HPDI Solution Blueprint L1

Architecture Diagram

Updated 03/26/2021

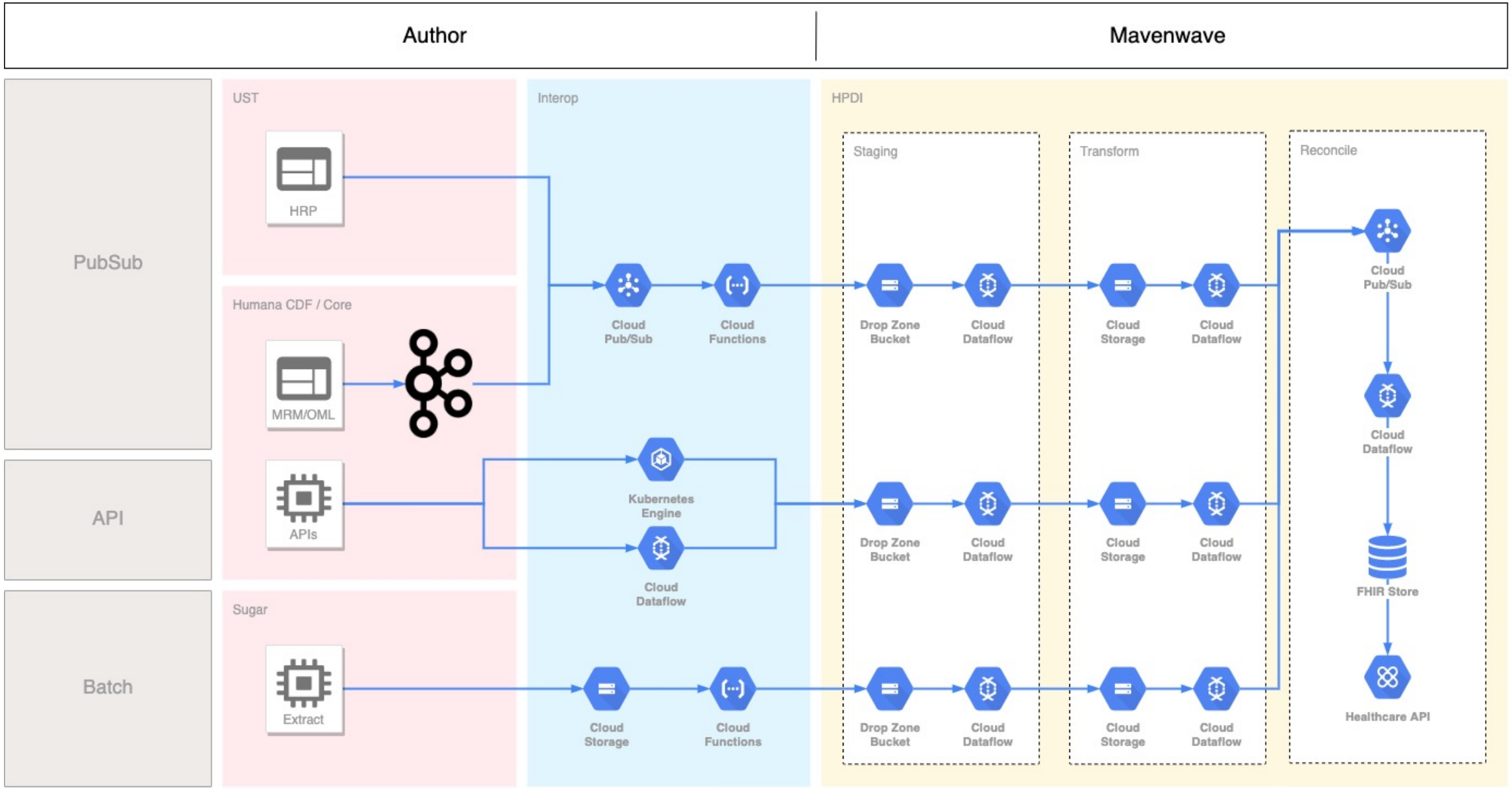
Change log

Date	Author	Description
2021-03-26	Tim Doyle	Initial

Ingestion Patterns

Name	Type	Status
HRP Publications	PubSub	In Progress
MRM Publications	PubSub	In Progress
Sugar Data	Batch	In Progress
Rx EOB API	API	In Progress
Observation API	API	In Progress
Drug Formulary	API	Not Started
OML	PubSub	Not Started
TBD: Nexus	PubSub	Not Started
TBD: NPPES	Batch	Not Started

HPDI Ingestion and Drop Zones



Drop Zone Details

- Each GCS drop zone bucket follows the naming convention:
  - {data_source}.{data_type}.dz.{env}.{domain}

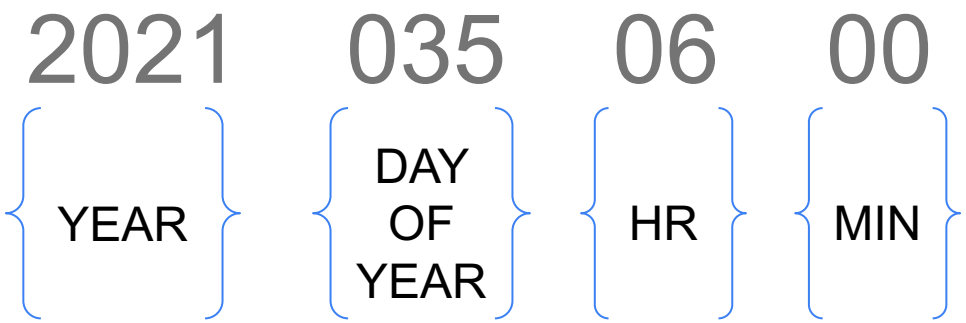
- Files are copied into the drop zone bucket into batch folders:
  - {data_source}.{data_type}.dz.{env}.{domain}/{batch_number}

- Once all the files are ready to be processed, a sentinel file called COPY-SUCCESSFUL is created in the bucket

- Example:
  - hrp.patient.dz.dev.authorbyhumana.com/20210350745

Batch Folder Naming

- Each batch folder name must be unique for that batch
- Proposing to use a date/time derived format to be consistent across all drop zone buckets
- Daily and Hourly imports



* Note: Date/Time should be in UTC to avoid issues with Daylight Savings Time

File naming conventions

- Batch Files
  - {data_type}-{YYYYMMDD}.csv
- PubSub to JSON/NDJSON files
  - {data-type}-{messageId}.json
  - {data-type}-{uniqueIdentifier}.ndjson
- API to JSON files
  - TBD
- Note: filenames are case-sensitive

PubSub to Batch

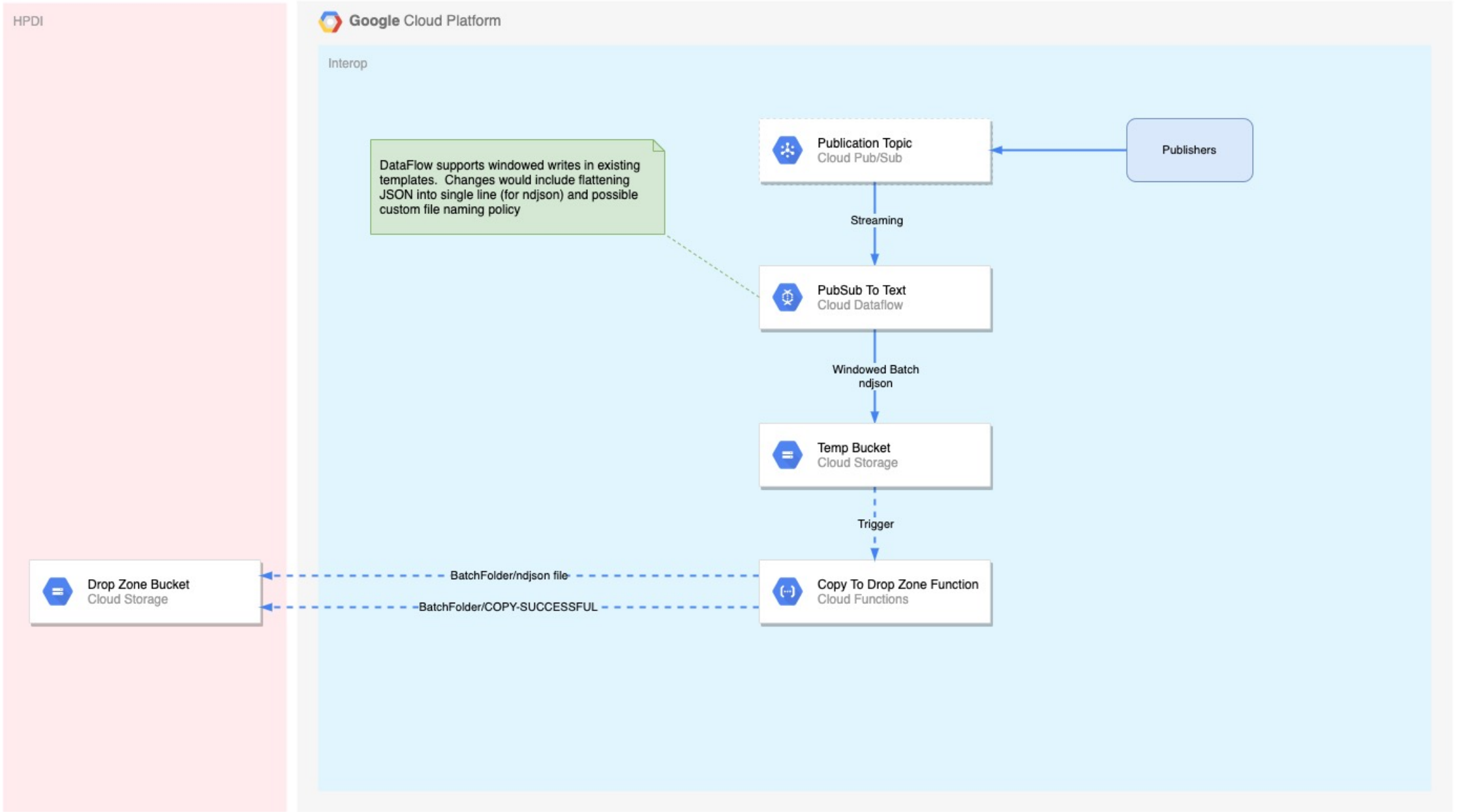
PubSub to GCS

HPDI currently only supports GCS batches

- PubSub Messages must be collected and written to batch folders
- Once a batch is ready, the COPY-SUCCESSFUL sentinel file must be written into the batch folder

Each COPY-SUCCESSFUL will trigger a new batch pipeline execution

- Each batch pipeline execution will require cold-start and resource allocations
- Writing COPY-SUCCESSFUL multiple times will result in multiple executions of the same batch
- The batch process takes a snapshot of the objects in the batch folder at start of execution, so any additional files added after the start will not be processed

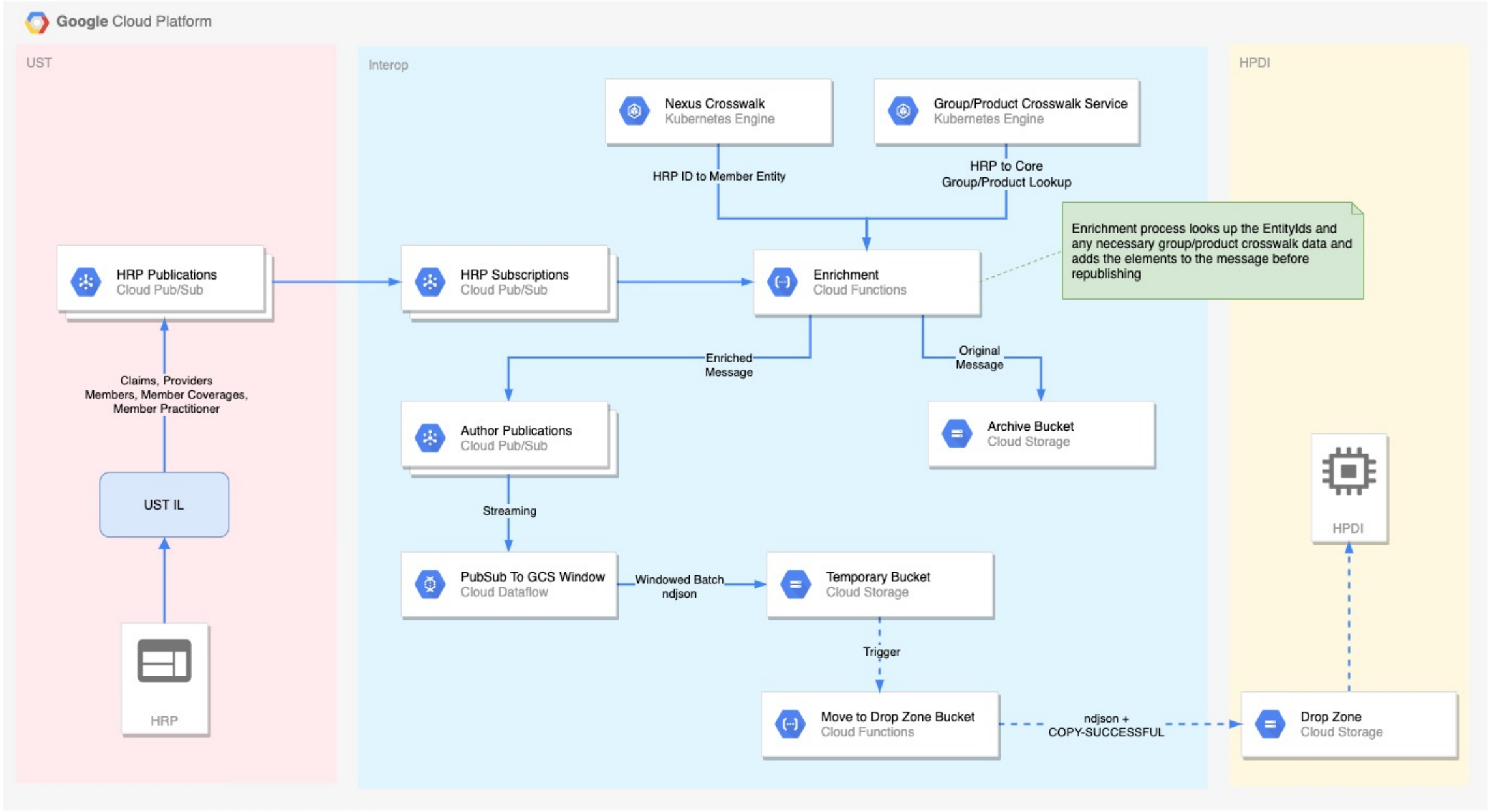


HRP Publications

HRP Publications

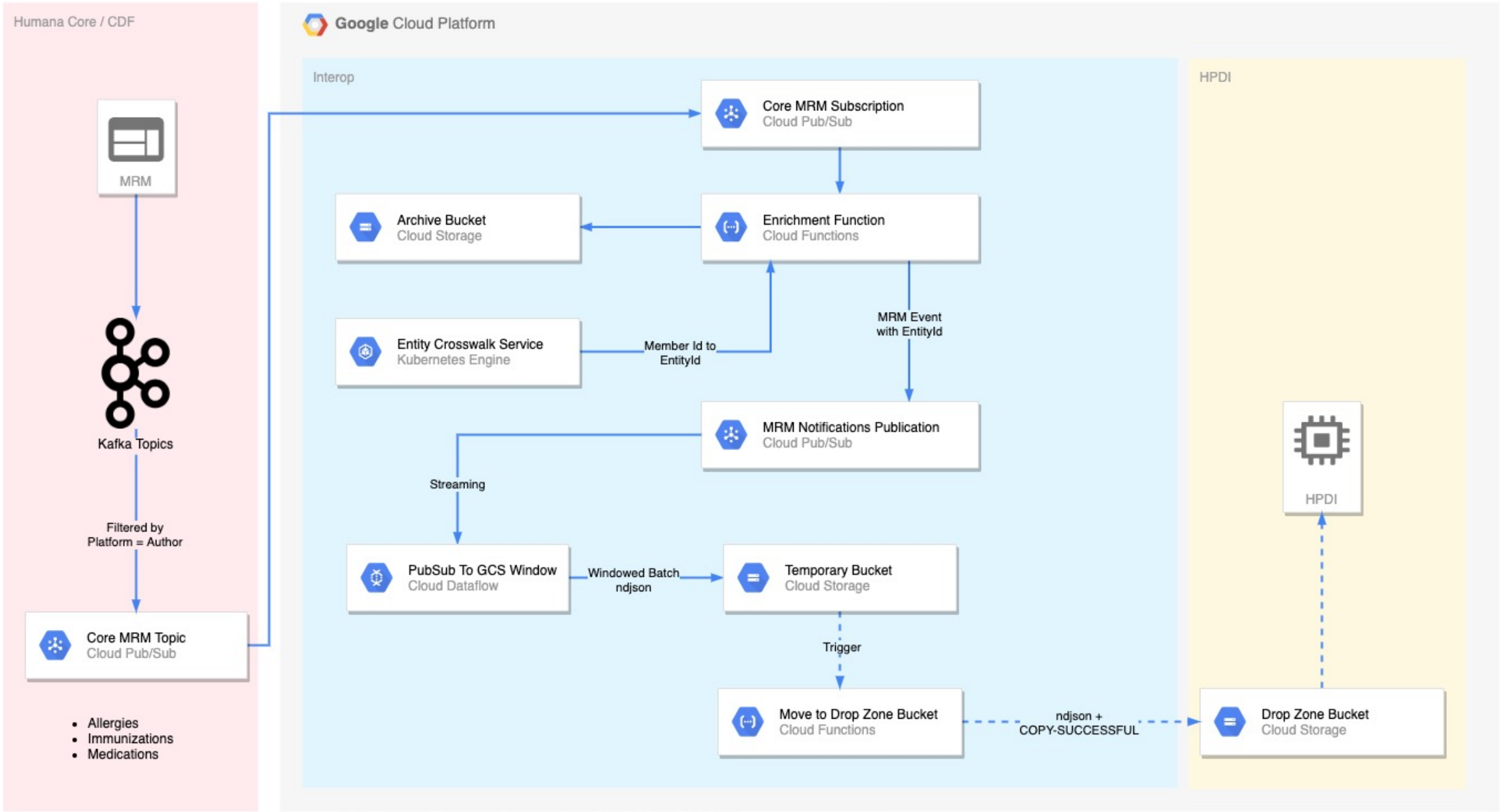
Subject	Status	Member Entity	Subscriber Entity	Group/Product
Claims	Existing	X	X	X
Provider	Existing			
Member	New	X		
Member Coverage	New	X	X	X
Member Practitioner	New	X		

Assumption: UST will be creating the new member publications



MRM Publications

HDPI Extracts Solution Blueprint L1 > MRM Publications



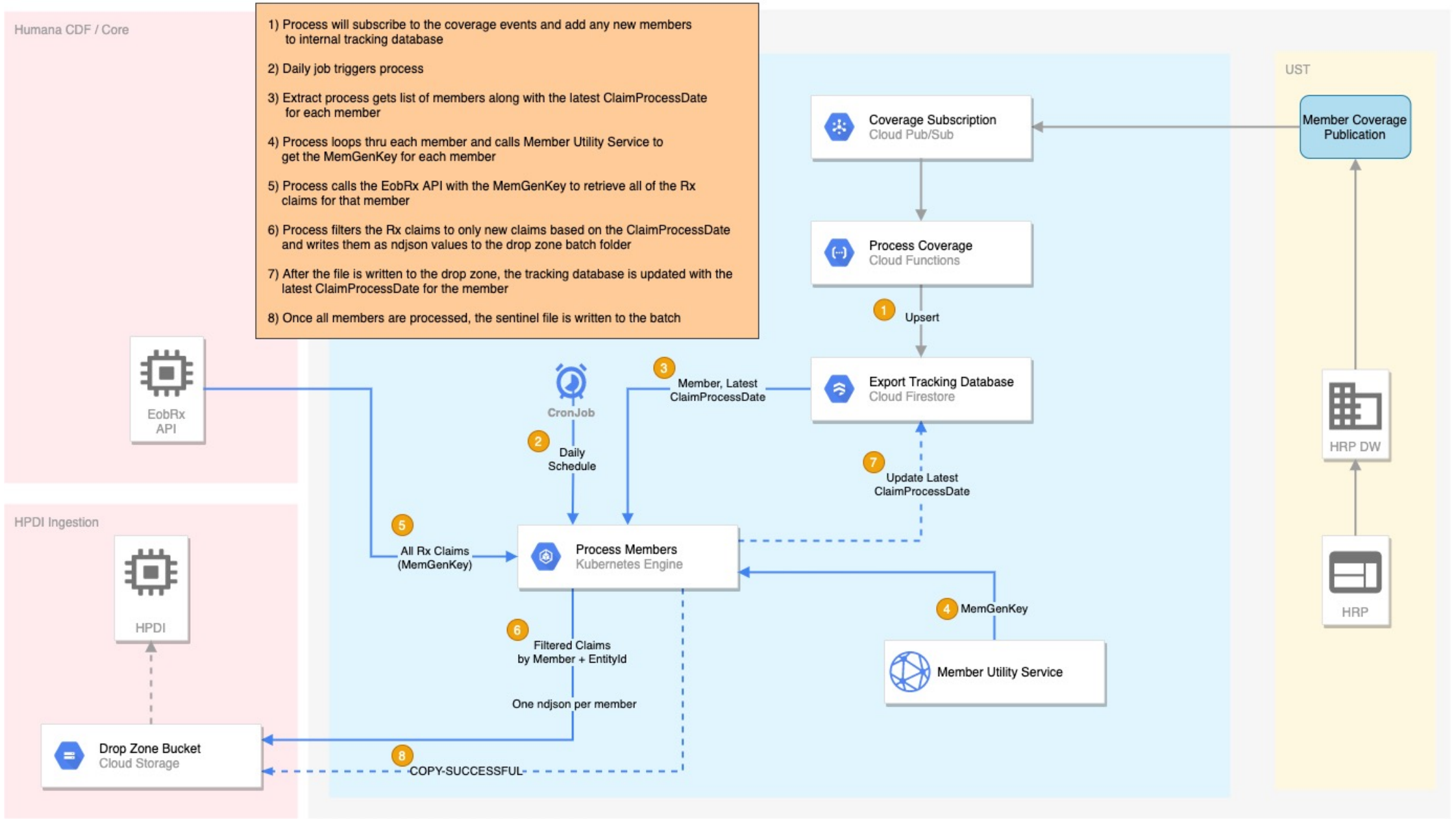
MRM JSON Structure

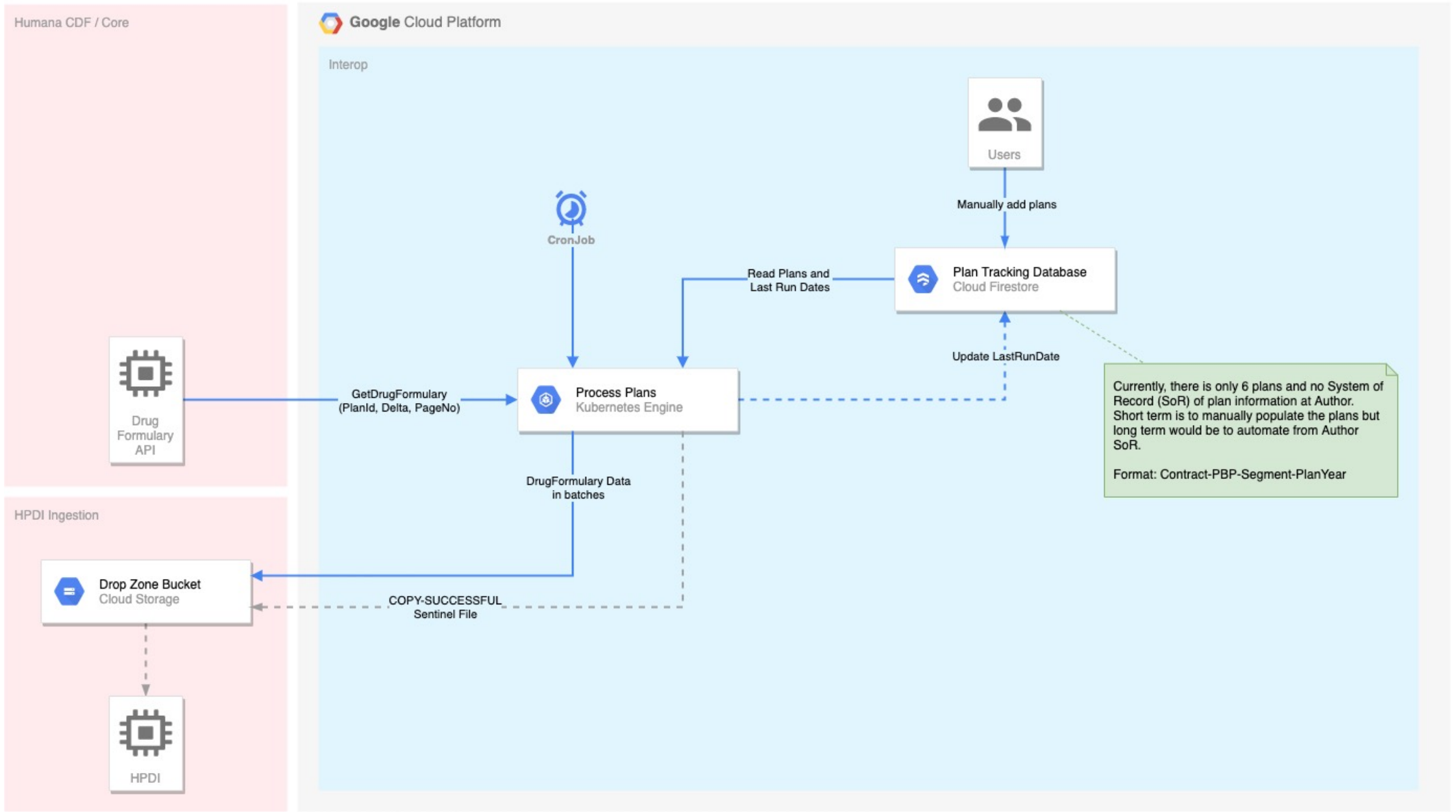
```
{
    ….,
    "MemberDetails": {
        "Platform": "Core",
        "MemberId": "3348145*0",
        "MemberGenKey": 12345678
    },
    ….
}
```

- CDF will filter based on “Platform”
- Interop will be looking up Member EntityId based on MemberId and adding to JSON

API Extracts

HDPI Extracts Solution Blueprint L1 > Rx Claims Extract





Sugar Batch