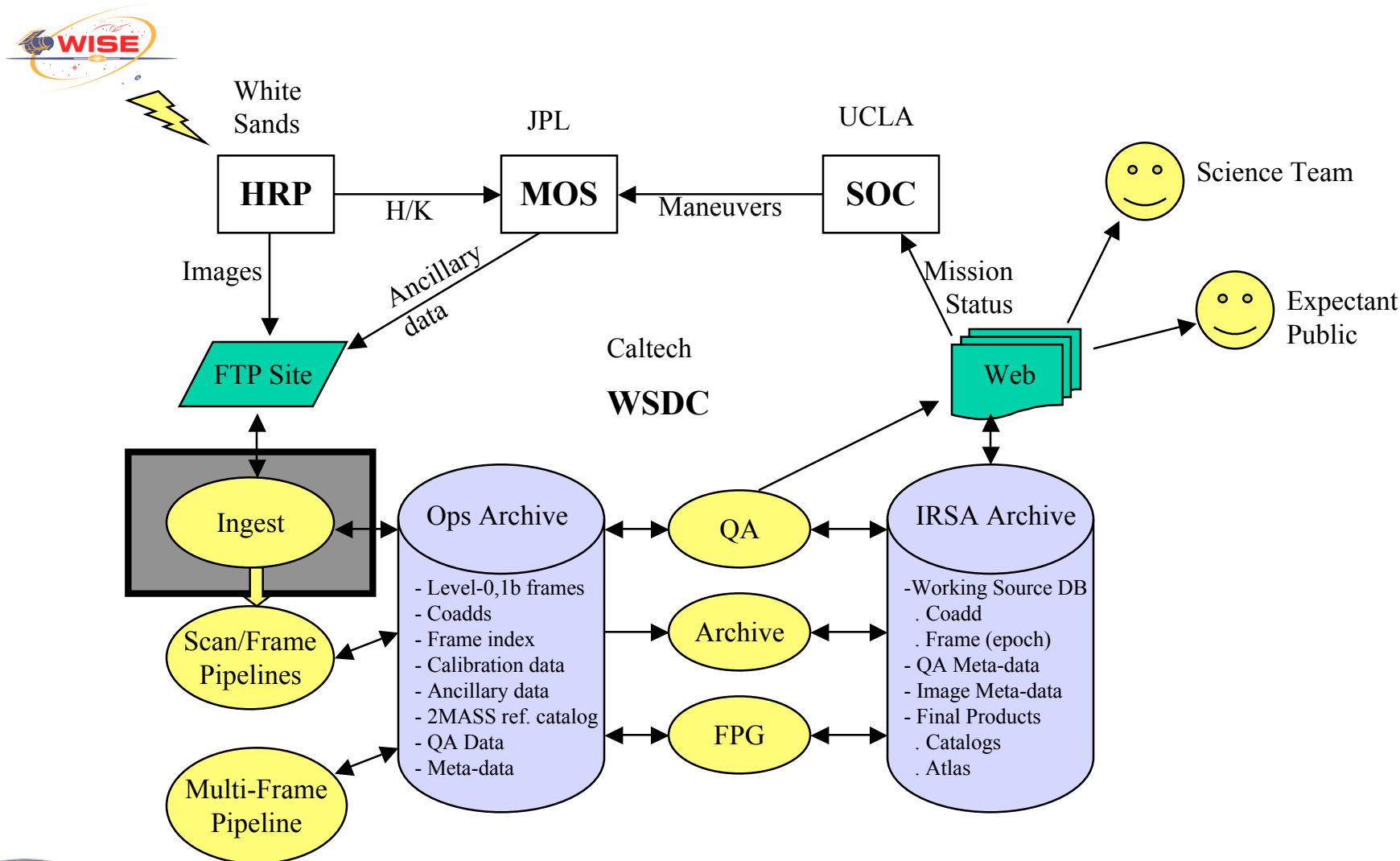


Ingest Subsystem

Tim Conrow
IPAC



WSDC Functional Block Diagram





Driving Requirements



- Key WSDC System Level Functional Requirements
 - Ingest functions
 - Create Level-0 archive (L4WSDC-29)
 - Decompress
 - Depacketize
 - Make FITS files
 - Correlate with ancillary data
 - Create ancillary data archive (L4WSDC-33)
 - Validate data (L4WSDC-35)
 - Notify MOS of receipt (L4WSDC-36)
 - Throughput and Latency
 - Data volume: 25GB/day (L4WSDC-30), 50GB/day peak (L4WSDC-31)
 - 6 months of data acquisition (L4WSDC-82)
 - Quicklook: QA report within 24 hours (L4WSDC-32)
 - Ingest+Scan/Frame Pipelines: Level-1 available within 3 days (L4WSDC-34, L4WSDC-39)





Overview



WSDS Design

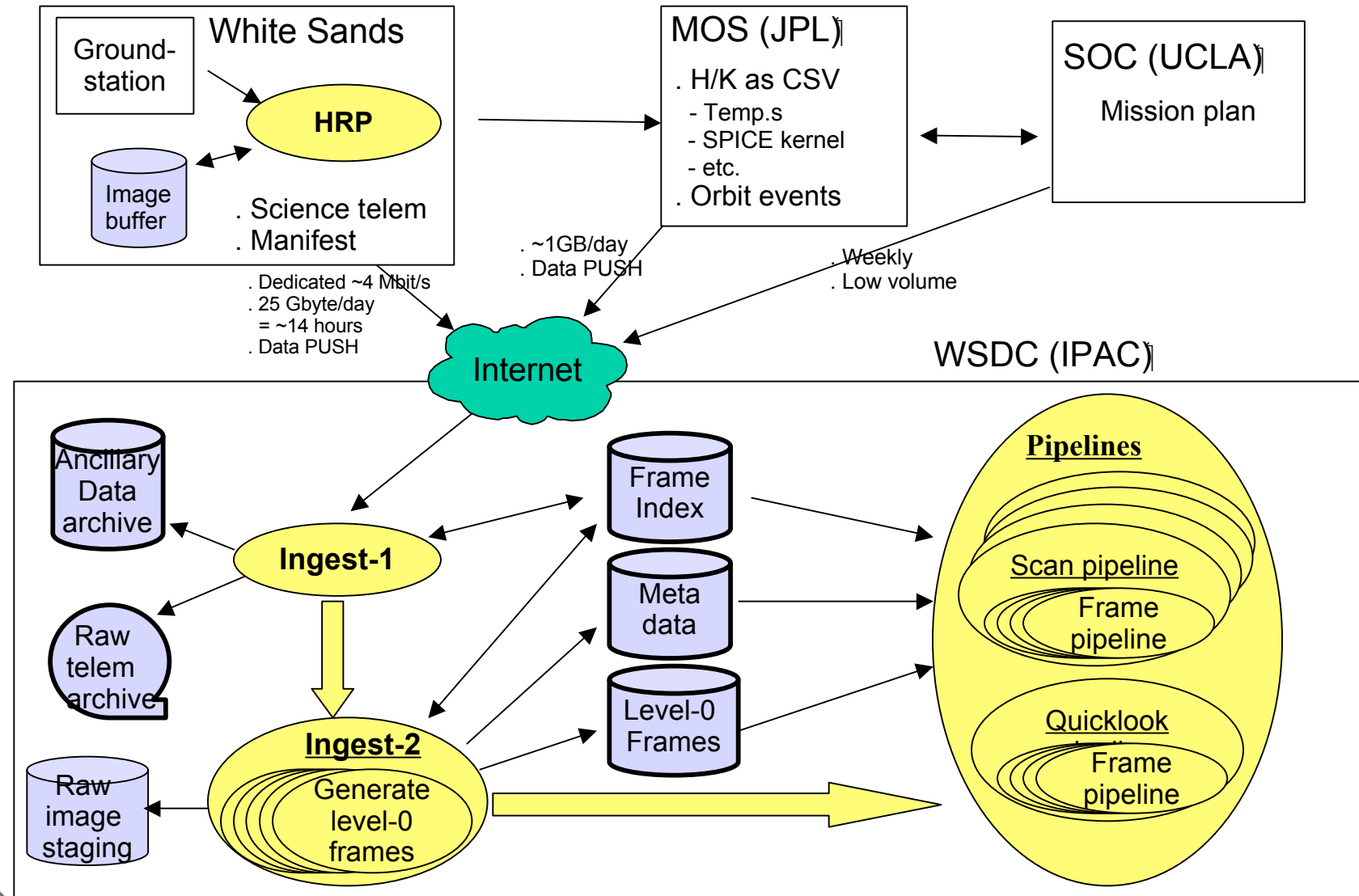
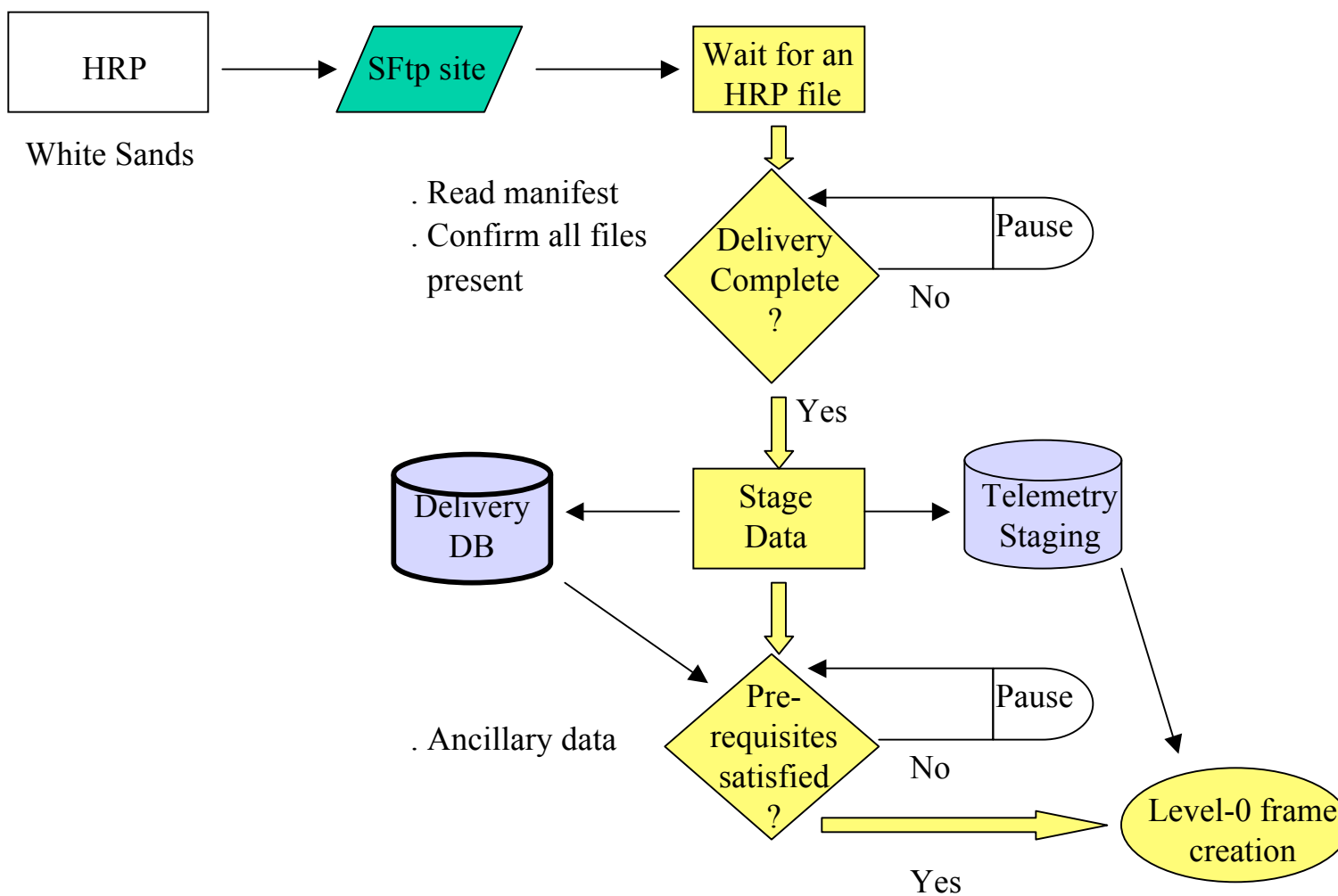


Image Telemetry Receipt

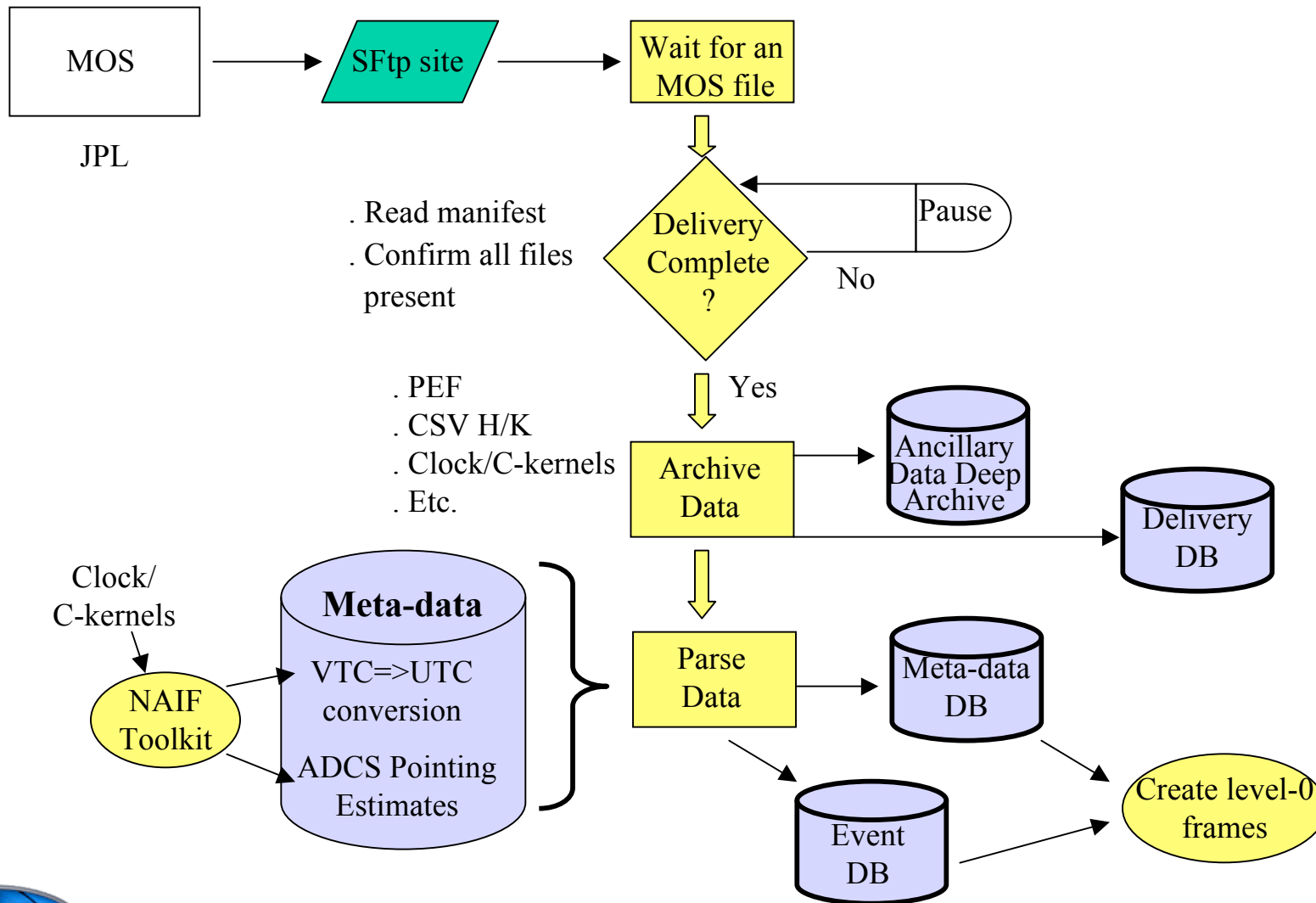




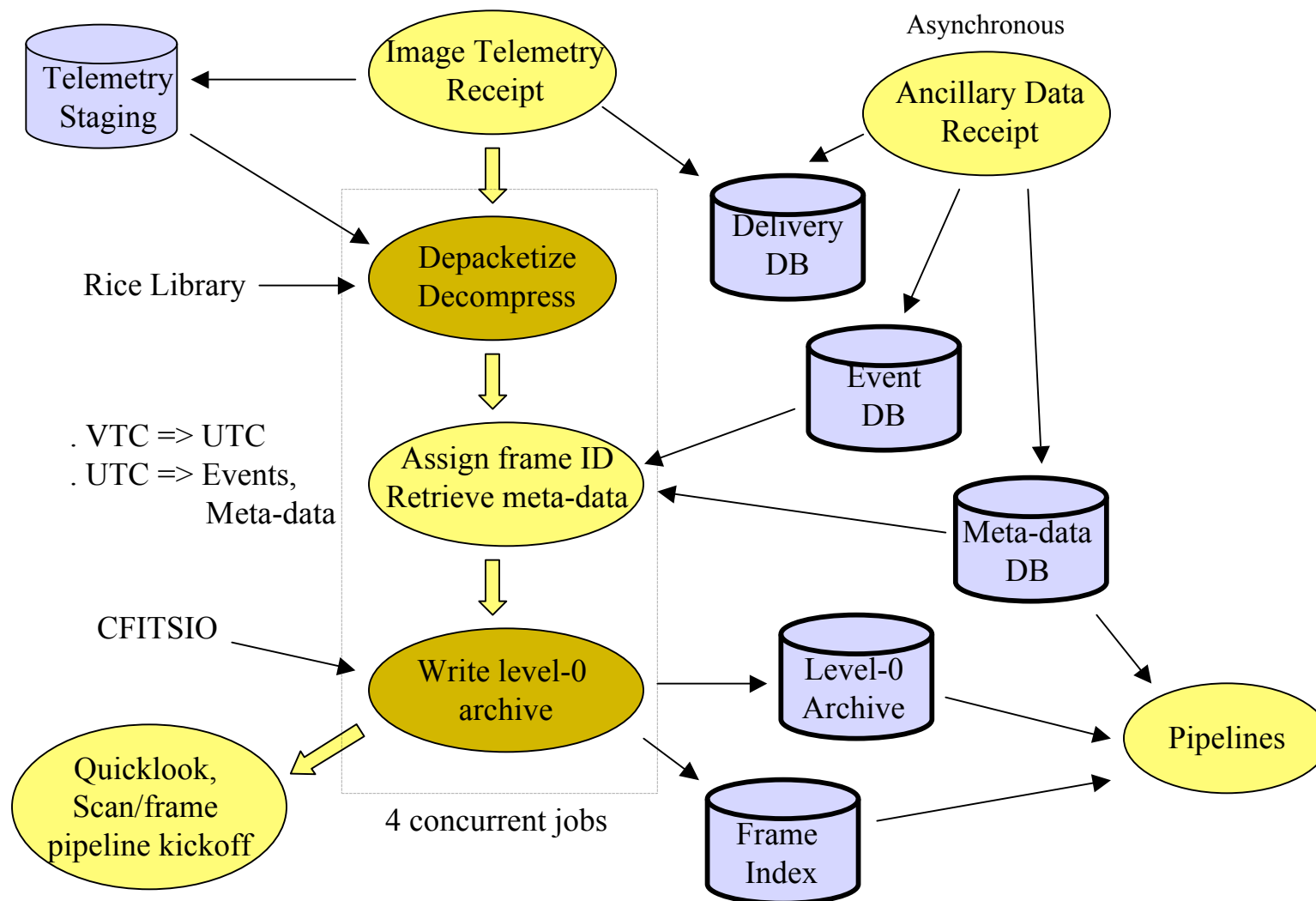
Ancillary Data Receipt



WSDS Design



Level-0 Frame Creation

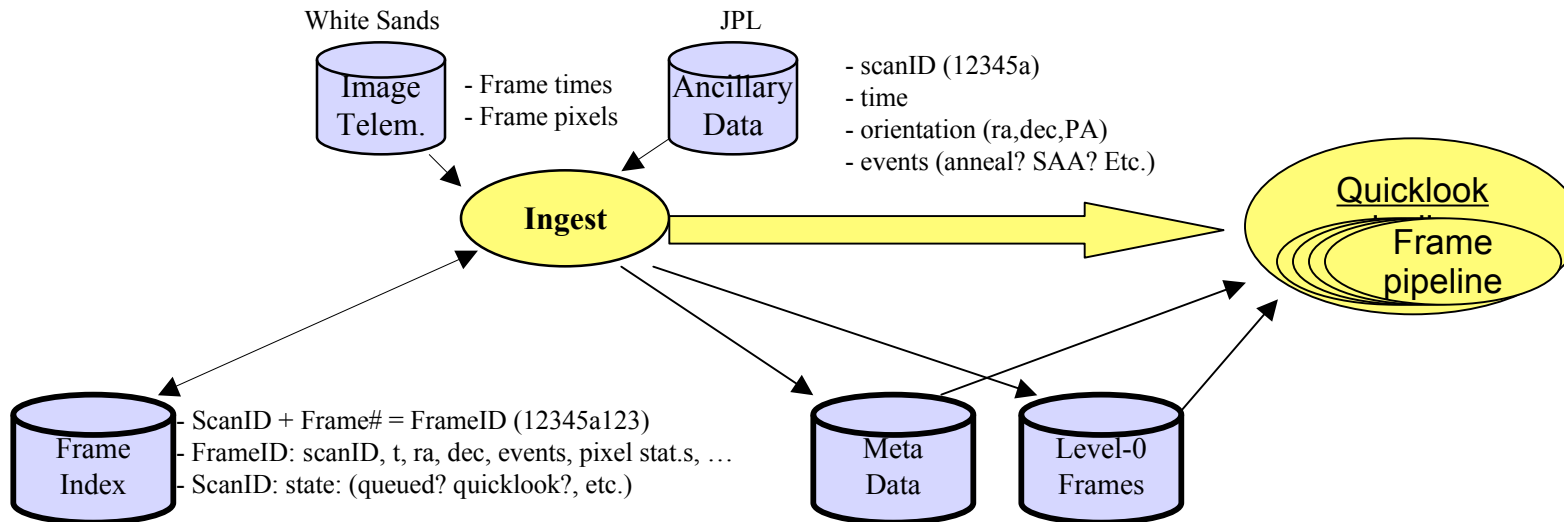


Frame Index

- Used for
 - Deciding on completeness of a scan
 - Frame searches
 - Position, time, grade (Coadd)
 - Position, time, image stats, events, grade (dynamic ICal)
 - Delivery, time, image stats, events, grade (Quicklook)
 - Scan (QA)
- Columns (* = indexed)
 - Identification: vtc*, utc*, deliv_id*, scan_id*, frame_num, frame_id*, band
 - Delivery: deliv_utc*, deliv_sz, deliv_file, level0_file
 - Position: ra_raw, dec_raw, pa_raw, ra_raw, dec_raw, pa_raw, hpbin_coarse*, hpbin_fine*
 - Events: orbn, saa_stat, sci_stat, anneal_stat, anneal_dt, frame_dt, tdrss_dt
 - Image stats: ave, min,max,med, sig, psig, p1, p5, p16, p84, p95, p99, p999, etc.
 - Other: hk_utc, pipe_rel, pipe_utc, pipe_stat, ingest_grade, qa_grade



Quicklook Kickoff



- Choose frames for quicklook processing based on info in the frame index
 - In current delivery
 - Position (away from GP, LMC, etc.)
 - Events (away from SAA, anneals, etc.)
 - Image statistics (normal looking pixel histogram, normal source density)
 - Etc.

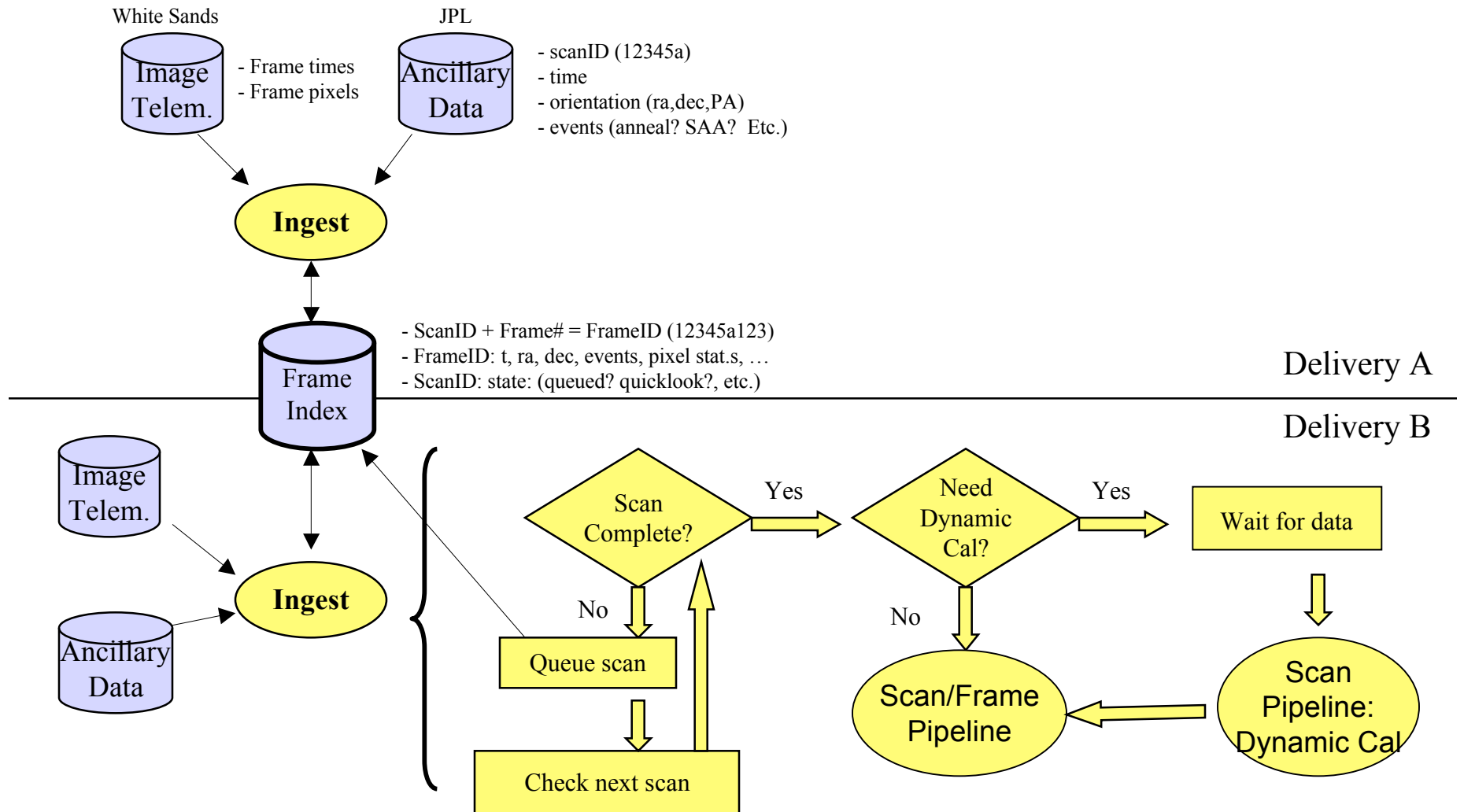




Scan Pipeline Kickoff



WSDS Design



Schedule

- WSDS v0: Oct. 15 '07
 - Prototype: depacketize, decompress, FITS files
- WSDS v1: July 17 '07
 - Prelim: depacketize, decompress, FITS files
 - Prototype: image/ancillary receipt, frame index,
delivery/event/meta-data DBs, kickoff logic
- WSDS v2: Feb. 28 '09
 - Complete: All
- WSDS v3: Aug. 4 '09
 - Mature: All
- WSDS v3.5: Jan. 26 '10
 - No change
- WSDS v4: Oct. 18 '10
 - No change