

# JPSS Annual Science Meeting – August 9<sup>th</sup> 2016

## *OMPS Cal SDR Dark Automation*

### DOGS – Darks OMPS to GRAVITE Suite

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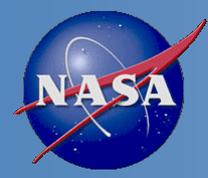
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Glen Jaross, NASA

Laura Dunlap, JPSS/AMP

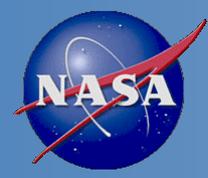




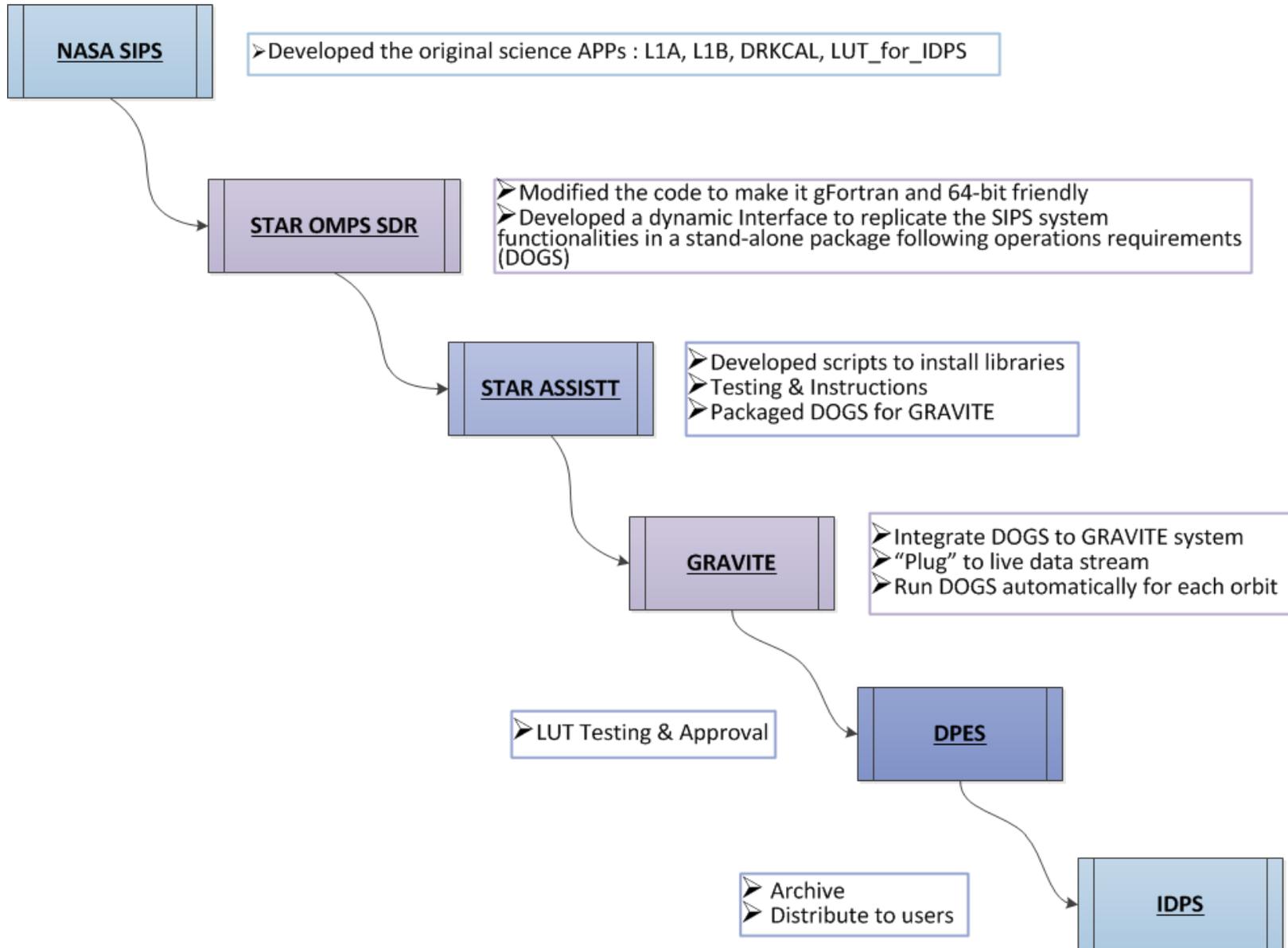
# Talk Overview

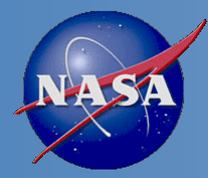


- Teams Collaboration
- What is DOGS?
- DOGS Data and Execution flow
- Delivery Selection
- DOGS Implementation Status



# Teams Collaboration



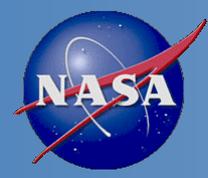


# What is DOGS?



- DOGS – Darks OMPS to GRAVITE Suite
- Interface around the OMPS SIPS code so that the run could be executed all the way from the RDR to the DRK LUT (Lookup Table) for IDPS in one call and follow GRAVITE run requirements.
- Three Perl Packages were created:
  - STAR\_OMPS\_setup.pm: Holds the common variables to DOGS
  - STAR\_OMPS.pm: Holds the main subroutines to DOGS
  - STAR\_OMPS\_subs.pm: Holds the common subroutines/utilities to DOGS
- One driver perl script : run\_DRK\_OMPS.pl
- Same code handle both Nadir Profiler and Nadir Mapper: only the setup differs

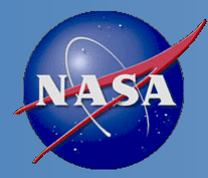




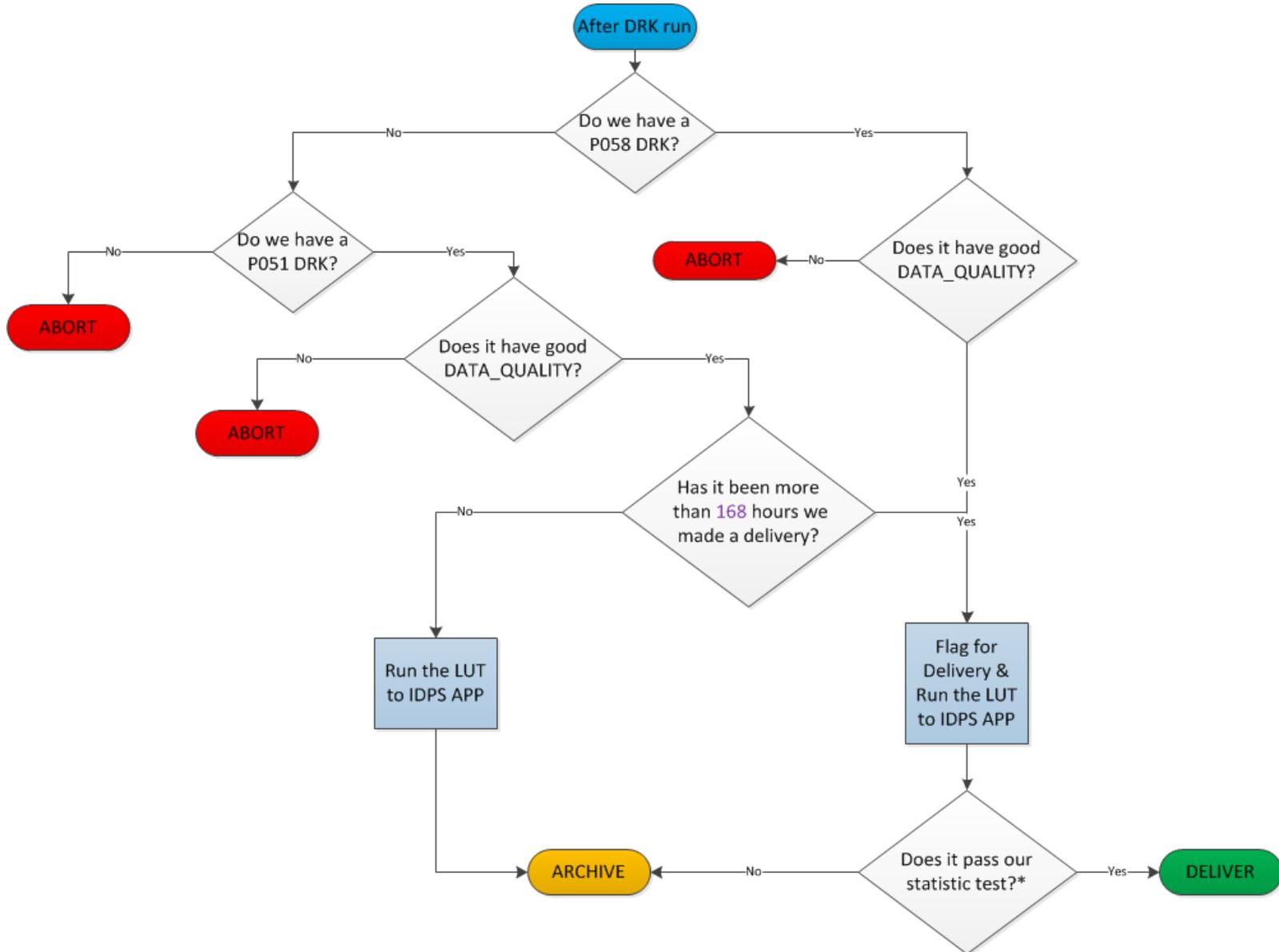
# DOGS Data & Execution Flow (2/2)

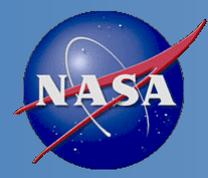


- It will be run in GRAVITE for every orbit and delivery will be made once a week, if possible on door closed measurement (for each sensor)
  - Additional testing:
    - DATA\_QUALITY checks are added throughout the process at each step
    - criteria set for approval :  $\text{CurrentWeekMean} \geq \text{LowerLimit}$  and  $\text{CurrentWeekMean} \leq \text{UpperLimit}$  with:
      - $\text{LowerLimit} = (\text{NP\_IDPS\_Temporal\_Mean\_Diff} - 3.0 * \text{NP\_IDPS\_STD})$
      - $\text{UpperLimit} = (\text{NP\_IDPS\_Temporal\_Mean\_Diff} + 3.0 * \text{NP\_IDPS\_STD})$
- The mean difference and Standard deviation are calculated over the past delivered LUT that were delivered within a week of each other



# Decision Tree for Delivery

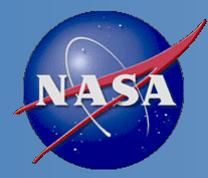




# Delivery Summary



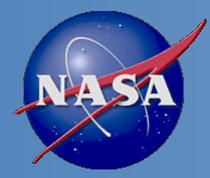
	Currently (NASA processed)	When DOGS is in GRAVITE
Delivery	Deliver only on door closed measurement	Deliver only on door closed measurement unless door closed has bad data -> deliver on door open measurement
If DRK mean test fails...	Still deliver bad data – only indicates in the approval letter that it is not falling within the criteria set for approval and further investigation is needed	Won't deliver the failed run ; will pick a good run on door open in the next 12 hours
Delivery Frequency	Update possible only once a week	Running for every orbit ; could deliver more often



# DOGS Implementation Status



- We show absolutely no difference between the DOGS produced DRK LUT and the NASA/SIPS one (given the same inputs)
- GRAVITE successfully tested the library installations and the official unit test version for NP on their test system (also showing no difference at all)
- Live data stream outlined and implemented – available after the next GRAVITE update provided the development team conducts a successful test on their final system
- Official NP “live” version delivered to STAR/ASSISTT last week and successfully tested by STAR/ASSISTT along with documentation and PGE Integration Form
- TC “live” version just implemented and tested at STAR/OMPS SDR – delivery to ASSISTT later this week
- Ongoing discussion with IDPS & DPES to plan for test period and ultimately aiming to simplify the delivery process to IDPS
- Block 2.0 compatible (with flag)



# Thank You...



## Thank You...



## Any Questions?...