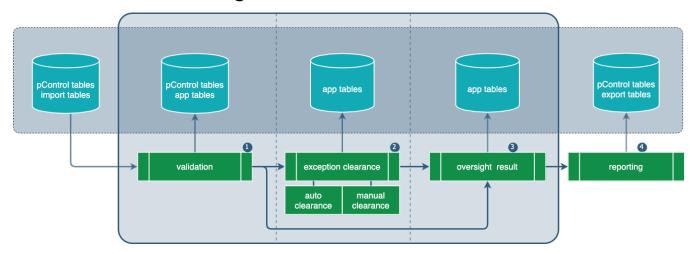
# **Application Data**



... describing common procedures on application data (data management)

# fund valuation oversight



#### 1. validation

- the business process of fund valuation oversight starts with loading the processed data from import and pContro/tables
- · NAV validations produce data outputs, including validation details, information of exceptions, and audit logs
  - validations: results of validations are saved in pControl tables
    - p200\_product\_valid
    - p202\_holding\_valid
    - p204\_transaction\_valid
    - p206\_entity\_valid
    - p208\_acc\_balance\_valid
    - p210\_capital\_flow\_valid
    - p213\_category\_valid
    - p215\_pending\_sett\_valid
    - p217\_multi\_leg\_master\_holding
    - p219\_fee\_validation\_details
    - p299\_validation\_detail
    - p900\_outage\_declaration
  - exceptions: exception records are assigned a status in its exception workflow
    - t330\_override\_event
      - "Not Validated" status is the start of status stream
    - this status is an initial state of exceptions, which have been raised and no analysis has been performed yet
  - audits: history of changes to exceptions (and validated prices later on) are saved in audit history table and users can view it through 'Audit' menu
    - t950\_audit\_log

### 2. exception clearance

- exceptions in fund valuation oversight processes can be resolved both automatically and manually
  - auto clearance
    - users can choose to automatically clear the exceptions for their fund oversight (done by Rules Engine that defines
      procedures for auto clearance)
    - users can see commentaries on auto cleared exceptions (shown with the "Auto Cleared" text at the beginning of comment)
    - the workflow for auto cleared exceptions has the below order (status stream changes)
      - a. from "Not Validated" status to one of the following statuses: "Auto Cleared", "Proposed Auto Cleared", and "Auto Cleared (Reviewed)" status
        - users can select either "Auto Cleared" or "Proposed Auto Cleared" status per fund
      - b. "Auto Cleared" an end state of exceptions, which have been auto cleared
      - "Proposed Auto Cleared" an intermediate state of exceptions, which have been auto cleared and will require
        a review
      - "Auto Cleared (Reviewed)" an end state of exceptions, which have been reviewed (only for the case of "Proposed Auto Cleared" status)

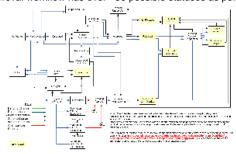
#### · manual clearance

- · users will manually clear the exceptions (or the remaining exceptions after the auto clearance)
- users will add commentaries to the exceptions that they have manually cleared
- the workflow for manually cleared exception is changed by users (the below status stream)
  - a. from "Not Validated" status to one of the following statuses: "Proposed Validated", "In Analysis", and "Validated" status
  - b. "Proposed Validated" indicates a required review of validation
    - this state can go to "In Analysis" or "Validated" once review has been done

- c. "In Analysis" indicates when the user commences analysis and works on manual clearance of exceptions
- d. "Validated" an end state of exceptions, which have been analysed
- results of exception clearance are stored in application tables and saved for audit
  - t588\_comment
  - t950\_audit\_log

#### 3. oversight result

- results of oversight are stored in application tables and saved for audit
  - t291\_fund\_summary
  - t311\_unit\_price
  - t312\_entity\_price
  - t950\_audit\_log
- this is called a 'Fund Sign-Off' process and it has its own workflow
  - a. 'Not Started' status
  - b. 'Approved' status
  - c. 'Released' status
- the full approval workflow has over ~50 possible statuses as per the attached status stream



- results of oversight processes for the fund are displayed in the 'Fund Sign-Off' view for users and saved in audit log
  - those are control records that have been authorised, including unit price records, security price records, FX rates and imported data records
- users will signoff the fund oversight and fund summary
- unit prices and entity price data are produced

### 4. reporting

- reports are generated in export tables (by Rules Engine)
  - u141\_unit\_prices
  - u142\_investment\_holdings
  - u143\_registry\_balance
  - u583\_price\_data

  - u584\_override\_data U589\_ACTIVE\_VALIDATIONS
- history of reports is stored in the pControl tables
  - p130\_distribution\_register
- users can configure how to receive the reports on the fund oversight processes
  - either through the email or move reports to the specified location
- this is called a 'Hand-Off' process that generates reports

## overview

- fund oversight processes are independently verifying the fund valuation and raising exceptions if validations fail
  - validating the NAV value of fund ("actual NAV"), which is calculated NAV from service providers
  - pControl calculates its own NAV value of fund ("expected NAV")
  - exceptions are raised if the actual NAV is different from the expected NAV
- users can see the reporting on fund valuation oversight it in their dashboards
- the current data management of fund valuation oversight is referenced in the NAV Stack Data Model page
- the data definition guide for fund valuation oversight products (the attached pControl Oversight and pControl NAV Expected documents below) is provided to clients to understand the requirements for data onboarding processes
  - u100 Investment Holdings
  - u101 External Prices (NAV & NAV Price)
  - u104 Trial Balance
  - u107 Adjustments (manual)
  - u108 Units on Issue
  - u109 Unitised Capital Flows
  - u110 Cashflow and Orders (Un-unitised Cash)
  - u113 Pending Settlements
  - u175 Security Prices
  - u178 Exchange Rates & FX Forward Rates
  - u180 Security Reference Data
  - u200 Asset Transactions
  - u210 Corporate Actions
  - u224 Corporate Actions
  - u250 Cash Transactions
  - u280 Benchmarks



- parameters to run the fund oversight process are referenced in the static tables (defined in the attached product data model)
  - I160\_state\_categories
  - I184\_account\_category
  - I185\_fee\_account\_mapping
  - I200\_tolerance
  - I220\_instrument\_type\_mappings
  - I222\_codes

  - I225\_transaction\_mappingsI235\_benchmark\_mappings
  - I240\_analysis\_codes
  - l245\_stale\_priced\_securities
  - I258\_cashflow\_mappings
  - I270\_tax\_category
  - I293\_price\_source\_agreement
  - I295\_asset\_price\_comparisonI300\_client\_visible\_exception

  - I315\_account\_code\_mappings
  - I318\_invest\_account\_mapping
    I320\_data\_consistency\_valid

  - I330\_data\_variance\_valid
  - l331\_data\_value\_valid
  - l332\_product\_variance\_valid

  - I333\_holding\_variance\_valid
    L334\_GEN\_EVENT\_CALENDAR

  - I335\_generic\_data\_recI340\_acc\_bal\_movement\_valid
  - I350\_acc\_bal\_value\_valid
  - I360\_acc\_bal\_offset\_valid
  - I365\_pricing\_hierarchy
  - I410\_dealing\_cost
  - I420\_dilution\_levy
  - l600\_autoclearance\_validations
  - I610\_reason\_codes



pControl P...3 (1).xlsx