM-CCS	20110103	20110317	Dubois-Felsmann Gregory[25%],Marshall Stuart[25%]	40%	
DM-TCS	20110309	20110322	Sebag Jacques[50%],Dubois-Felsmann Gregory[50%]	50%	
Camera CoDR report review	20110322	20110329	Dubois-Felsmann Gregory	0%	
DM-OCS	20110317	20110411	Dubois-Felsmann Gregory[50%],Schumacher German[50%]	44%	Need to present to DM and OCS groups
DM-EPO	20110502	20110516	Jacoby Suzanne[50%],Dubois-Felsmann Gregory[20%]	0%	DM-EPO session held at AHM; significant progress in engaging larger EPO group in understanding what we need; regular DM-EPO contact initiated
DM-sites	20110516	20110523		50%	

			Dubois-Felsmann Gregory[50%],Lambert Ron[50%],Barr Jeff[50%]		
DM - VAO	20110225	20110602	Plante Ray[5%]	0%	
<i>Update App and MW Reference Design for DC3a, DC3b PT1, PT1.1</i>			<i>Allsman Robyn</i>		
Update reference design from DC3a and DC3b model	20100930	20110304	Lim KT[25%],Axelrod Tim[10%],Plante Ray[10%],Allsman Robyn[25%],Dubois-Felsmann Gregory[10%]	100%*	Completed February 2011
Develop Performance Budgets, Timing/Sequence? Diagrams for Alert and Data Release steady state	10/14/10	3/22/11	Dubois-Felsmann Gregory[50%],Lim KT[75%]	50%	Diagrams developed but quantities need to be reviewed
Update reference design - structure model traceability	20110323	20110325	Dubois-Felsmann Gregory[50%],Kantor Jeff[25%],Allsman Robyn[50%],Lim KT[25%],Plante Ray[25%]	0%	
<i>Update Infrastructure Reference Design</i>			<i>Freemon Mike</i>		interface sheets now frozen; new requirements (actual values for the infrastructure requirements being worked on; work continues in parallel on design diagrams and restructuring of the internals of the cost sheet
Update Mountain/Base? Network Design	20101022	20110301	Lambert Ron[20%]	50%	Updated design to show increase to 100 Gbps midway in operations.
Update Long-Haul Network Acquisition Plans	20101022	20110225	Lambert Ron[5%],Kantor Jeff[5%]	25%*	Updated to show increase to 40 - 100 Gbps midway in operations and pay for LS - SCL infrastructure build up in MREFC. Started discussion

					regarding funding SCL - MIA during MREFC with AmLight. Meeting in Santiago May 2, 2011
Update Infrastructure Power, Cooling, Floor Space	20110225	20110308	Lambert Ron[10%],Freemon Mike[10%]	0%*	
Update Infrastructure Trends Document with our position (e.g. SSD, GPU, Advanced Processor Architecture, Virtual Shared Memory)	20110309	20110405	Freemon Mike[20%],Dubois-Felsmann Gregory[20%],Lim KT[20%]	0%	
Update Computing, Storage Reference Design Documentation	20110406	20110503	Freemon Mike[20%]	0%*	
<i>Enterprise Architect Customizations</i>			<i>Leader</i>	*	Initial version deployed and requirements numbers added to LSR and OSS. Developing specifications for second version.
<i>Requirements and Design for Science User Interface</i>			<i>Van Dyk Schuyler</i>		
Draft requirements, get feedback, baseline for review	20110223	20110429	Van Dyk Schuyler[50%],Dubois-Felsmann Gregory[5%],Levine Deborah[50%]	25%*	Drafted General, Help Desk/Assistance? User Workspace requirements. Extracted Help Desk/Assistance? requirements from Ops Use Cases. Conducted first telecon of UI Focus Group.
Review with SST, update and re-baseline	20110502	20110513	Van Dyk Schuyler[50%],Dubois-Felsmann Gregory[5%],Levine Deborah[50%]	0%	
Integrate into FRS and prepare system requirements change requests to integrate	20110516	20110527	Van Dyk Schuyler[5%],Dubois-Felsmann Gregory[25%],Levine Deborah[5%]	0%	



Collate existing (best-of-breed) technology options with requirements	20110411	20110506	Van Dyk Schuyler[50%],Dubois-Felsmann Gregory[5%],Levine Deborah[50%]	0%	
Review with SAT, update and re-baseline	20110509	20110520	Van Dyk Schuyler[50%],Dubois-Felsmann Gregory[50%],Levine Deborah[50%]	0%	
Update SUI WBS	20110523	20110525	Van Dyk Schuyler[50%],Kantor Jeff[50%]	0%	
<i>Develop Apps Roadmap and Data Quality Plan</i>			<i>Axelrod Tim</i>		
Develop Apps sheet of DM Roadmap	20101125	20110304	Axelrod Tim[10%],Allsman Robyn[10%]	67%	App Status sheet developed, need more functional descriptions from Apps team
<i>DM Test Plans</i>			<i>Allsman Robyn</i>	5%*	Verified that the Test Cases, derived from Usecases and Activities, are correctly generated by the LSSTTools add-on EA module.
Draft DM Unit Test documents	20100930	20110301	Allsman Robyn[25%]	50%	Updated SDP's DM V&V section to include test implementation responsibility during DC and Construction. NOT YET APPROVED by TCT/SAT/etc.
Draft DM Integration Test documents	20101014	20110308	Allsman Robyn[25%]	50%	Draft is outlined and 75% fleshed out.
Draft DM System Test documents	20110309	20110311	Allsman Robyn[35%]	0%	
Draft DM Acceptance Test documents	20110314	20110325	Allsman Robyn[25%]	0%	
Generate Integration Test Cases from DM Ref Design Use Cases/Activities?	20110328	20110401	Allsman Robyn[50%]	75%*	Reorganized Ref Design UML to simplify creation

					of I&T Test Statements. Still needs updates for missing Algorithm and WBS blocks in the Test Case description. EA RTML output template is functional. Identified UML Use Cases and Activities which need more detailed functional documentation.
Create Performance System Test Cases from DM Subsystem Requirements Constraint Blocks	20110404	20110408	Allsman Robyn[50%]	0%	
Generate Functional Acceptance Test Cases from DM Subsystem Requirements	20110411	20110415	Allsman Robyn[50%]	0%	
<i>Update DM Sizing Model</i>			<i>Freemon Mike</i>		same as above
Update Science workbook and explanation document	20110228	20110304	Dubois-Felsmann Gregory[10%], Axelrod Tim[10%]	50%*	Numbers and basic requirements updated in expectation of reorganization, final object counts.
Update Technology Trends workbook and explanation document	20110222	20110228	Freemon Mike[20%]	0%*	Interim update toward MREFC resubmission
Consolidate and update Computing workbook and explanation document	2/22/11	2/28/11	Lim KT[20%]	50%*	Consolidation complete; quantities and formulas need review
Consolidate and update I/O and Storage workbook and explanation document	2/22/11	2/28/11	Lim KT[10%], Becla Jacek[10%], Axelrod Tim[10%]	25%*	Consolidation complete; restructuring underway
Update Network workbook and explanation document,	20110222	20110304	Lambert Ron[20%], Freemon Mike[10%]	0%	Updated with REUNA being

integrate into sizing model sheets					paid in MREFC phase. In discussion with AmLight? for similar for SCL - MIA
<i>Complete DM Inputs to Risk Management, System Integration, Commissioning, and Operations Plans</i>			<i>Kantor Jeff</i>		
Update DM parts of LSST System Integration Test Plan	20101022	20110307	Allsman Robyn[30%],Freemon Mike[10%],Kantor Jeff[5%]	1%	
Contribute DM sections to LSST Risk Management, Commissioning, I&T, and Operations Plans	20100416	20110404	Kantor Jeff[10%],Allsman Robyn[20%],Axelrod Tim[20%],Plante Ray[20%],Freemon Mike[20%],Dubois-Felsmann Gregory[13%]	5%	
Get MOUs with resource support/commitment from DM partners	20110223	20110419	Kantor Jeff[5%],Van Dyk Schuyler[5%],Freemon Mike[5%],Becla Jacek[5%],Lupton Robert[5%],Lambert Ron[5%]	0%	
<i>System Architecture Team</i>			<i>Dubois-Felsmann Gregory</i>		Developing revisions to long-range DM DC plans.
Routine SAT operations	20100409	20110527	Dubois-Felsmann Gregory[0%]	0%	
<i>PDR final material preparation</i>			<i>Kantor Jeff</i>		
Update PMCS II DM FDP project	20110603	20110609	Kantor Jeff[5%],Claver Chuck[5%],Jacoby Suzanne[5%],Krabbendam Victor[5%],Kurita Nadine[5%]	0%	
Ensure all documents in docushare updated	20110603	20110608	Kantor Jeff[25%],Axelrod Tim[25%],Plante Ray[25%],Freemon Mike[25%],Dubois-Felsmann Gregory[25%],Allsman Robyn[25%],Becla Jacek[25%],Lim KT[25%]	0%	
Create PDR presentations	20110609	20110614	Kantor Jeff[25%],Axelrod Tim[25%],Plante Ray[25%],Freemon Mike[25%],Dubois-Felsmann Gregory[25%],Allsman Robyn[25%],Becla Jacek[25%],Lim KT[25%],Van	0%	

			Dyk Schuyler[25%]	
Dry Run DM Presentations	20110615	20110620	Kantor Jeff[25%],Axelrod Tim[25%],Plante Ray[25%],Freemon Mike[25%],Dubois-Felsmann Gregory[25%],Allsman Robyn[25%],Becla Jacek[25%],Lim KT[25%],Van Dyk Schuyler[25%]	0%
Update DM Presentations for Final Version for PDR	20110621	20110624	Kantor Jeff[25%],Axelrod Tim[25%],Plante Ray[25%],Freemon Mike[25%],Dubois-Felsmann Gregory[25%],Allsman Robyn[25%],Becla Jacek[25%],Lim KT[25%]	0%
Conduct Preliminary Design Review	20110627	20110701	Kantor Jeff[80%],Axelrod Tim[80%],Van Dyk Schuyler[80%],Plante Ray[80%],Freemon Mike[80%],Dubois-Felsmann Gregory[80%],Allsman Robyn[80%],Becla Jacek[80%],Lim KT[80%]	0%

## Other Activity