NCH - PEDMATCH

Integration Overview, v1.0-draft

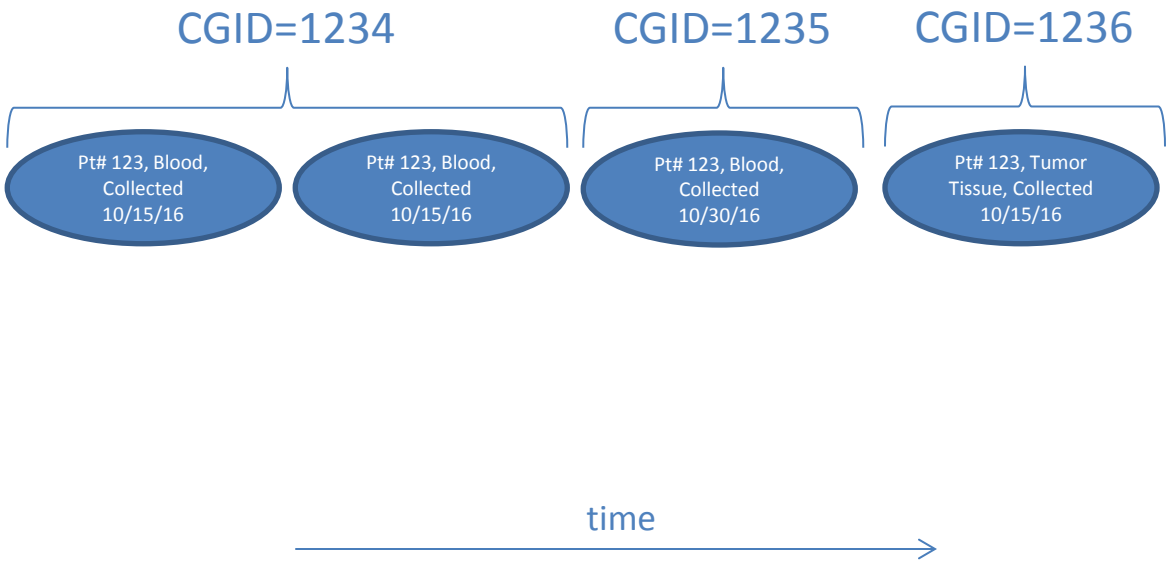
Last revised, 5/9/2016, ESK

Terminology

- Collection Grouping ID (“CGID”)
  - Shared by specimens of a given type taken from a patient in one encounter/surgery/draw/etc.
  - Same CGID means specimens are “equivalent” from a PED-MATCH standpoint
  - Specimen messages sent to MATCHBOX will include the CGID
  - CGIDs will be “inherited” by the various aliquots/derivatives from the original specimens
  - Specimens obtained through follow-up requests by BPC (e.g., inadequate/insufficient received) will keep the original CGID if specimens are known to come from the same original encounter/surgery/block/etc.

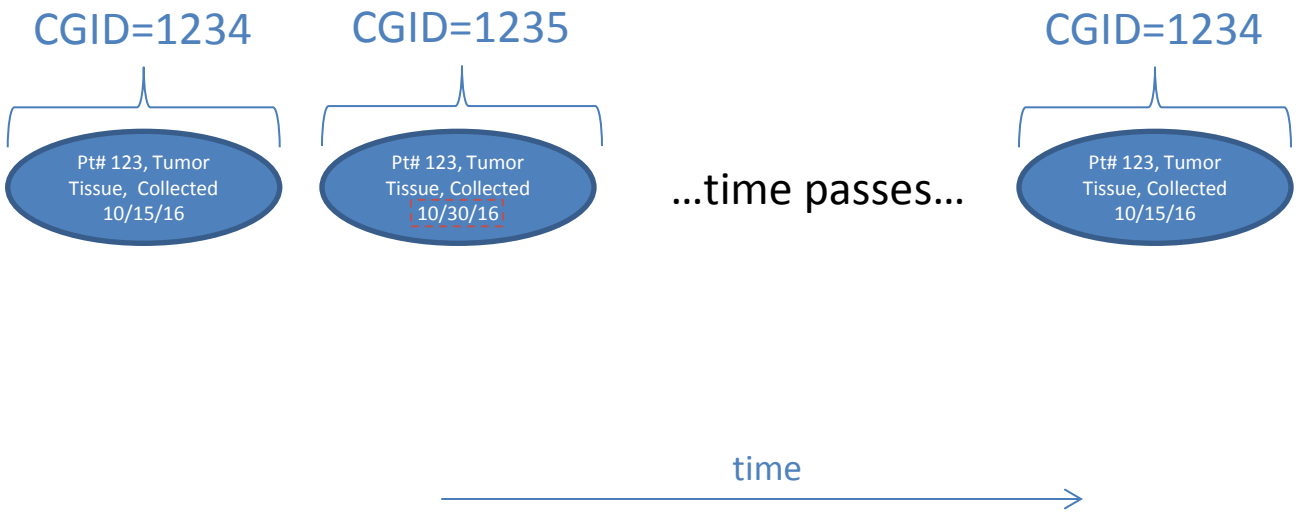
Collection Grouping Examples

- Scenario 1
  - First two specimens grouped together because attributes match ("equivalent" from PED-MATCH standpoint); New (shared) CGID
  - Third specimen was collected separately from first two; New CGID
  - Fourth specimen differs by type; New CGID



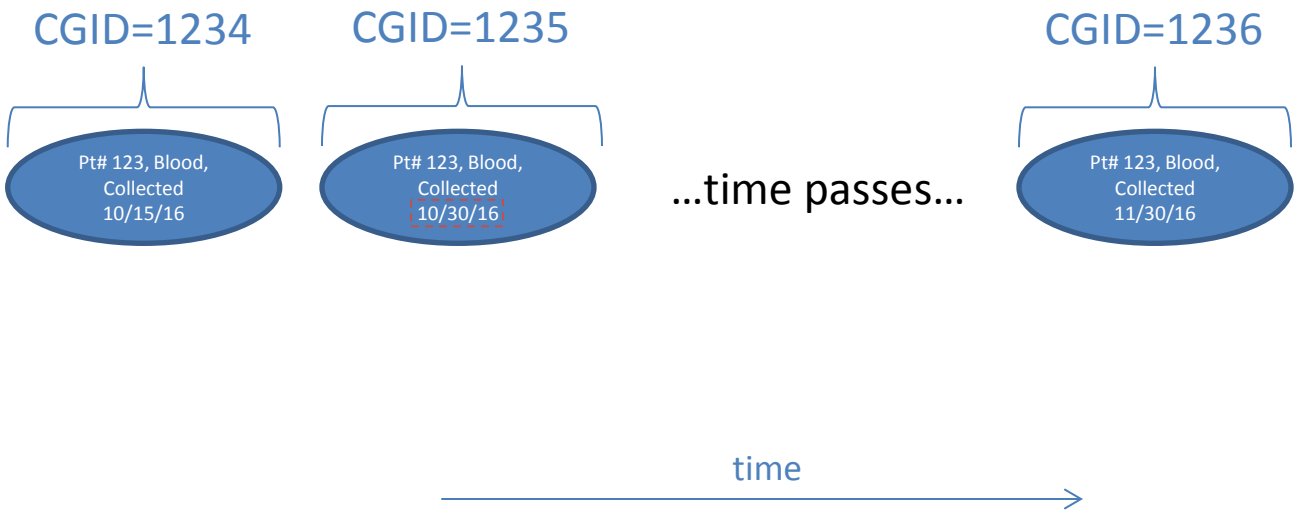
Collection Grouping Examples

- Scenario 2
  - First two specimens differ in collection date; Each receives a unique CGID
  - Third specimen—though arriving at the BPC days later—reuses the first specimen's CGID since they are "equivalent" from a PED-MATCH standpoint
    - Late-arriving specimens (e.g., delays in shipping/accessioning)
    - Cases where BPC requests additional portion of existing specimen (e.g., inadequacy) and site is able to indeed provide more from that original specimen



Collection Grouping Examples

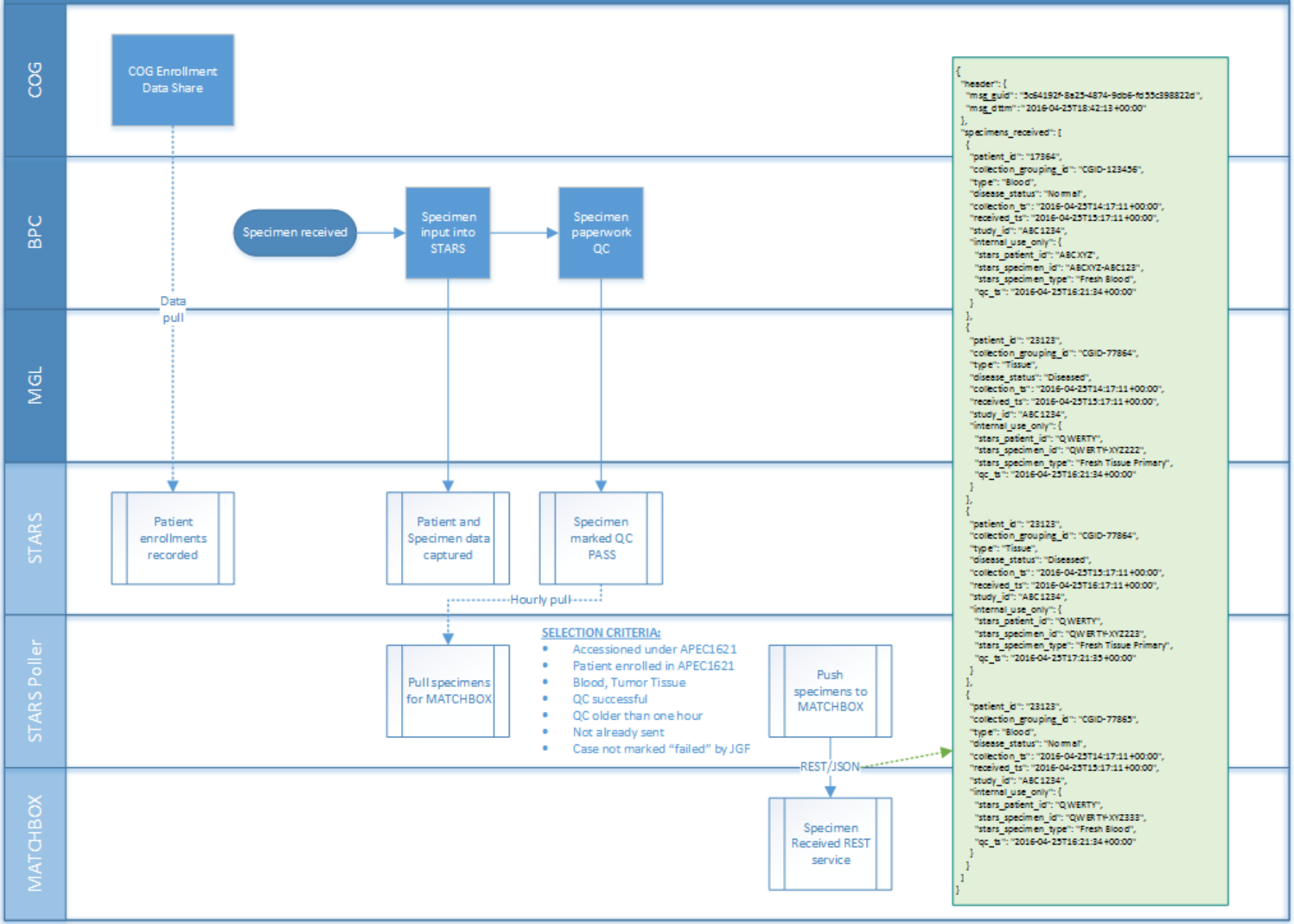
- Scenario 3
  - First two specimens differ in collection date; Each receives a unique CGID
  - Third specimen arrives at the BPC days later but does NOT reuse the first specimen's CGID since they are not from the same collection and thus not "equivalent" from a PED-MATCH standpoint
    - Cases where BPC requests additional portion of existing specimen (e.g., inadequacy) but site is unable to provide more of the original specimen, instead substituting from another specimen/draw/etc.



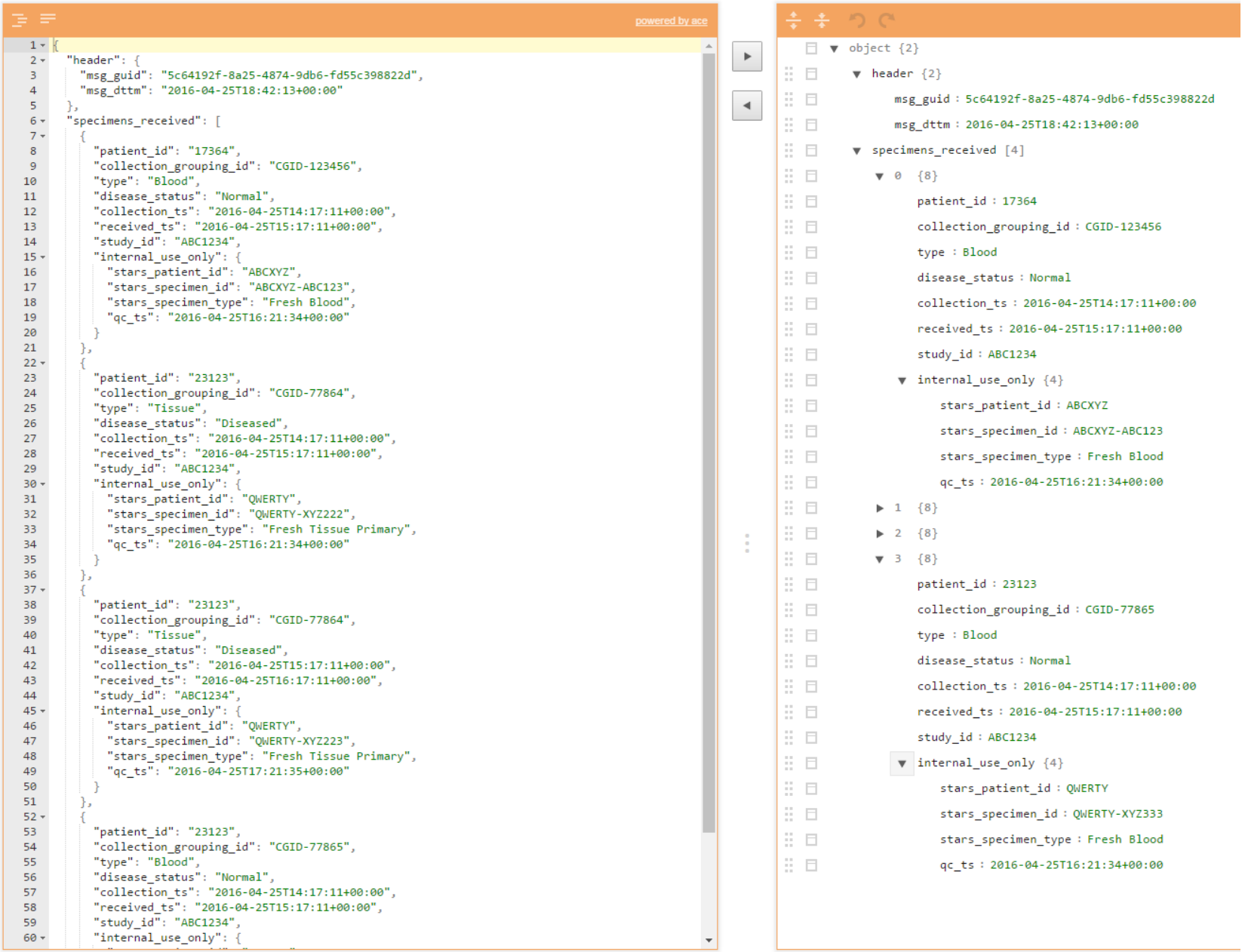
“Specimen Received” Integration Message

- **DIRECTION**: Outbound from BPC to MATCHBOX
- **TIMING**: Sent when new specimens of interest are detected in STARS
  - Specimen is accessioned under APEC1621
  - Patient is enrolled in APEC1621
  - Specimen type of Blood or Tumor Tissue
  - Accessioning paperwork QC is successful
- **CONTENT**:
  - Technical Message Headers (*msg_guid*, *msg_dttm*)
  - List of specimens
    - PED-MATCH attributes (*patient_id*, *collection_grouping_id*, *type, disease_status, study_id, received_ts, collection_ts*)
    - Additional (troubleshooting) attributes (*stars_patient_id*, *stars_specimen_id*, *stars_specimen_type*, *qc_ts*)
  - Timestamps conveyed in GMT/ISO-8601

BPC / PED-MATCH – Process and Integration Overview – Specimens Received (Success)



“Specimen Received” Integration Message

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To be continued…

- Definition of specific attributes for grouping specimens for CGID derivation
- Semantics and messaging scenarios for “specimen failed” messaging

GitHub Repo

- Public repository
- Read-only access to NCH design documents, sample messages, etc.
- Supports versions and branching
- https://github.com/NCH-BPC-Informatics/pedmatch-arch-docs