

Software Design(Interface)

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# Requirement Overview

**Background:**

Suncor’s Plants use field data collection devices to capture daily production values as well as consumed feed stock values. This data is derived from measurement tools located on-site, and is interfaced into a variety of Historian systems as daily raw inventory values. Reconciled values are then calculated in Reconciliation Systems in order to correct inaccuracies present in the raw data. These systems are managed by the Operations team at the Plants. Currently, Suncor does not leverage SAP PP for their production process and simply performs Goods Receipt / Goods Issue postings manually on a periodic basis after reconciliation takes place.

# Systems

|  |  |  |
| --- | --- | --- |
| **Locations** | **Reconciliation tool (informational purposes only)** | **Source System for values to be posted in S/4** |
| Sarnia Refinery | Honeywell PB | Azure IoT |
| Montreal Refinery | Honeywell PB | Azure IoT |
| Oil Sand and In Situ | DPS | Azure IoT |
| Fort Hills | DPS | Azure IoT |
| Terra Nova | Excel | Azure IoT |
| Edmonton Refinery | Honeywell | Azure IoT |
| Montreal Sulphur | Excel | Azure IoT |
| Commerce City Refinery | Sigmafine | Azure IoT |
| Burrard Terminal | Excel | Azure IoT |



# Log Files

# Versions

# Environments

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Sandbox** | **DEV** | **Test** | **Prod** |
| AD group |  | RG-ARM-PBIDEV-CONTRIBUTOR |  |  |
| App Service | R2PDashboardSandbox.azurewebsites.net | pbidevarmfncuw2001 |  |  |
| Azure Function | aaasbxarmfapuw2015 | pbidevarmfncuw2001 |  |  |
| Subscription | SuncorABOSandbox | SuncorEnergyIT-DEV |  |  |
| Storage Account | aaasbxarmstauw2015 | pbidevarmsta001 |  |  |
| Resource Group | aaasbxarmrgp015 | pbidevarmrgp001 |  |  |
| HTTP Listener for  Material Movement | https://aaasbxarmfapuw2015.azurewebsites.net/api/MaterialMovement | https://pbidevarmfncuw2001.azurewebsites.net/api/MaterialMovement |  |  |
| HTTP Listener for  Custody Tickets | https://aaasbxarmfapuw2015.azurewebsites.net/api/CustodyTicket | https://pbidevarmfncuw2001.azurewebsites.net/api/CustodyTicket |  |  |
| Database | inmdevarmsvruw2001.database.windows.net  /inmdevarmsqluw2001 | aaasbxarmsrvuw2015/db01  User:tempR2PIntegration  Pw:NorthernLights2021 |  |  |

# Current Date Override

If the users drops the file createDate.txt in the system directory, then the service will use the date within the file as the current date. Otherwise, the current date will default to today.

The preferred date format is YYY-MM-DD

Ie. 2021-01-03

# Interfaces

## Sigmafine (Denver)

* Production rounded to 0 decimal places (to match Refinery Balance Summary Report - Crystal Report)
* A single file holds 1 production day
* currentDate.txt override file will not have any effects on this interface

## Montreal Sulphur

# Operational

## Modifying Tags

If the use drops the file tagMappings.csv into the system directory, then the service will upload the tag mappings into the database which will be used for processing.

The format of the file is :

Tag,Plant,WorkCenter,MaterialNumber,DefaultValuationType,DefaultUnit

14BUT\_CONS,CP01,PRODMP01,10117,SUNCOR,L15

….

This tag mapping will first be processed before any other upload occurs.

Once the tag mappings are processed and loaded into the system, the file is renamed to tagMappings.processed.csv.

## Log Files

The R2P process is running on my private storage account, and accessible via Azure Storage Explorer (as per previous email).

if you drop a file in CPXX/ImmediateScan directory, the watchdog process will run every 1 minute (can be throttled to whatever we want).

Once processed,

1. log entries will be added to system/AzureDataHubProductionLoad.log,

2. the file will be moved to CPXX/archived

3. a json output will be created in CPXX/tempJsonOutput

Montreal Sulphur (CP02) is also setup and scraping XLSX files.

An interesting note for Montreal Sulphur :

if no tag Mapping for Montreal Sulphur (2,3,5) then catastrophic failure

- files are left unprocessed in the immediateScan directory

- please comment if this should be changed

Plant Code currently comes from directoyr

Error Handling

- scan on all directories happens every 5 minutes

- if day is < 10 and not January, then load prior month as well

- if no tag Mapping for Montreal Sulphur (2,3,5) then catastrophic failure

- files are left unprocessed from the immediateScan directory

1. removed Tank and Quantity Timsestamp

Only exporting the following :

Date,

Tag,

System (Honeywell PB, MTL SP),

MovementType (Always Production),

Material (from TagMapping),

Plant,

WorkCenter (from TagMapping),

ValType (from TagMapping),

BalanceDate,

Quantity,

StandardUnit

2. appended timestamp (yyyyMMddHHmmss) to archived file

3. added special logic for 0 length source files

# Azure Storage

Users as members of AD Group SG-pbidevarmsta001-SAP\_IOT\_Data-RW can mount fileshare from their Windows 10 computer \\pbidevarmsta001.file.core.windows.net\sap-iot-data. Windows 7 machine from on-prem will not work.

Document how to use Azure File Share.

https://docs.microsoft.com/en-us/azure/storage/files/storage-how-to-use-files-windows#