VT Pipeline DC1 integration

1. Import VT VHF packets

- To upload the packets from VHF-PKT-DB use the `curl` interface (see Andrea's presentation). This automatically generates the decoded packet in JSON:

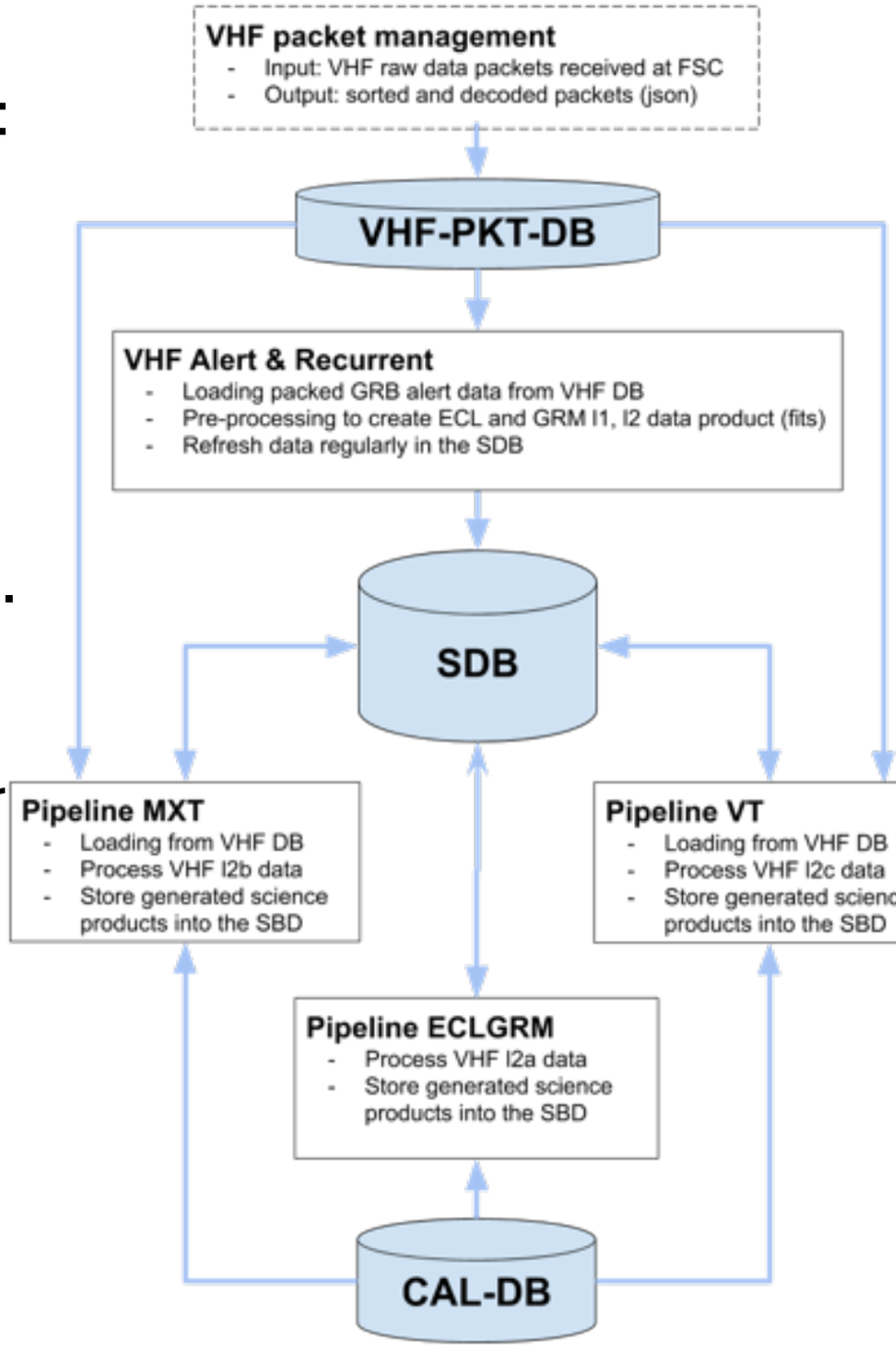
```
$ curl -H "X-VHF-PktFormat: decoded" "https://svom-vhfmgr.lal.in2p3.fr/api/vhf/
packet/search?by=obsid:5001,apidname:TmVhfVtAttChart,obsid:
5001&sort=insertionTime:ASC" | json_pp > TmVhfVtAttChart_5001_decoded.json
```

- As query parameters use **apid** and **obsid**.

- The **apid** name is a packet identifier defined by CNES.

- Currently in the VHF-PKT-DB, there are 7 packets for the VT VHF sequence but without any VT content. For the GET test use **obsid**=5001 and following **apid**:

1. `TmVhfVtAttChart`
2. `TmVhfVtFindChartR`
3. `TmVhfVtFindChartV`
4. `TmVhfVtFindChartVR`
5. `Vhf1SubR1` (get using **obsid**=5002)
6. `Vhf2SubR1`
7. `Vhf1SubR2`



2. VT VHF packets

- Recent updates of VT packet descriptor by CNES take into account the VT packet template sent by Yulei. The new **apid** will be then:

```
1.TmVhfVtAttChart
2.TmVhfVtFindChart
3.TmVhfVtSubIm1B
4.TmVhfVtSubIm1R
5.TmVhfVtSubIm16B
6.TmVhfVtSubIm16R
7.TmVhfVtRec1
8.TmVhfVtRec2
```

- VT side needs to send a JSON file filled with a formatted VT content to Henri Louvin for VHF encoding.

- The encoded packet will be injected in the VHF stream to be received by the VHF packet management service.

3. VT Product

- The Product Database (PDB, http://svom.iap.fr) is dedicated for CP product specifications.

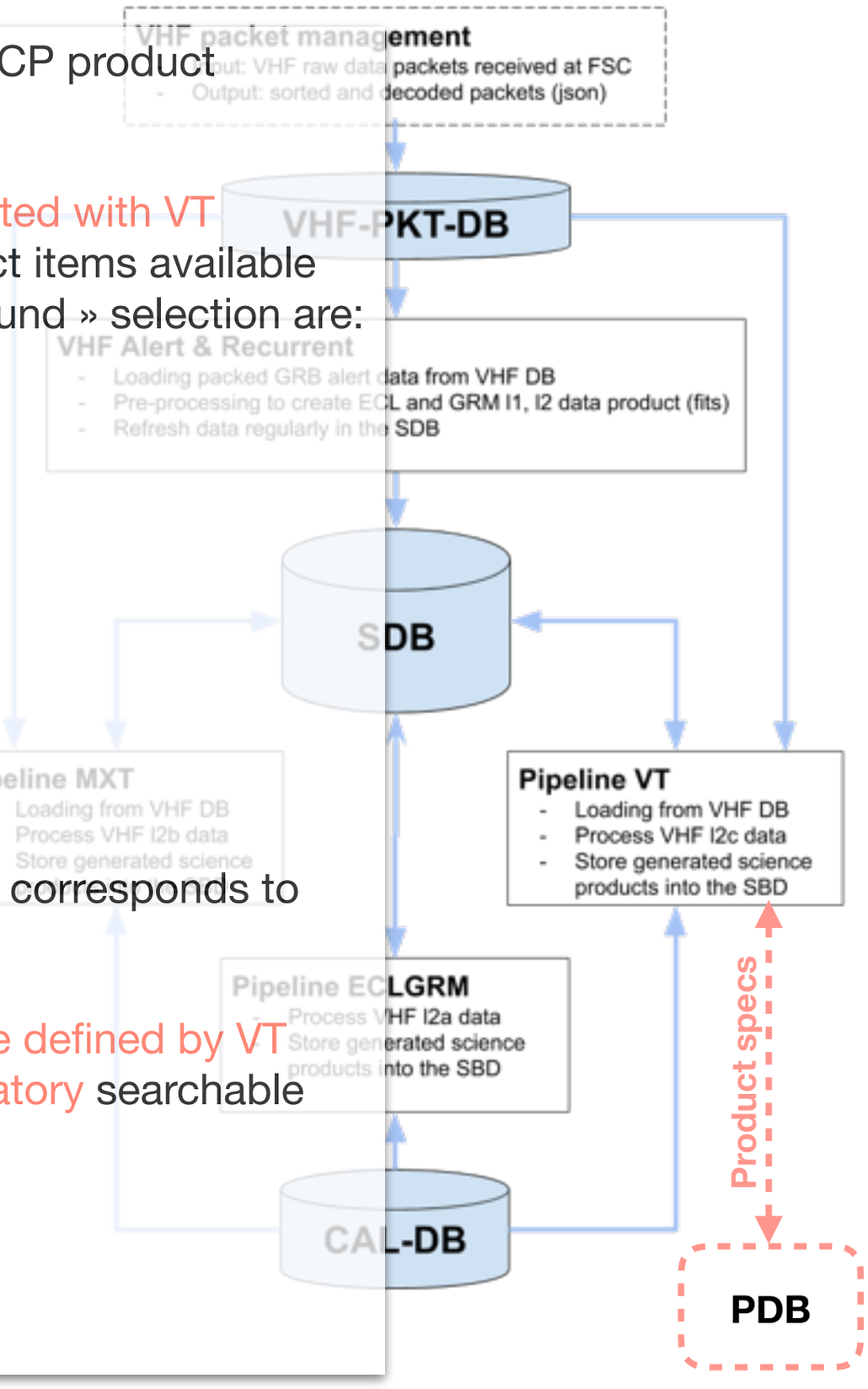
- VT side needs to check and confirm the input/output for associated with VT products in the PDB are up-to-date. Currently, there 9 VT product items available for the « near-real time from VHF data or automatic link from ground » selection are:

    1. QSRCLIST_VT
    2. QPO_VT
    3. DT_VT
    4. QF_VT_R
    5. QF_VT_B
    6. QLC_VT_R
    7. QLC_VT_B
    8. QTI_VT_R
    9. QTI_VT_B

- The output product is decided to be in FITS format, one product corresponds to one FITS output.

- The specific keywords (KWs) related to the VT product should be defined by VT team, the common mission KWs will be defined later. The mandatory searchable KWs for an export into the Science Database (SDB) are:

    ‘CARD’ / Product name
    ‘OBS_ID’ /Observation identifier



4. Export to the SDB

- The VT product in FITS format with a appropriate keywords card (*see mandatory KWs*) to be exported by curl interface into SDB (*keep in mind the SDB address will be updated soon*):

```
$ curl --form product=@./YOURproduct.fits https://svom-sdb.lam.fr/import/v0/add_product
```

- Before export, be sure that SDB is up-to-date with the definition of your product in PDB.

6. CONTACTS

- **DC1 goals:**
    - Bertrand Cordier bertrand.cordier@cea.fr
    - Arnaud Claret arnaud.claret@cea.fr
- **VHF packets:**
    - Andrea Formica (VHF Packet Management) Andrea.Formica@cern.ch
    - Henri Louvin (JSON packets) henri.louvin@cea.fr
    - Marie-Claire Charmeau (VHF Packet Format) Marie-Claire.Charmeau@cnes.fr
- **CP production:**
    - Laurent Domisse (input/output Product PDB) domisse@iap.fr
    - Tatyana Sadibekova (interface VHF-PKT-DB/PDB/SDB) tatyana.sadibekova@cea.fr
    - Chrystel Moreau (SDB) chrystel.moreau@lam.fr
- **Integration:**
    - Jean-Paul Le Fevre (code quality test) jean-paul.lefevre@cea.fr
    - Henri Louvin (pipeline-bricks) henri.louvin@cea.fr

5. Pipeline integration method

- The **CP Pipeline** is a peculiar instance of the **`pipeline-bricks`** module
    - The tasks chain is described by a configuration file
    - The **REST** endpoints are exactly the same as any other **`pipeline-bricks`** instance
- Design guidelines
    - Standardisation
        - **REST APIs**
        - Message schemes
        - Keyword description
    - Development are achieved in order to be reusable within the FSC