



NOvA experiment report

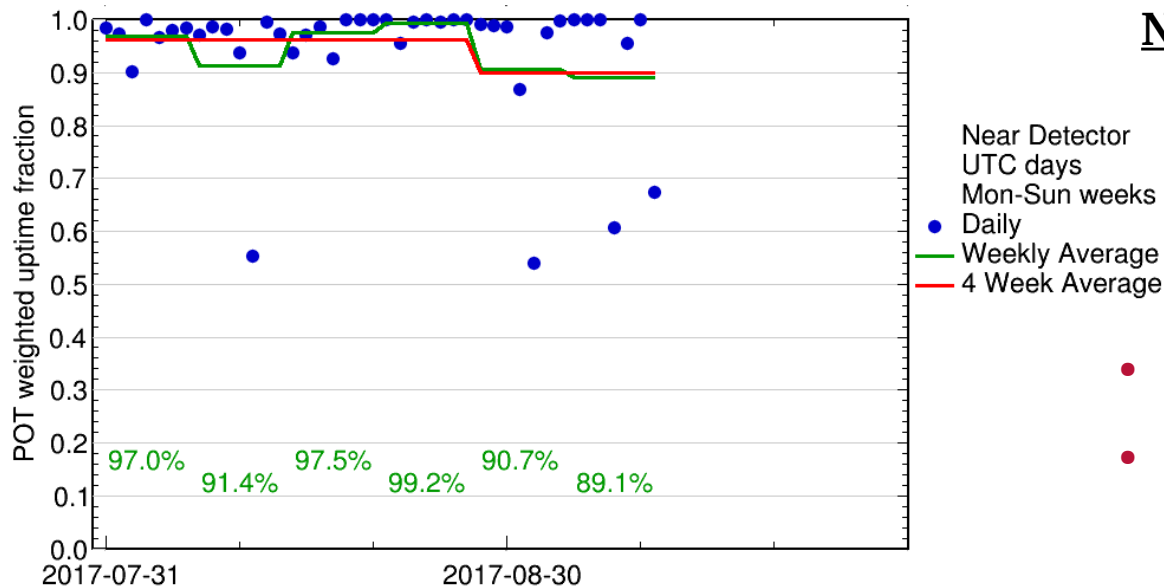
Update on NOvA operations, August 2017

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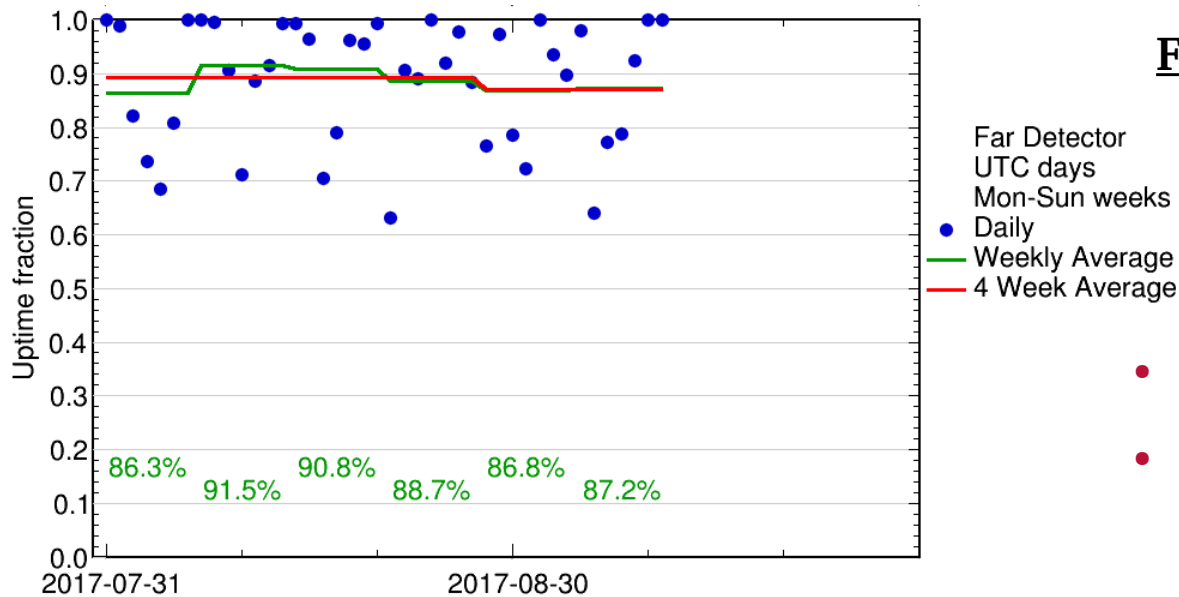
11 September 2017

Uptime



Near detector

- Average 5-week uptime: **93.5%**
- Average 5-week uptime (excluding planned downtime): **97.7%**



Far detector

- Average 5-week uptime: **89.0%**
- Average 5-week uptime (excluding planned downtime): **96.1%**

Summary of shutdown activities

		NOvA Beam Shutdown 2017																
Shutdown Week		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
		17-Jul	24-Ju	31-Ju	7-Aug	14-Aug	21-Aug	28-Aug	4-Sep	11-Sep	18-Sep	25-Sep	2-Oct	9-Oct	16-Oct	23-Oct	30-Oct	
		Operations																
In progress	Overtemp Loadshed Tests	Reddy/Matt	Slip															
		DAQ Upgrades																
In progress	DAQ Dashboard Devel.																	
✓	DAQ Dashboard Deployment	Pre-Beta		Beta		Beta-2												
✓	DAQ Dashboard Documentation																	
✓	Spill server apps heartbeat																	
In progress	Convert DAQ/DDT CVS to SVN								Code Freez	R12-Beta								
In progress	Absorb daq/ddt ups products in DDT/offline SRT		Shik-Kai		Slip													
✓	DAQ/Trigger Releases R10-Final	R10-FINAL	Slip															
✓	DAQ/Trigger Releases R11			R11														
Planned	DAQ/Trigger Releases R12-Beta									R12-Beta								
Planned	DAQ/Trigger Releases R12 (Production)										R12-0x							
✓	Database flattening																	
✓	Expert Desktop Setup	Teresa	Slip															
✓	Audit novadaq/novadcs users																	
✓	Kernel Updates	System Admins																
✓	Multi-partion test R10/R11																	
✓	Multi-partion test R11+																	
Planned	Training																	
✓	DSO Scan roll out		Teresa		Slip													
In progress	Ganglia Upgrade			Peng/Bing	Slip													
In Devel	Trigger Validation Framework Integration				Aris													
Not Started	rewrite daq to switch to internal timing				Reddy													
In progress	Supernova trigger testing					Andrey	Alec	Alec										
In progress	Buffer node replacement (Phase 1)	Ash River	System Admins					Testing	System Admins									
In progress	Buffer node replacement (Phase 2)		Ash River	System Admins				Testing	System Admins									
Planned	Buffer node replacement (Phase 3)								Ash River	System Admins								
In progress	DAQ/DCS Server maintenance					Sys Admins	Ash River/DAQ experts											
Planned	Automated Health Checks																	
In progress	DAQ On-Call Expert Documentation																	
Planned	Deploy Supernova trigger																	
In progress	VNC Alignment		Leon	Slip										Andrey				
Pending	DCM Timing Offset			Justir/Evan	Justir/Evan	Slip												
In progress	Stability Testing																	
✓	Puppet Refactoring																	
Pending	Gateway Authentication				System Admins													
✓	Loadshed Software Dev/Test/Deploy (System Wide)				Andrew	Andrew												
✓	Loadshed Software Dev/Test/Deploy (Single Server)	Reddy	Matt	Slip														
In progress	Trigger Framework Upgrades (TFileService)				Leo	Alec	Leo	Alec	Slip									
✓	Kill Partition (Multi-Partion)						Shik-Kai											

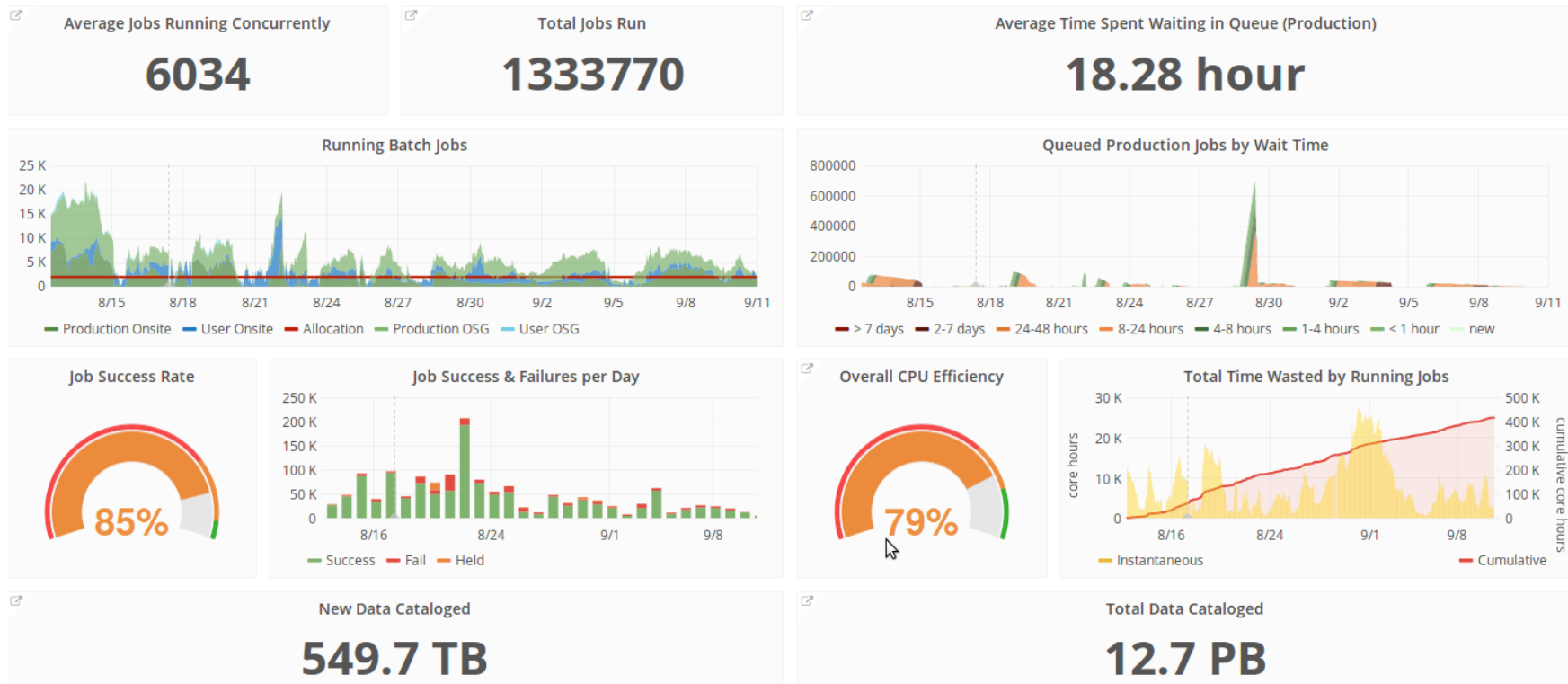
Summary of shutdown activities

- Testing the stability of new DAQ software release
- Deployed and tested new monitoring dashboard that consolidates error and warning messages into a more user-friendly interface
- Testing new triggers for the DAQ release: supernova, Michel electron and fast monopole
- Continued testing loadshed software:
 - Automatic shut-off of buffer nodes in the event of increased temperature
- One week of intense training for new and current DAQ “on-call” experts

Computing status



NOvA Computing Summary



- Significant effort to finish special sample processing for flagship fall 2017 analyses. Mostly smooth, but:
 - Several large efforts to restage files from tape around end of August were not well coordinated and fought with each other for special staging pool space allocated for NOvA by Storage
 - Users submitted jobs requesting files believed to be cached but which were pushed off by other staging requests → spike in inefficiency ~ 9/1
 - Large number of failed jobs around 8/20 due to segfault occurring in ~1% of events (hard to catch interactively but appearing routinely at scale), patched and fixed afterwards
- Heavy processing of reconstruction for other analyses
 - Required significant staging from tape. Mostly smooth except at end of Aug. (per above)