



C2M v2.9

4.2.1.1 Upload Device Measurements

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Contents

BRIEF DESCRIPTION 5

BUSINESS PROCESS MODEL PAGE 1 6

BUSINESS PROCESS MODEL PAGE 2 7

BUSINESS PROCESS MODEL PAGE 3 8

BUSINESS PROCESS MODEL PAGE 4 9

BUSINESS PROCESS MODEL PAGE 5 10

BUSINESS PROCESS MODEL PAGE 6 11

BUSINESS PROCESS MODEL PAGE 7 12

BUSINESS PROCESS MODEL PAGE 8 13

DETAIL BUSINESS PROCESS MODEL DESCRIPTION..... 14

TEST ASSETS RELATED TO THE CURRENT PROCESS..... 37

DOCUMENT CONTROL 38

ATTACHMENTS 39

Dictionary..... 39

IMD Seeder Lifecycle 39

Initial Load IMD Interval Lifecycle..... 40

Initial Load IMD Scalar Lifecycle 41

Manual IMD Interval Lifecycle 42

Manual IMD Scalar Lifecycle..... 43

Measuring Component Portal..... 44

Device Configuration Portal 45

Review Pending State IMD..... 46

Edit IMD Details 47

Load IMDs Events Portal 48

Measuring Component Portal..... 49

Create Override IMD 50

Review IMD in VEE Ready State 51

Error and To Do 52

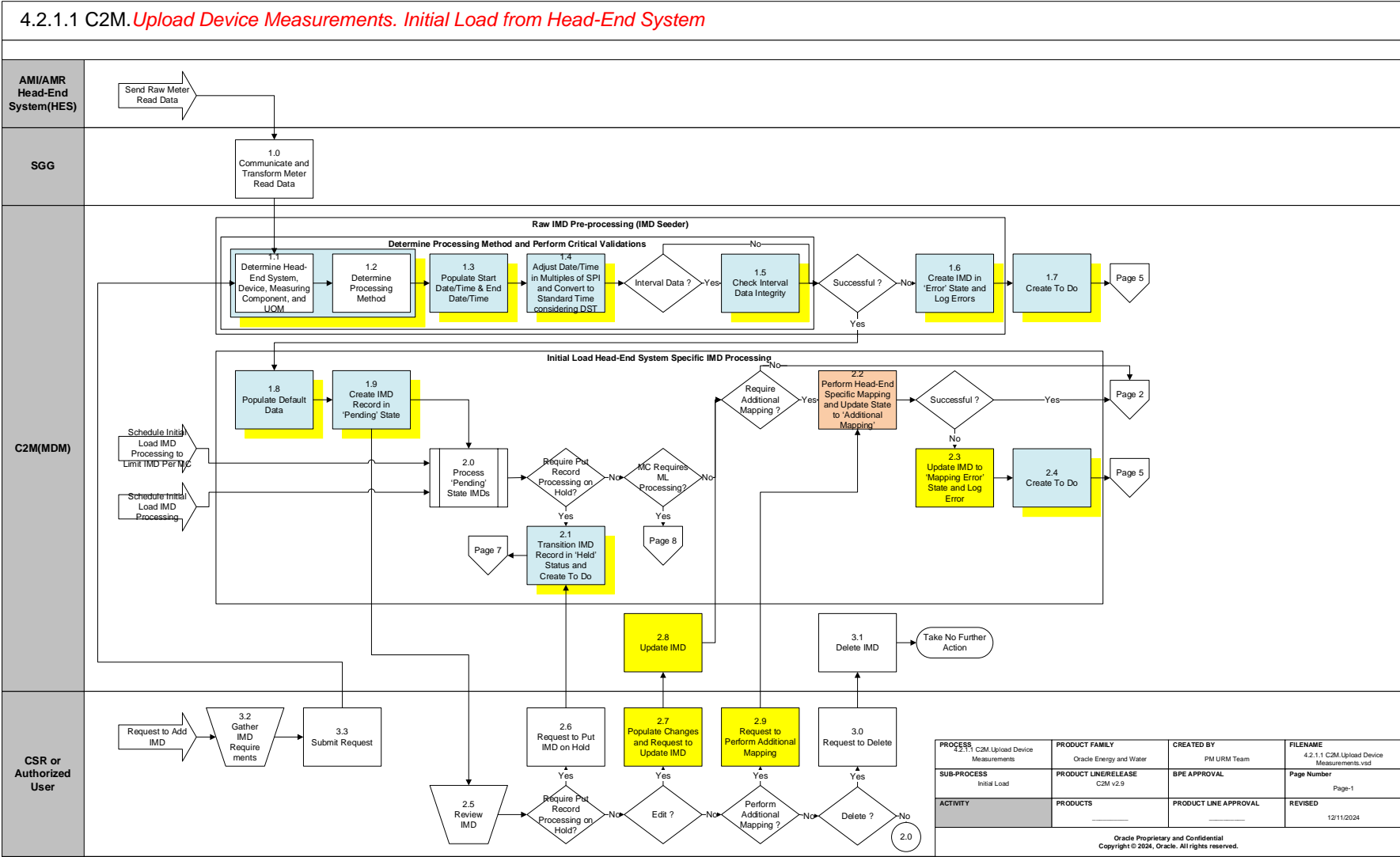
Batch Program for Interval IMD Estimation Process 53
Hours configuration for Interval IMD Estimation..... 54
Estimate IMD Interval Lifecycle..... 55
Estimate IMD Scalar Lifecycle 56

Brief Description

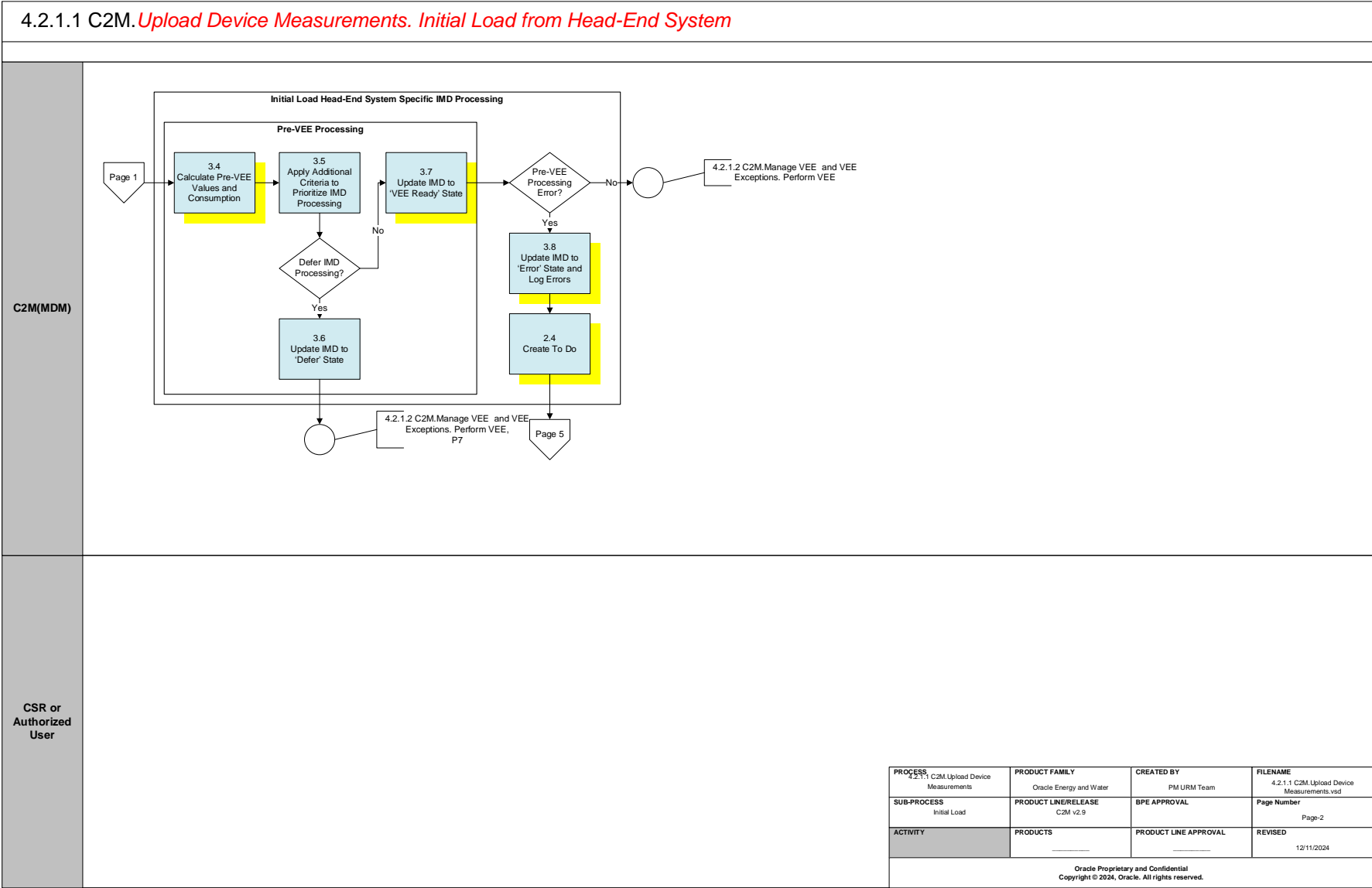
Business Process: 4.2.1.1 C2M.Upload Device Measurements
Process Type: Process
Parent Process: 4.2.1 C2M.Collect and Process Device Measurements
Sibling Processes: 4.2.1.2 C2M.Manage VEE and VEE Exceptions, 4.2.2.1 C2M.Calculate Usage,
5.6.3.1 C2M.Manage Tracked Assets and Devices

This process gets initiated when the raw meter measurements are sent from an AMI/ AMR Head-End System to MDM or created manually by an CSR or CSR or Authorized User using C2M(MDM). C2M(MDM) pre-processes the initial measurements and initiates Head-End System specific processing.

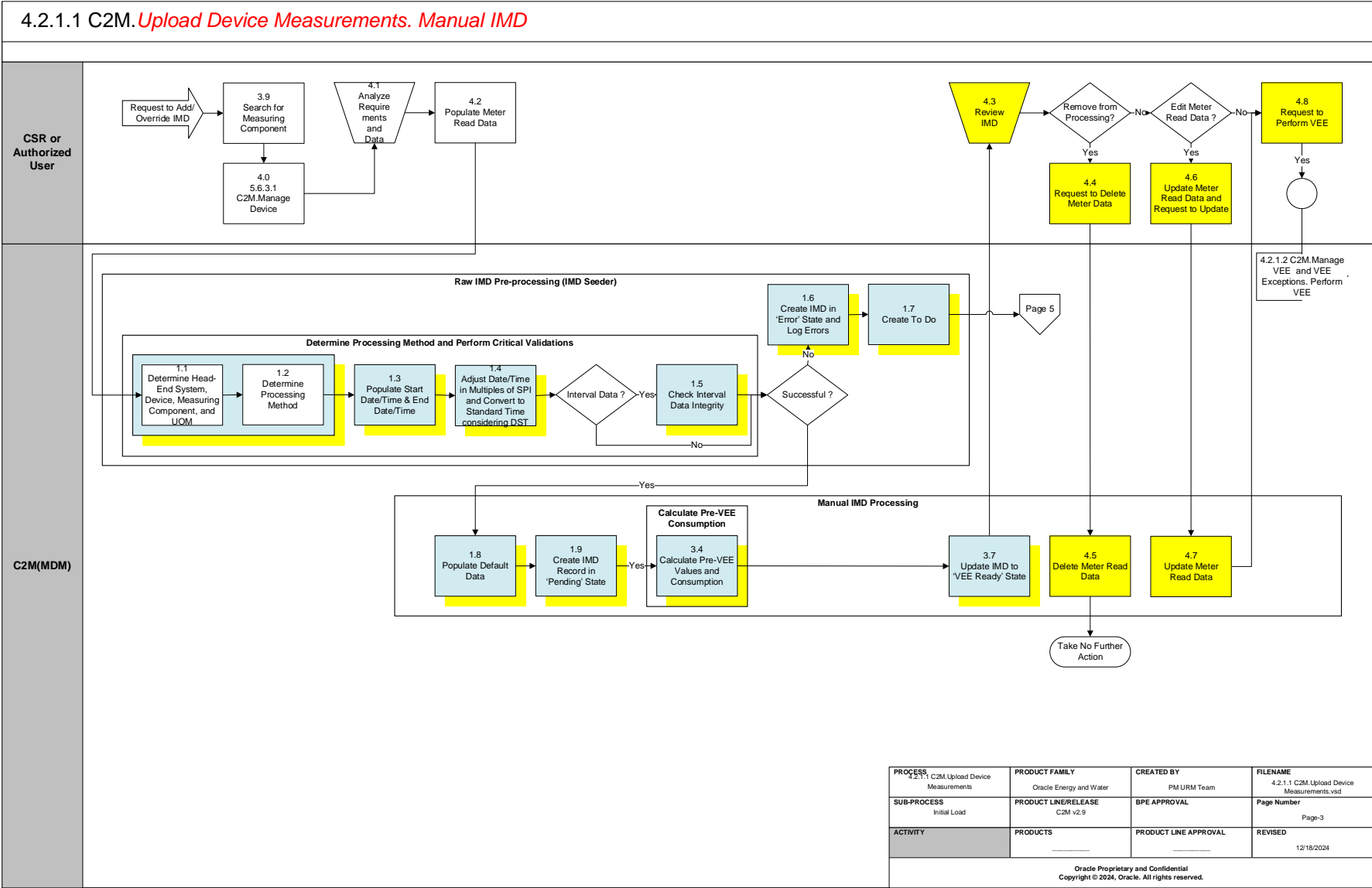
Business Process Model Page 1



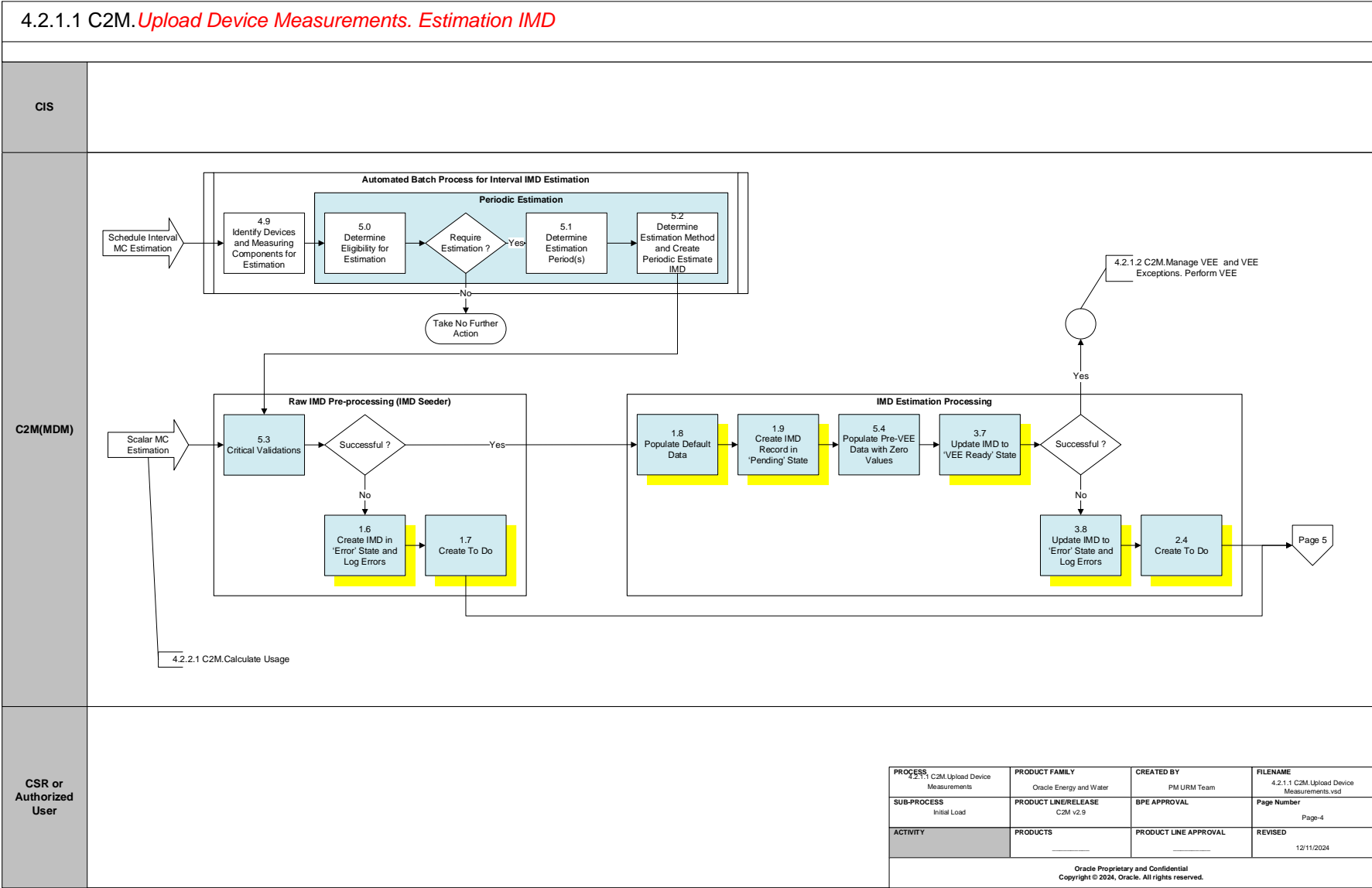
Business Process Model Page 2



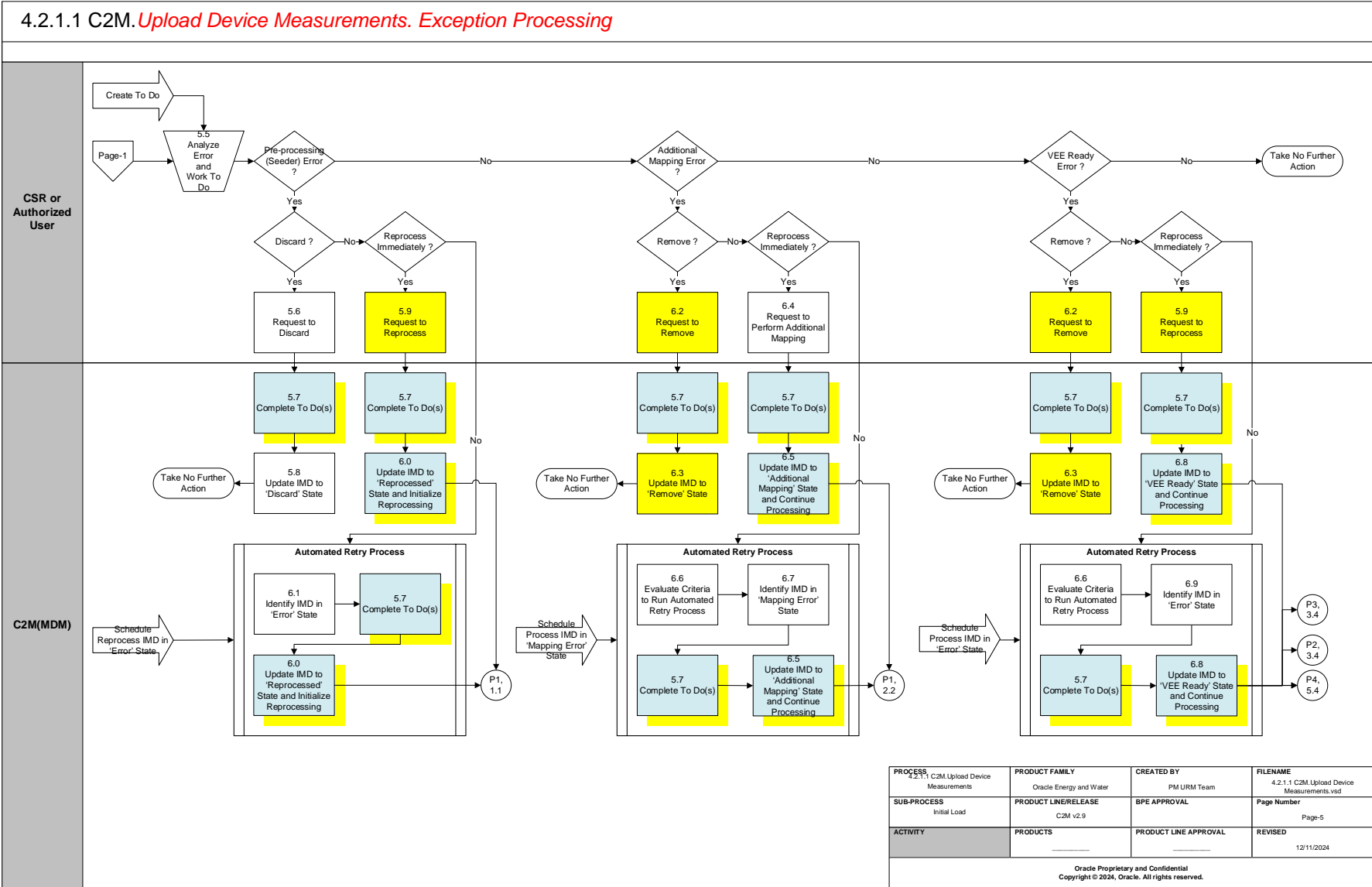
Business Process Model Page 3



Business Process Model Page 4

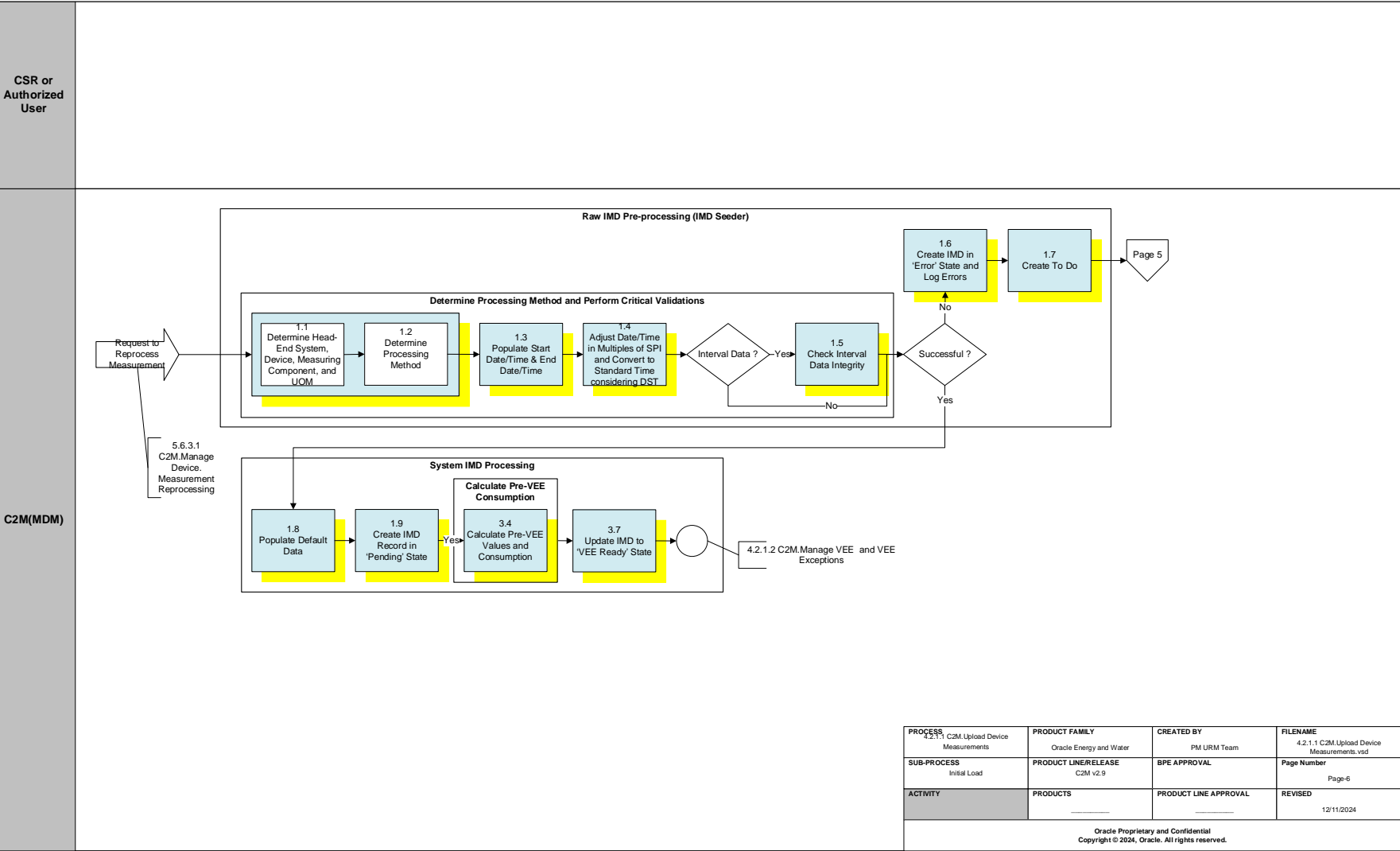


Business Process Model Page 5



Business Process Model Page 6

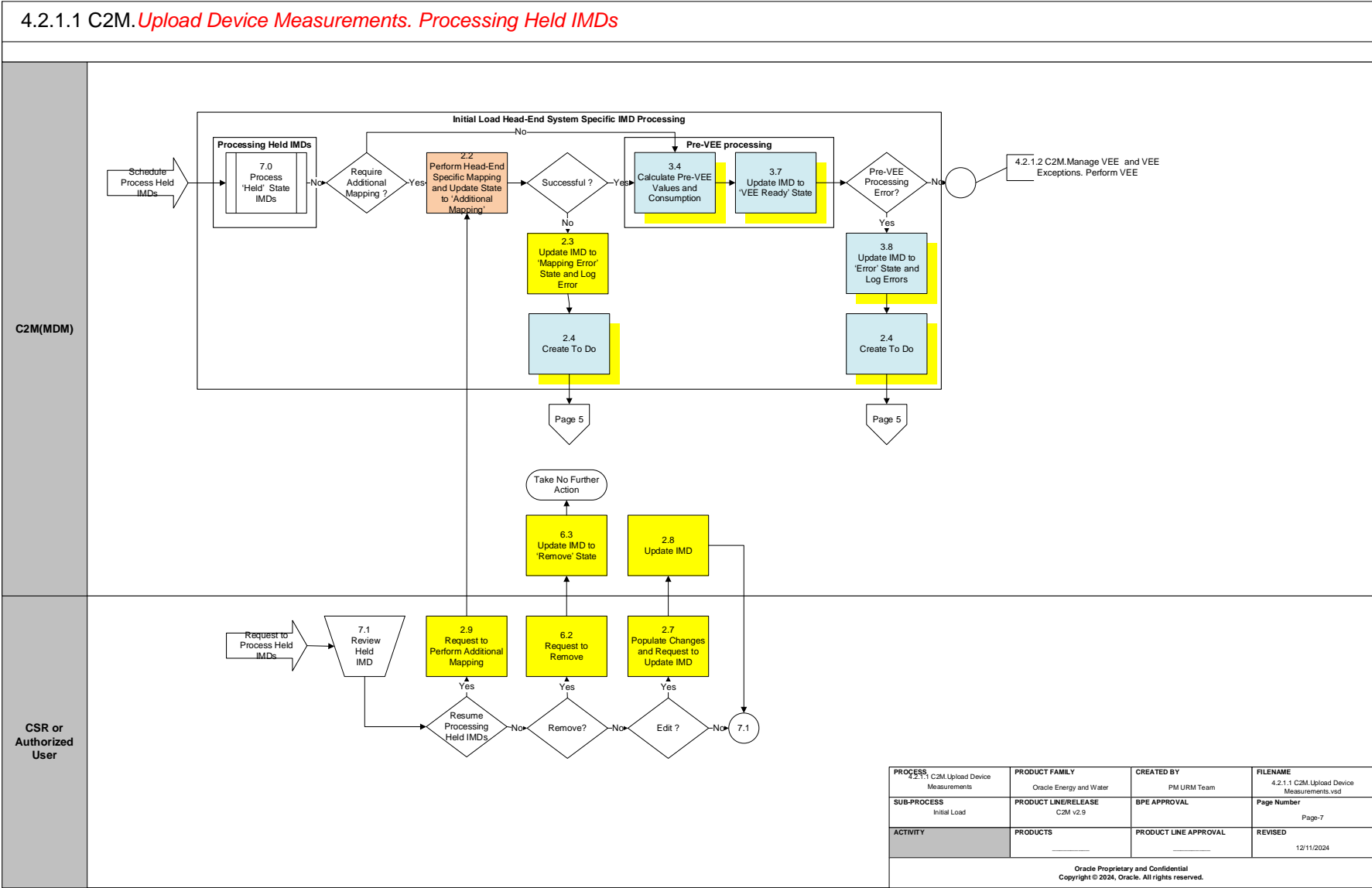
4.2.1.1 C2M.Upload Device Measurements. System IMD



PROCESS	PRODUCT FAMILY	CREATED BY	FILENAME
4.2.1.1 C2M.Upload Device Measurements	Oracle Energy and Water	PM URM Team	4.2.1.1 C2M.Upload Device Measurements.vsd
SUB-PROCESS	PRODUCT LINE/RELEASE	BPE APPROVAL	Page Number
Initial Load	C2M v2.9		Page-6
ACTIVITY	PRODUCTS	PRODUCT LINE APPROVAL	REVISED
			12/11/2024

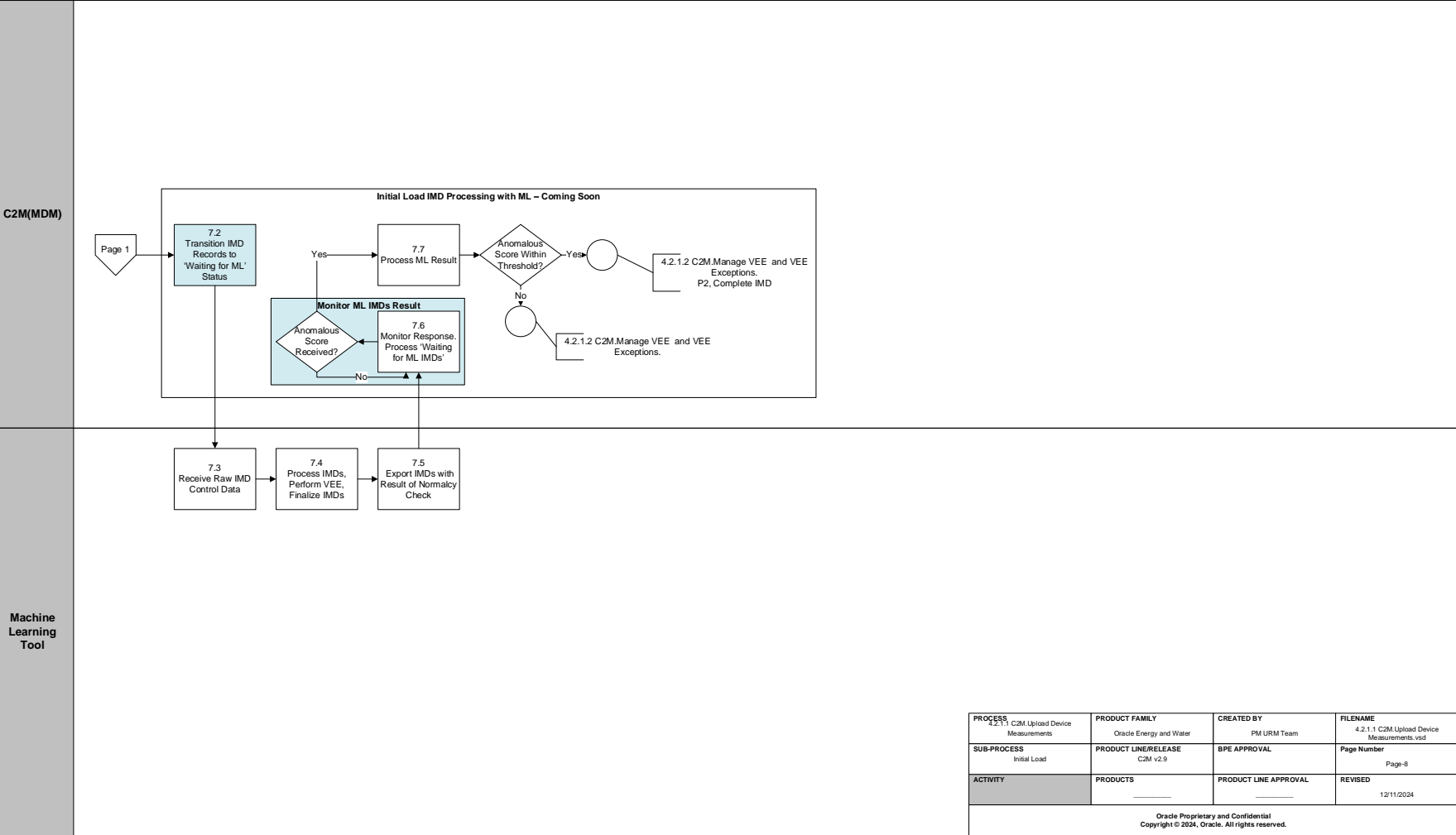
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Business Process Model Page 7



Business Process Model Page 8

4.2.1.1 C2M.Upload Device Measurements. Use Machine Learning To Process IMDS - Coming Soon



Detail Business Process Model Description

1.0 Communicate and Format Meter Read Data

Actor/Role: SGG

Description: The Middleware or Smart Grid Gateway (SGG) is responsible for communication between the MDM and the various Head-End Systems (E.g. Echelon Head-End System, Landis & Gyr Head-End System). The Middleware receives the raw meter data from the Head-End Systems, transforms, and converts it into the format compatible with the C2M(MDM). It also adds the transformed data into a JMS Queue for further processing by the C2M(MDM).

Note: There is a different set of documentation to be provided for SGG as a middleware.

1.1 Determine Head-End System, Device, Measuring Component, and UOM Group: Raw IMD Pre-Processing (IMD Seeder) Group: Determine Processing Method and Perform Critical Validations

Actor/Role: C2M(MDM)

Description: C2M(MDM) initiates pre-processing of the raw meter data received from Head-End System. The primary goal of preprocessing raw data is to perform number of critical validations. This task is the first critical validation Preprocessing. It attempts to read the raw data and determines the Head-End System (Service Provider), Device, Measuring Component, and Unit of Measure. Based on the identified Measuring Component and the Head-End System, the system determines the type of data received. If C2M(MDM) is not able to determine one or more entities listed above it logs an error.

Process Plug-in enabled (Y)	Available Algorithm(s):	D1-DER-SPRMC (Determine Service Provider and Measuring Component)
Business Object (Y)	Business Object	D1-IMDSeeder
Configuration required (Y)	Entities to Configure:	Measuring Component
		Device
		Device Configuration
		Head-End System (Service Provider)

Note: It is recommended not to perform any modifications to this Algorithm as this is a standard functionality of the Product.

1.2 Determine Processing Method Group: Raw IMD Pre-Processing (IMD Seeder) Group: Determine Processing Method and Perform Critical Validations

Actor/Role: C2M(MDM)

Description: C2M(MDM) determines the Processing Method for the raw measurement data received. Depending on the type of data and Head End System, the Initial Load IMD or Manual IMD or Estimate IMD or System IMD is instantiated. Further it determines whether Scalar IMD or Interval processing to began.

Process Plug-in enabled (Y) **Available Algorithm(s):**

D1-DER-SPRMC (Determine Service Provider and Measuring Component)

Business Object (Y) **Business Object**

D1-IMDSeeder
Initial Load IMD (Interval)
Initial Load IMD (Scalar)
Manual IMD (Interval)
Manual IMD (Scalar)
Estimation IMD (Interval)
Estimation IMD (Scalar)
D1-SystemIMDScalar
D1-SystemIMDInterval
Head-End Specific Scalar/Interval Business Objects

Note: It is recommended not to perform any modifications to this Algorithm as this is a standard functionality of the Product.

1.3 Populate Start Date/Time & End Date/Time Group: Raw IMD Pre-Processing (IMD Seeder)

Group: Determine Processing Method and Perform Critical Validations

Actor/Role: C2M(MDM)

Description: C2M(MDM) populates the Start Date/Time and End Date/Time. System performs this task for both Interval and Scalar types of data.

Process Plug-in enabled (Y) **Available Algorithm(s):**

D1-VALDR-INP (Derive IMD Date/Time Values)
--

Business Object (Y) **Business Object**

D1-IMDSeeder

Configuration required (Y) **Entities to Configure:**

Measuring Component Type
--

Note: It is recommended not to perform any modifications to this Algorithm as this is a standard functionality of the Product.

1.4 Adjust Date/Time in Multiples of SPI and Convert to Standard Time considering DST Group: Raw IMD Pre-Processing (IMD Seeder)

Group: Determine Processing Method and Perform Critical Validations

Actor/Role: C2M(MDM)

Description: C2M(MDM) adjusts the Start Date/Time, Intervals, and End Date/Time so that they are in multiples of SPI and converts them from Local to Standard time considering the Daylight Savings Time (DST).

Process Plug-in enabled (Y)	Available Algorithm(s):	D1-DODTTMADJ (Perform Date/Time Adjustments and Undercount/Overcount Check)
Business Object (Y)	Business Object	D1-IMDSeeder
Configuration required (Y)	Entities to Configure:	Measuring Component
		Device (Incoming Data Shift)
		Device Configuration
		Service Point

Note: It is recommended not to perform any modifications to this Algorithm as this is a standard functionality of the Product.

1.5 Check Interval Data Integrity Group: Raw IMD Pre-Processing (IMD Seeder)
Group: Determine Processing Method and Perform Critical Validations

Actor/Role: C2M(MDM)

Description: C2M(MDM) performs the over count and under count check for the interval data.

Process Plug-in enabled (Y)	Available Algorithm(s):	D1-DODTTMADJ (Perform Date/Time Adjustments and Undercount/Overcount Check)
Business Object (Y)	Business Object	D1-IMDSeeder
Configuration required (Y)	Entities to Configure:	Disable Undercount Check
		Disable Overcount Check
		Disable Interval Boundaries Check

Note: It is recommended not to perform any modifications to this Algorithm as this is a standard functionality of the Product.

1.6 Create IMD in 'Error' State and Log Errors Group: Raw IMD Pre-Processing (IMD Seeder)
Actor/Role: C2M(MDM)

Description: If any error occurs during IMD pre-processing, the system creates Seeder Record in 'Error' state and logs an error.

Process Plug-in enabled (Y) **Available Algorithm(s):**

D1-LOG-SEEDR (Create Initial Measurement Data
Seeder Log Entries)

Business Object (Y) **Business Object**

[D1-IMDSeeder](#)

Note: It is recommended not to perform any modifications to this Algorithm as this is a standard functionality of the Product.

1.7 Create To Do Group: Raw IMD Pre-Processing (IMD Seeder)

Actor/Role: C2M(MDM)

Description: Once the C2M(MDM) system logs the errors, it creates a To Do entry for the CSR or Authorized User to allow him to review the problem and attempt to fix the error reported by system

Process Plug-in enabled (Y) **Available Algorithm(s):**

D1-CRE-SEDTD (Create To Do for IMD Seeder)

Business Object (Y) **Business Object**

[D1-IMDSeeder](#)

Configuration required (Y) **Entities to Configure:**

To Do Type

To Do Role

Note: It is recommended not to perform any modifications to this Algorithm as this is a standard functionality of the Product.

1.8 Populate Default Data Group: Initial Load Head-End System Specific IMD Processing

Group: Manual IMD Processing

Group: IMD Estimation Processing

Group: System IMD Processing

Actor/Role: C2M(MDM)

Description: C2M(MDM) populates the default data such as Date/Time and Time Zone based on the details from the raw meter data received from Head End System if they are not populated.

Process Plug-in enabled (Y) **Available Algorithm(s):**

D1-INT-SPEC (Validate Interval Initial Measurement
Data Input)

Business Object (Y) **Business Object**

[Initial Load IMD \(Interval\)](#)

[Initial Load IMD \(Scalar\)](#)

Manual IMD (Interval)
Manual IMD (Scalar)
Estimation IMD (Interval)
Estimation IMD (Scalar)
D1-SystemIMDScalar
D1-SystemIMDInterval
Head-End Specific Scalar/Interval Business Objects

1.9 Create IMD Record in 'Pending' State Group: Initial Load Head-End System Specific IMD Processing

Group: Manual IMD Processing

Group: IMD Estimation Processing

Group: System IMD Processing

Actor/Role: C2M(MDM)

Description: C2M(MDM) creates IMD in Pending state. Before creating, there are validation algorithms that would validate to ensure the availability of common input data such as Measuring Component Identifier, Device Identifier, and UOM to proceed forward towards IMD creation and Head-End specific processing.

Process Plug-in enabled (Y) **Available Algorithm(s):**

D1-IMD-COMM (Validate Initial Measurement Data Common Input)
F1-AT-RQJ (Transition to Default Next Status)

Business Object (Y) **Business Object**

Initial Load IMD (Interval)
Initial Load IMD (Scalar)
Manual IMD (Interval)
Manual IMD (Scalar)
Estimation IMD (Interval)
Estimation IMD (Scalar)
D1-SystemIMDScalar
D1-SystemIMDInterval
Head-End Specific Scalar/Interval Business Objects

2.0 Process 'Pending' State IMDs Group: Initial Load Head-End System Specific IMD Processing

Actor/Role: C2M(MDM)

Description: The volume of raw meter data that Head-End System sends to C2M(MDM) on regular basis is significant. Therefore in most of the cases IMDs in 'Pending' status are being processed by batch process. Business determines how often this batch process should run to process Pending IMDs.

Process Plug-in enabled (Y)	Available Algorithm(s):	F1-AT-RQJ (Transition to Default Next Status)
Business Object (Y)	Business Object	Initial Load IMD (Interval) Initial Load IMD (Scalar) Manual IMD (Interval) Manual IMD (Scalar) Estimation IMD (Interval) Estimation IMD (Scalar) Head-End Specific Scalar/Interval Business Objects
Customizable process (Y/N)	Process Name	IMD Monitor – Physical Devices (D1-IMD) IMD Monitor – Physical Devices V2 (D1-IMDV2)

2.1 Transition IMD Record in ‘Held’ Status and Create To Do Group: Initial Load Head-End System Specific IMD Processing

Actor/Role: C2M(MDM)

Description: C2M(MDM) can limit the number of IMDs process per measuring component. Once the limit is reached, additional IMDs will be transitioned to ‘Held’ status. The IMDs in ‘Held’ status will be removed from the normal processing flow and will be processed separately. System will create a To Do for each measuring component for user to check and process ‘Held’ IMDs.

Business Object (Y)	Business Object	Initial Load IMD (Interval) Initial Load IMD (Scalar)
Customizable process (Y/N)	Process Name	IMD Monitor – Physical Devices V2 (D1-IMDV2)

2.2 Perform Head-End Specific Mapping and Update State to ‘Additional Mapping’ Group: Initial Load Head-End System Specific IMD Processing

Actor/Role: C2M(MDM)

Description: This step takes place only if business identifies needs to perform additional Head End System specific mapping. Usually this step requires customization in order to satisfy C2M(MDM) and Head End system specific requirements. One of the examples of such mapping is adding a prefix to a meter number to ensure it is unique.

Process Plug-in enabled (Y)	Available Algorithm(s):	D3-PBSCMTOCC (Interval Status Code Mapping to Condition Codes)
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Business Object (Y)	Business Object	D5-PBSCMTOCC (MV90 Condition Mapping with Priority)
		D5-EVCRBONSC (Event Creation Based on Status Codes)
		Head-End Specific Scalar/Interval Business Objects

2.3 Update IMD to ‘Mapping Error’ State and Log Error Group: Initial Load Head-End System Specific IMD Processing

Actor/Role: C2M(MDM)

Description: If any error occurs during Head-End specific additional mapping, C2M(MDM) automatically updates IMD status to ‘Mapping Error’ and logs an error.

Process Plug-in enabled (Y)	Available Algorithm(s):	F1-AT-RQJ (Transition to Default Next Status)
Business Object (Y)	Business Object	Initial Load IMD (Interval)
		Initial Load IMD (Scalar)
		Manual IMD (Interval)
		Manual IMD (Scalar)
		Estimation IMD (Interval)
		Estimation IMD (Scalar)
		Head-End Specific Scalar/Interval Business Objects

2.4 Create To Do Group: Initial Load Head-End System Specific IMD Processing

Actor/Role: C2M(MDM)

Description: Once the C2M(MDM) system logs the errors, it creates a To Do entry for the CSR or Authorized User to review the problem and attempt to fix the error reported by system

Process Plug-in enabled (Y)	Available Algorithm(s):	D1-CRE-TDNVE (Create IMD To Do for Error States)
Business Object (Y)	Business Object	Initial Load IMD (Interval)
		Initial Load IMD (Scalar)
		Manual IMD (Interval)
		Manual IMD (Scalar)
		Estimation IMD (Interval)
		Estimation IMD (Scalar)

Configuration required (Y/N) Entities to Configure:

Head-End Specific Scalar/Interval Business Objects
To Do Type
To Do Role

2.5 Review IMD

Actor/Role: CSR or Authorized User

Description: When the IMD Record is created in Pending State, the C2M(MDM) CSR or Authorized User has the option to review and analyze IMD before it will be processed by background batch process using [Review Pending State IMD](#) page.

2.6 Request to Request to Put IMD on Hold

Actor/Role: CSR or Authorized User

Description: If CSR or Authorized User determines that pending IMD should be parked for further processing, they will request to put IMD on Hold.

2.7 Populate Changes and Request to Update IMD

Actor/Role: CSR or Authorized User

Description: If CSR or Authorized User decides that pending IMD requires modifications, the CSR or Authorized User can edit the details using [Edit IMD Details](#) page.

2.8 Update IMD

Actor/Role: C2M(MDM)

Description: C2M(MDM) updates the IMD record.

Process Plug-in enabled (Y) Available Algorithm(s):

Business Object (Y) Business Object

D1-AUD-QTYUE (Audit IMD Quantity Changes and Set User-Edited Flag)
Initial Load IMD (Interval)
Initial Load IMD (Scalar)
Manual IMD (Interval)
Manual IMD (Scalar)
Estimation IMD (Interval)
Estimation IMD (Scalar)
Head-End Specific Scalar/Interval Business Objects

2.9 Request to Perform Additional Mapping

Actor/Role: CSR or Authorized User

Description: If CSR or Authorized User determines that pending IMD should be processes immediately and business requires performing Additional Head End system mapping as a next step, then CSR or Authorized User requests to [perform additional mapping](#).

3.0 Request to Delete

Actor/Role: CSR or Authorized User

Description: If CSR or Authorized User determines that pending IMD must be deleted, CSR or Authorized User has the option to manually invoke a request in C2M(MDM) to [delete the IMD Record](#).

3.1 Delete IMD

Actor/Role: C2M(MDM)

Description: C2M(MDM) deletes the IMD Record in ‘Pending’ state based on the request to delete made by CSR or Authorized User.

Note: Once a record is deleted it is permanently removed from the system and it cannot be retrieved. Further, in general, option to delete IMD is enabled for all states before VEE, for all types of IMDs.

3.2 Gather IMD Requirements

Actor/Role: CSR or Authorized User

Description: When creating Initial Measurements online, the CSR or Authorized User gathers all the required attributes for adding an initial measurement. The IMD information such as Measuring Component, Start and Stop Date and Time, Consumption, etc. is gathered.

Business Object (Y)	Business Object	D1-InitialLoadIMDInterval
		D1-InitialLoadIMDScalar
Configuration required (Y/N)	Entities to Configure:	Measuring Component
		Device
		Start and Stop Date and Time
		Consumption for Scalar IMD
		Intervals and respective data for Interval IMD

3.3 Submit Request

Actor/Role: CSR or Authorized User

Description: CSR or Authorized User adds Initial Measurement Data (IMD) in the C2M(MDM) Application:

- load online by supplying an XML document using [Load IMDs/Events \(XML\)](#) portal or
- by using 360 view (selecting either “Create New reading” or “Create Override” option)

C2M(MDM) performs an audit of the IMD added.

Process Plug-in enabled (Y/N)	Available Algorithm(s):	D1-AUD-QTYUE (Audit IMD Quantity Changes and

Business Object (Y)	Business Object	Set User-Edited Flag)
		D1-InitialLoadIMDInterval
		D1-InitialLoadIMDScalar
Configuration required (Y/N)	Entities to Configure:	
		Measuring Component
		Device
		Start and Stop Date and Time
		Consumption for Scalar IMD
		Intervals and respective data for Interval IMD

3.4 Calculate Pre-VEE Values and Consumption Group: Initial Load Head-End System Specific IMD Processing

Group: Calculate Pre-VEE Consumption

Group: Manual IMD Processing

Group: System IMD Processing

Actor/Role: C2M(MDM)

Description: C2M(MDM) calculates the Pre-VEE values and consumption, considering the various outages, meter multipliers, etc, and prepares data for VEE processing.

Process Plug-in enabled (Y)	Available Algorithm(s):	D1-PRCLINIMD (Calculate Interval Consumption and Prepare IMD)
		D1-PRCLSCIMD (Calculate and Prepare Scalar Consumption)
		D1-CSBINCPVE (Calculate Subtractive Interval Consumption and Prepare VEE)
Business Object (Y)	Business Object	Initial Load IMD (Interval)
		D1-InitialLoadIMDSubtrInterval
		Initial Load IMD (Scalar)
		Manual IMD (Interval)
		Manual IMD (Scalar)
		Estimation IMD (Interval)
		Estimation IMD (Scalar)
		D1-SystemIMDScalar
		D1-SystemIMDInterval

Head-End Specific Scalar/Interval Business Objects

3.5 Apply Additional Criteria to Prioritize IMD Processing **Group: Initial Load Head-End System Specific IMD Processing**
Group: Pre-VEE Processing

Actor/Role: C2M(MDM)
Description: C2M(MDM) checks additional criteria defined at device measurement parameters to check whether the 'IMD From Date Time' and/or 'IMD To Date Time' fall outside the defined values. For measurements that are too old the system can decide either reject or deferring processing.

Process Plug-in enabled (Y/N)	Available Algorithm(s):	D2-CMIMDDTMC - Compare IMD Date/Times to Master Config Boundaries
Business Object (Y)	Business Object	Initial Load IMD (Interval)
		Initial Load IMD (Scalar)
Configuration required (Y/N)	Entities to Configure:	MDM Master Configuration (Device Measurement Parameters)

3.6 Update IMD to 'Defer' State **Group: Initial Load Head-End System Specific IMD Processing**
Group: Pre-VEE Processing

Actor/Role: C2M(MDM)
Description: C2M(MDM) updates IMD to 'Defer' state depending on the criteria defined at 'MDM Master Configuration'. Deferring the processing of initial measurement ensures that if a meter "wakes" up and send a large payload of data it will not adversely impact initial measurement processes during critical windows.

Process Plug-in enabled (Y/N)	Available Algorithm(s):	D2-CMIMDDTMC - Compare IMD Date/Times to Master Config Boundaries
Business Object (Y)	Business Object	Initial Load IMD (Interval)
		Initial Load IMD (Scalar)
Configuration required (Y/N)	Entities to Configure:	MDM Master Configuration (Device Measurement Parameters)

3.7 Update IMD to 'VEE Ready' State **Group: Initial Load Head-End System Specific IMD Processing**
Group: Manual IMD Processing
Group: IMD Estimation Processing
Group: System IMD Processing

Actor/Role: C2M(MDM)

Description: C2M(MDM) prepares the data ready for VEE and updates IMD status to VEE Ready.

Process Plug-in enabled (Y/N) **Available Algorithm(s):**

F1-AT-RQJ (Transition to Default Next Status)
--

Business Object (Y) **Business Object**

Initial Load IMD (Interval)
Initial Load IMD (Scalar)
Manual IMD (Interval)
Manual IMD (Scalar)
Estimation IMD (Interval)
Estimation IMD (Scalar)
D1-SystemIMDScalar
D1-SystemIMDInterval
Calculate Pre-VEE Consumption

3.8 Update IMD to ‘Error’ State and Log Errors **Group: Initial Load Head-End System Specific IMD Processing**
Group: IMD Estimation Processing

Actor/Role: C2M(MDM)

Description: If any error occurs while C2M(MDM) prepares data for VEE, C2M(MDM) automatically updates IMD status to ‘Error’ state and logs an error.

Process Plug-in enabled (Y/N) **Available Algorithm(s):**

F1-AT-RQJ (Transition to Default Next Status)
--

Business Object (Y) **Business Object**

Initial Load IMD (Interval)
Initial Load IMD (Scalar)
Manual IMD (Interval)
Manual IMD (Scalar)
Estimation IMD (Interval)
Estimation IMD (Scalar)
Head-End Specific Scalar/Interval Business Objects

3.9 Search for Measuring Component

Actor/Role: CSR or Authorized User

Description: CSR or Authorized User searches for the Measuring Component to create a Manual IMD.

Business Object (Y)	Business Object
	D1-InitialLoadIMDInterval
	D1-InitialLoadIMDSector
	D1-Manual IMD (Interval)
	D1-Manual IMD (Scalar)
Configuration required (Y/N)	Entities to Configure:
	Measuring Component
	Device

4.0 5.6.3.1 Manage Device and SP

Actor/Role: CSR or Authorized User

Description: If required, CSR or Authorized User creates or updates Device data and Service Point data in this step. Please refer to process 5.6.3.1 C2M.Manage Device for further information about this.

4.1 Analyze Requirements and Data

Actor/Role: CSR or Authorized User

Description: Sometimes CSR or Authorized User needs to create a new IMD manually. CSR or Authorized User analyzes requirements and various data before creating new IMD manually.

4.2 Populate Meter Read Data

Actor/Role: CSR or Authorized User

Description: CSR or Authorized User populates the meter data. To create a new IMD, CSR or Authorized User uses [Create/Override](#) screen to populate content.

Process Plug-in enabled (Y/N)	Available Algorithm(s):
	D1-AUD-QTYUE (Audit IMD Quantity Changes and Set User-Edited Flag)
Business Object (Y)	Business Object
	D1-InitialLoadIMDInterval
	D1-InitialLoadIMDSector
	D1-Manual IMD (Interval)
	D1-Manual IMD (Scalar)
Configuration required (Y/N)	Entities to Configure:
	Measuring Component
	Start and End Date and Time
	Consumption

Condition (E.g. Office Estimate)
Conversion Method (E.g. Use Straight Line)
Profile Factor

4.3 Review IMD

Actor/Role: CSR or Authorized User

Description: When the IMD Record is created in 'VEE Ready' State, the CSR or Authorized User has the option to review and analyze IMD before it will be processed by background batch process using [Review IMD in VEE Ready State](#) page.

4.4 Request to Delete Meter Data

Actor/Role: CSR or Authorized User

Description: If CSR or Authorized User determines that IMD Record in 'VEE Ready' state is incorrect or has been created by mistake, CSR or Authorized User manually invokes a [request in MDM to delete the IMD Record](#).

4.5 Delete Meter Read Data Group: Manual IMD Processing

Actor/Role: C2M(MDM)

Description: C2M(MDM) deletes the IMD Record in 'VEE Ready' state based on the request to delete made by CSR or Authorized User.

Note: Once a record is deleted it is permanently removed from the system and it cannot be retrieved.

4.6 Update Meter Read Data and Request to Update

Actor/Role: CSR or Authorized User

Description: If CSR or Authorized User decides that IMD requires modifications, the CSR or Authorized User updates it using [Review IMD in VEE Ready State Page](#).

4.7 Update Meter Read Data Group: Manual IMD Processing

Actor/Role: C2M(MDM)

Description: C2M(MDM) updates the IMD Record for any modifications made to it.

4.8 Request to Perform VEE

Actor/Role: CSR or Authorized User

Description: If CSR or Authorized User is satisfied with review results and cannot detect any problems, CSR or Authorized User [requests to perform VEE](#). Please refer to process 4.2.1.2 C2M.Manage VEE and VEE Exceptions for more details.

4.9 Identify Devices & Measuring Components for Estimation Group: Automated Batch Process for Interval IMD Estimation

Actor/Role: C2M(MDM)

Description: A batch process (D1-SMMTR) invokes the Estimation process for Interval Data Devices with Periodic Estimation algorithm plugged-in on Active State of the Device.

Business Object (Y) **Business Object**

Configuration required (Y/N)	Entities to Configure:	D1-InitialLoadIMDInterval
		D1-SmartMeter
Customizable process (Y/N)	Process Name	Device Type in Batch Process
		Smart Meter State Monitor Process (D1-SMMTR)

5.0 Determine Eligibility for Estimation Group: Automated Batch Process for Interval IMD Estimation

Group: Periodic Estimation

Actor/Role: C2M(MDM)

Description: C2M(MDM) Analyzes and determines Measuring Components on which estimation methods can run. Further, C2M(MDM) checks if the Measuring Component is due and eligible for estimation based on [configured parameters](#). It first checks if the latest measurement date/time is later than the process date/time minus Hours before Estimation and if true, it will not proceed with estimation assuming it is still not right time for estimation. Else, it checks if there are minimum number of Hours to estimate. If true, it will proceed towards estimation.

Process Plug-in enabled (Y/N)	Available Algorithm(s):	D1-PERESTM (Periodic Estimation)
Business Object (Y)	Business Object	D1-SmartMeter
Configuration required (Y/N)	Entities to Configure:	Hours before Estimation
		No. of Hours to Estimate

5.1 Determine Estimation Period(s) Group: Automated Batch Process for Interval IMD Estimation

Group: Periodic Estimation

Actor/Role: C2M(MDM)

Description: C2M(MDM) analyses the existing measurements for the MC and any under-process Interval IMD for any overlapping period with respect to current estimation period. Based on the overlapping periods of existing measurements and under-process interval IMD, it determines the number of period(s) of estimation and also the start date/time and end date/time for these period(s) of estimation.

Process Plug-in enabled (Y/N)	Available Algorithm(s):	D1-PERESTM (Periodic Estimation)
Business Object (Y)	Business Object	D1-SmartMeter

5.2 Determine Estimation Method and Initiate to Create Periodic Estimate IMD Group: Automated Batch Process for Interval IMD Estimation

Group: Periodic Estimation

Actor/Role: C2M(MDM)

Description: C2M(MDM) invokes the Estimate creation through Seeder preprocessing passing on the “Estimation” look up value.

Process Plug-in enabled (Y/N)	Available Algorithm(s):	D1-PERESTM (Periodic Estimation)
Business Object (Y)	Business Object	D1-SmartMeter
		D1-IMDSeeder

5.3 Critical Validations Group: Raw IMD Pre-processing (IMD Seeder)

Actor/Role: C2M(MDM)

Description: C2M(MDM) performs the critical validations for the estimate IMD as part of seeder pre-processing. However, it should be noted, that unlike the Initial Load IMD Seeder pre-processing, this is not a full fledge pre-processing.

Business Object (Y)	Business Object	D1-IMDSeeder
----------------------------	------------------------	--------------

5.4 Populate Pre-VEE Data with Zero Values Group: IMD Estimation Processing

Actor/Role: C2M(MDM)

Description: C2M(MDM) populates Pre-VEE data for the Interval(s) with ‘Zero’ values. The actual values would be estimated during the VEE processing.

Process Plug-in enabled (Y/N)	Available Algorithm(s):	D1-CRMIIMDPR (Populate IMD Pre-VEE / Post-VEE group with 0 Value Intervals)
Business Object (Y)	Business Object	D1-EstimationIMD (Interval)
		D1-Estimation IMD (Scalar)

Note: There is no specific Head-End Specific Mapping and Calculate Consumption Logic for Estimate IMD Processing.

5.5 Analyze Error and Work To Do

Actor/Role: CSR or Authorized User

Description: CSR or Authorized User [analyzes the error logged and respective To Do created](#) to determine the corrective action. User performs work to resolve the error.

Business Object (Y)	Business Object	D1-IMDSeeder
		D1-InitialLoadIMDInterval

D1-InitialLoadIMDScalar
D1-Manual IMD (Interval)
D1-Manual IMD (Scalar)
D1-Estimation IMD (Interval)
D1-Estimation IMD (Scalar)
Head-End Specific Scalar/Interval Business Objects

5.6 Request to Discard

Actor/Role: CSR or Authorized User

Description: When the seeder is in 'Error' state and when CSR or Authorized User decides that the IMD cannot be used, can manually make request to discard it.

Business Object (Y)

Business Object

D1-IMDSeeder

5.7 Complete To Do(s)

Actor/Role: C2M(MDM)

Description: C2M(MDM) finds all non-completed To Do entries and completes them before reprocessing.

Process Plug-in enabled (Y/N)

Available Algorithm(s):

D1-COMP-TD (Complete To Do Entries for Initial Measurement Data)
--

5.8 Update IMD to 'Discard' State

Actor/Role: C2M(MDM)

Description: C2M(MDM) transitions IMD seeder object to 'Discard' status indicating that it cannot be used further. However it remains in the system.

Business Object (Y)

Business Object

D1-IMDSeeder

5.9 Request to Reprocess

Actor/Role: CSR or Authorized User

Description: When the seeder is in 'Error' state and CSR or Authorized User has corrected the error, can manually make request to reprocess the seeder.

Process Plug-in enabled (Y/N)

Available Algorithm(s):

F1-AT-RQJ (Transition to Default Next Status)
--

Business Object (Y)

Business Object

D1-IMDSeeder

6.0 Update IMD to ‘Reprocessed’ State and Initialize Reprocessing

Actor/Role: C2M(MDM)

Description: C2M(MDM) transition the seeder to ‘Reprocessed’ state and initializes reprocessing.

Process Plug-in enabled (Y/N) Available Algorithm(s):

D1-CRE-IMDSD (Attempt to Reprocess Seeder Initial Measurement)

Business Object (Y) Business Object

D1-IMDSeeder

6.1 Identify IMD in ‘Error’ State Group: Automated Retry Process

Actor/Role: C2M(MDM)

Description: Batch Process continuously monitors to identify the IMD seeder in ‘Error’ state. Currently, the Batch process used for this is Generic IMD Monitor -IMD Seeder (D1-GNIMD).

Process Plug-in enabled (Y/N) Available Algorithm(s):

DM_IMD (IMD Monitor - Standard AutoTransition)

Business Object (Y) Business Object

D1-IMDSeeder

Customizable process (Y/N) Process Name

Generic IMD Monitor – IMD Seeder (D1-GNIMD)

6.2 Request to Remove

Actor/Role: CSR or Authorized User

Description: When the IMD is in ‘Error’ state and when CSR or Authorized User decides that the IMD can be removed, CSR or Authorized User can manually make [request to remove](#) it.

Business Object (Y) Business Object

D1-InitialLoadIMDInterval

D1-InitialLoadIMDScalar

Manual IMD (Interval)

Manual IMD (Scalar)

Head-End Specific Scalar/Interval Business Objects

6.3 Update IMD to ‘Remove’ State

Actor/Role: C2M(MDM)

Description: C2M(MDM) updates IMD to ‘Remove’ state.

Process Plug-in enabled (Y/N) **Available Algorithm(s):**

F1-AT-RQJ (Transition to Default Next Status)
--

Business Object (Y) **Business Object**

D1-InitialLoadIMDInterval
D1-InitialLoadIMDScalar
Manual IMD (Interval)
Manual IMD (Scalar)
Head-End Specific Scalar/Interval Business Objects

6.4 Request to Perform Additional Mapping

Actor/Role: CSR or Authorized User

Description: When the IMD is in ‘Mapping Error’ state and when CSR or Authorized User decides to perform Additional Mapping after resolving the error, CSR or Authorized User can manually make a request to [perform Additional Mapping](#). One example of such an error is an event of wrong entry during system configuration.

Business Object (Y) **Business Object**

D1-InitialLoadIMDInterval
D1-InitialLoadIMDScalar
Manual IMD (Interval)
Manual IMD (Scalar)
Head-End Specific Scalar/Interval Business Objects

6.5 Update IMD to ‘Additional Mapping’ State and Continue Processin

Actor/Role: C2M(MDM)

Description: C2M(MDM) transition the IMD in ‘Mapping Error’ state to ‘Additional Mapping’ and initiates processing.

Process Plug-in enabled (Y/N) **Available Algorithm(s):**

F1-AT-RQJ (Transition to Default Next Status)
--

Business Object (Y) **Business Object**

D1-InitialLoadIMDInterval
D1-InitialLoadIMDScalar
Manual IMD (Interval)
Manual IMD (Scalar)
Head-End Specific Scalar/Interval Business Objects

6.6 Evaluate Criteria to Run Automated Retry Process Group: Automated Retry Process

Actor/Role: C2M(MDM)

Description: Batch process is configured for this automated retry process. Batch parameters govern whether the processing is further restricted by batch code, business object, status, etc. Currently, the Batch process used for reprocessing the IMDs in ‘Mapping Error State’ is Generic IMD Monitor – IMD Seeder (D1-GNIMD). The Batch process used for reprocessing the IMDs in ‘VEE Error State’ is IMD Monitor – Physical Devices. This batch process invokes monitoring rules associated with the current state of IMD.

Process Plug-in enabled (Y/N)	Available Algorithm(s):	D1-IMD-RETRY (Retry Initial Measurement Data Processing)
Business Object (Y)	Business Object	D1-InitialLoadIMDInterval
		D1-InitialLoadIMDScalar
		Manual IMD (Interval)
		Manual IMD (Scalar)
		Head-End Specific Scalar/Interval Business Objects
Customizable process (Y/N)	Process Name	Generic IMD Monitor – IMD Seeder (D1-GNIMD)
		IMD Monitor – Physical Devices (D1-IMD)

6.7 Identify IMD in ‘Mapping Error’ State Group: Automated Retry Process

Actor/Role: C2M(MDM)

Description: Batch process identifies IMD record in ‘Mapping Error’ and attempts to re-process the IMDs.

Process Plug-in enabled (Y/N)	Available Algorithm(s):	D1-IMD-RETRY (Retry Initial Measurement Data Processing)
Business Object (Y)	Business Object	D1-InitialLoadIMDInterval
		D1-InitialLoadIMDScalar
		Manual IMD (Interval)
		Manual IMD (Scalar)
Customizable process (Y/N)	Process Name	Generic IMD Monitor – IMD Seeder (D1-GNIMD)

6.8 Update IMD to ‘VEE Ready’ State and Continue Processing

Actor/Role: C2M(MDM)

Description: C2M(MDM) transition the IMD in 'Error' state to 'VEE Ready' and initiates processing.

Process Plug-in enabled (Y/N) **Available Algorithm(s):**

F1-AT-RQJ (Transition to Default Next Status)
--

Business Object (Y) **Business Object**

D1-InitialLoadIMDInterval

D1-InitialLoadIMDSector

Manual IMD (Interval)

Manual IMD (Scalar)

6.9 Identify IMD in 'Error' State Group: Automated Retry Process

Actor/Role: C2M(MDM)

Description: Batch process identifies IMD record in 'Error' and initiates re-processing last step ended in error.

Process Plug-in enabled (Y/N) **Available Algorithm(s):**

D1-IMD-RETRY (Retry Initial Measurement Data Processing)
--

Business Object (Y) **Business Object**

D1-InitialLoadIMDInterval

D1-InitialLoadIMDSector

Manual IMD (Interval)

Manual IMD (Scalar)

Head-End Specific Scalar/Interval Business Objects
--

Customizable process (Y/N) **Process Name**

IMD Monitor - Physical Devices (D1-IMD)

7.0 Process 'Held' State IMDs Group: Initial Load Head-End System Specific IMD Processing

Actor/Role: C2M(MDM)

Description: C2M(MDM) processes IMD(s) isolated in 'Held' status of the various IMD business objects. The 'Held' status is used to isolate IMDs so as to limit the number of IMDs process per measuring component. This helps to trap scenarios where a device has suddenly sent IMDs covering a large window of time which will slow down core IMD processing.

Process Plug-in enabled (Y) **Available Algorithm(s):**

F1-AT-RQJ (Transition to Default Next Status)
--

D1-UPIMDCST - Update IMD Control BO Status
--

Business Object (Y) **Business Object**

Initial Load IMD (Interval)

Customizable process (Y/N)	Process Name	Initial Load IMD (Scalar)
		IMD Monitor - Deferred IMDs (D1-IMDDF)
		IMD Monitor - Deferred IMDs V2 (D1-IMDDFV2)

7.1 Review Held IMD**Actor/Role:** CSR or Authorized User**Description:** CSR or Authorized User reviews and process IMD(s) in 'Held' state.**7.2 Transition IMD Records to 'Waiting for ML' Status Group: Initial Load IMD Processing with ML****Actor/Role:** C2M(MDM)**Description:** C2M(MDM) transition IMD records to 'Waiting for ML' status if ML based validation is enabled for the measuring component.

Process Plug-in enabled (Y)	Available Algorithm(s):	D1-EM-ROUTIN - IMD Routing - Pending
		D1-UPIMDCTST - Update IMD Control BO Status
		D1-ML-TRN-DN - IMD Routing - Waiting for ML
Business Object (Y)	Business Object	Initial Load IMD (Interval)
		Initial Load IMD (Scalar)
Customizable process (Y/N)	Process Name	IMD Monitor - Waiting for ML IMDs (D1-IMDML)

7.3 Receive Raw IMD Control Data**Actor/Role:** Machine Learning Tool**Description:** ML Tool receives raw IMD control data from C2M(MDM)**7.4 Process IMDs, Perform VEE, Finalize IMDs****Actor/Role:** Machine Learning Tool**Description:** ML Tool will process IMDs and perform VEE. ML would perform normalcy check and would generate 'ML quantity' and 'Anomaly score'.**7.5 Export IMDs with Result of Normalcy Check****Actor/Role:** Machine Learning Tool**Description:** ML Tool will export IMDs with result of 'Normalcy Check' to C2M.**7.6 Monitor Response Process 'Waiting for ML IMDs' Group: Monitor ML IMDs Result
Group: Initial Load IMD Processing with ML****Actor/Role:** C2M(MDM)

Description: C2M(MDM) will monitor response from ML tool.

Process Plug-in enabled (Y)	Available Algorithm(s):	D1-ML-TRN-DN - IMD Routing - Waiting for ML
Business Object (Y)	Business Object	Initial Load IMD (Interval)
		Initial Load IMD (Scalar)
Customizable process (Y/N)	Process Name	IMD Monitor - Waiting for ML IMDs (D1-IMDML)

7.7 Process ML Results Group: Initial Load IMD Processing with ML

Actor/Role: C2M(MDM)

Description: C2M(MDM) will analyze the anomalous score and will transition to next default status. If the anomaly score is greater than the threshold the measurement is anomalous and VEE configuration defined at Measuring component will be used.

Process Plug-in enabled (Y)	Available Algorithm(s):	D1-ML-TRN-DN - IMD Routing - Waiting for ML
		D1-ML-ROUTIN - IMD Routing - VEE Ready
Business Object (Y)	Business Object	Initial Load IMD (Interval)
		Initial Load IMD (Scalar)
Customizable process (Y/N)	Process Name	IMD Monitor - Waiting for ML IMDs (D1-IMDML)

Test Assets related to the Current Process

Testing Asset Sr.No	Testing Asset-Flows	No Of Data sets
1	URM-C2M-4211-001-Create-Initial-Measurement-Data-Via-IMDSeeder	12
2	URM-C2M-4211-002-Update-Manual-Scalar-Initial-Measurement-Data	3
3	URM-C2M-4211-003-Update-Manual-Interval-Initial-Measurement-Data	3
4	URM-C2M-4211-004-Create-Manual-Interrval-IMD-Via-CreateOverride-Function	3

Document Control

Change Record

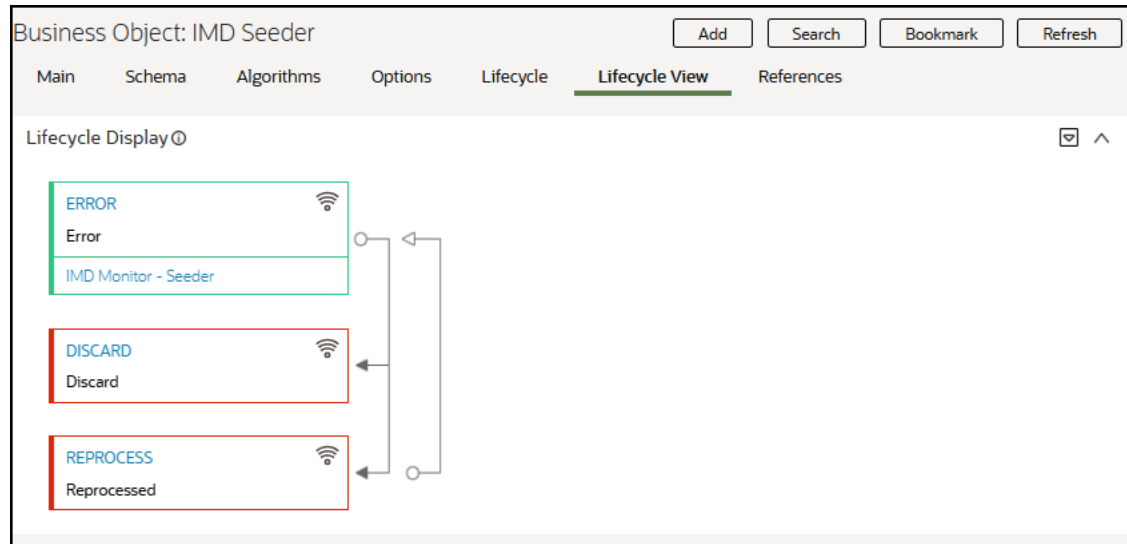
Date	Author	Version	Change Reference
9/13/2011	Srinivas Rao Kanteti	1	Initial Draft
4/6/2015	Srinivas Rao Kanteti	2	Revised Version
11/17/2015	Walter Wolanski		Review and updates
11/18/2015	Galina Polonsky		Review, Approve
08/29/2017	Isuru Ranasinghe		Minor formatting changes
05/16/2018	Srinivas Rao Kanteti		Minor update to Visio and Word Doc
6/5/2019	Satya Kalavala		Updated format for v2.7
09/11/2024	Kunal Nerkar		Updated document and Visio for C2M v2.9
15/11/2024	Ashish Shukla		Reviewed and Approved
12/18/2024	Galina Polonsky		Review, Approve

Attachments

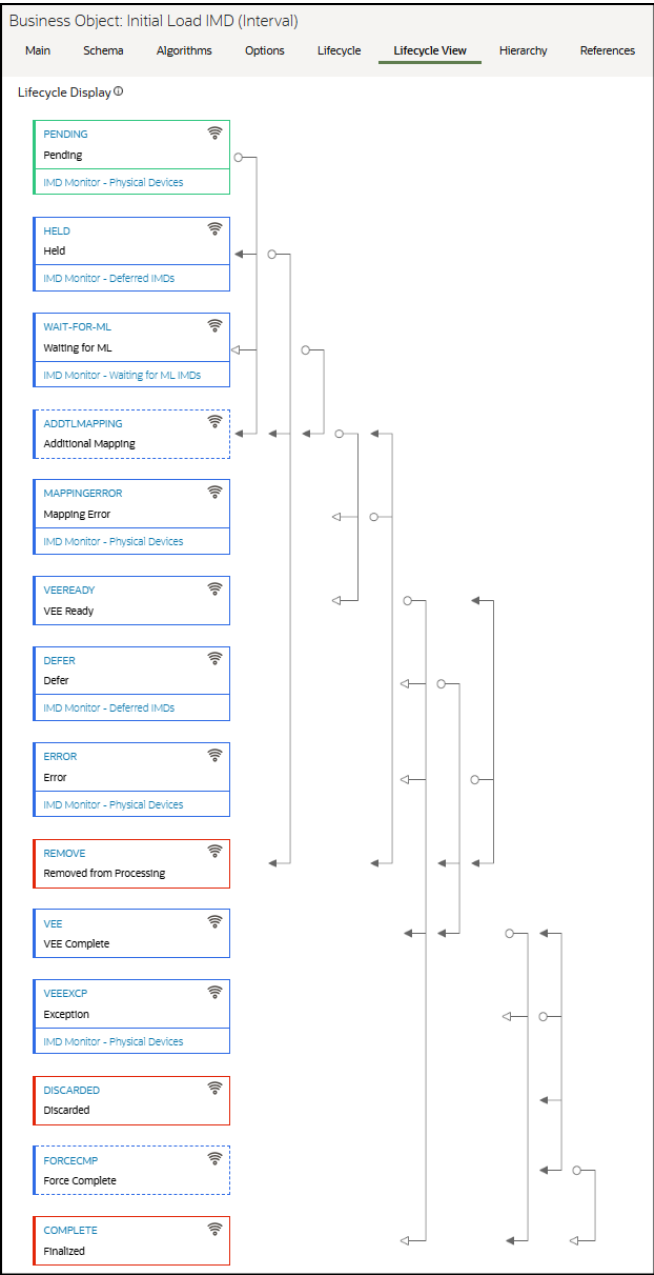
Dictionary

1. The Head-End System and the Service Provider are the same from the context of MDM System.

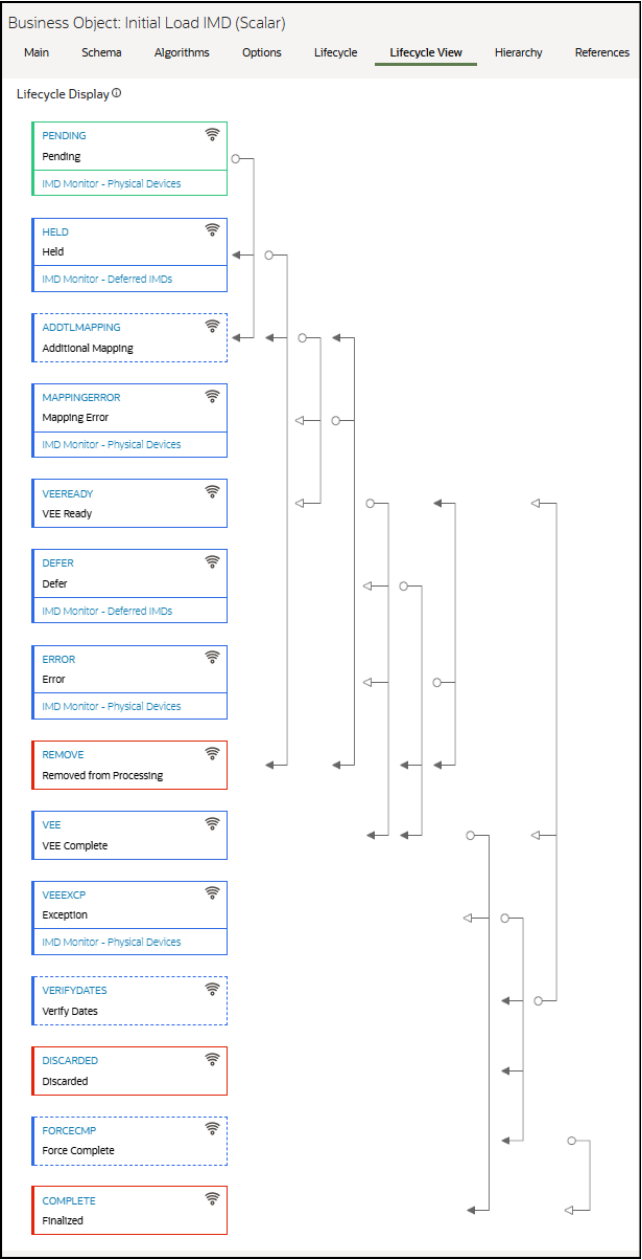
IMD Seeder Lifecycle



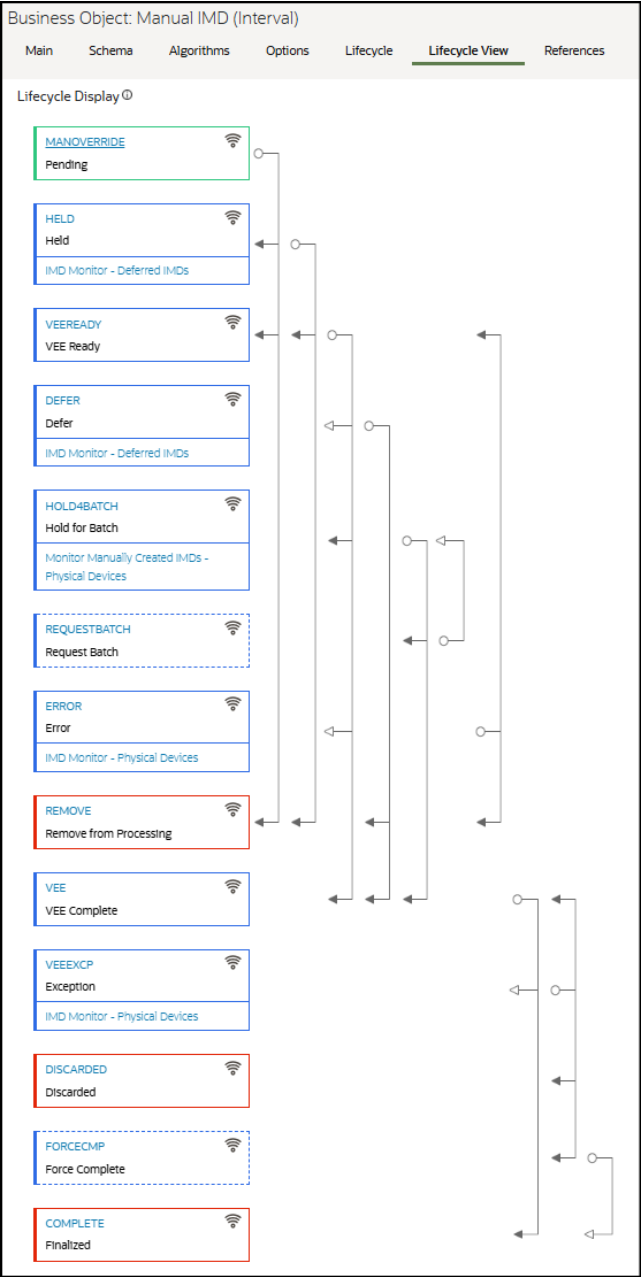
Initial Load IMD Interval Lifecycle



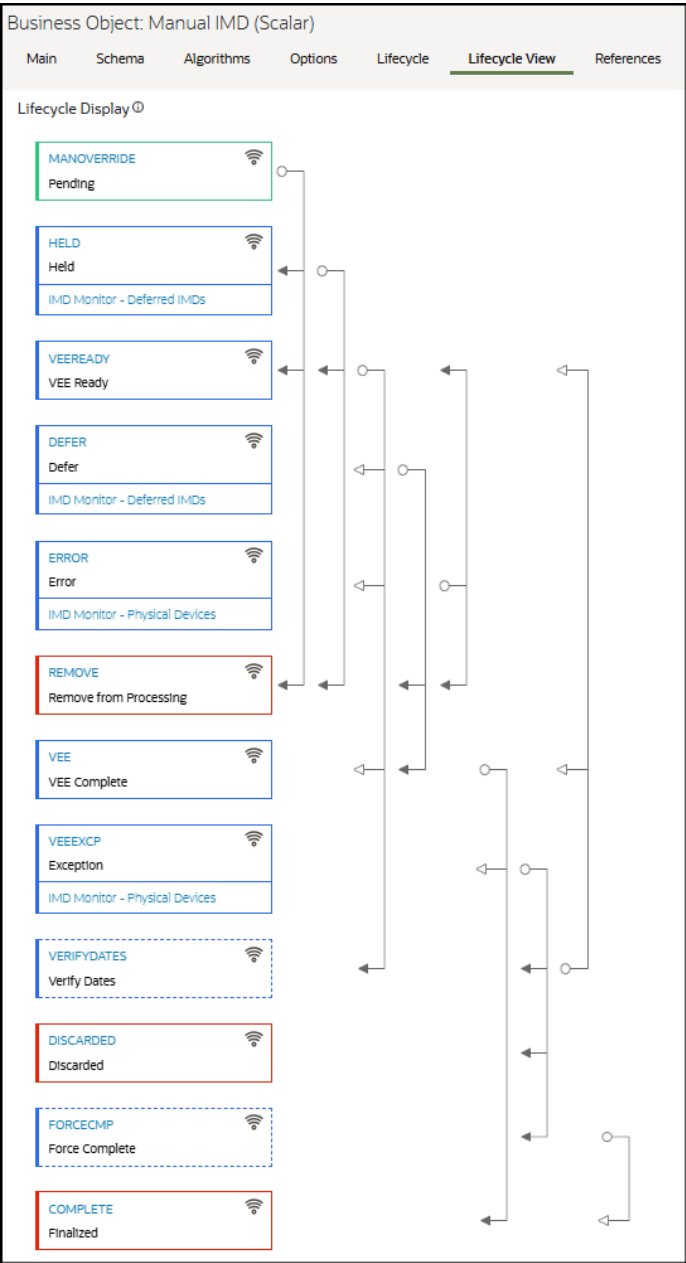
Initial Load IMD Scalar Lifecycle



Manual IMD Interval Lifecycle



Manual IMD Scalar Lifecycle



Measuring Component Portal

Measuring Component: SD-DVC-E-SMART-6221 / 1 / Electric Scalar kWh - A...

Add

Search

Bookmark

Refresh

Main

Log

Measuring Component

Main

Information

Measuring Component Type

Device Configuration

Consumption Reference

Measuring Component

How To Use

Number of Digits Left

Number of Digits Right

Channel Multiplier

Channel ID

SD-DVC-E-SMART-6221 / 1 / Electric Scalar kWh - Auto Read

Electric Scalar kWh - Auto Read

Electric Smart Meter / Effective Date/Time:01-01-2020 0:00:00 PST / Electric Auto Read - kWh - Scalar / 1 Measuring Component(s) / Active

Additive

6

3

1.000000

1

Processing Information

Last Contiguous Read Date/Time

Most Recent Non Estimated Read Date/Time

01-01-2020 1:00:00 PST

01-01-2020 1:00:00 PST

Register Information

Read Sequence

Read Out Type

Tolerance

Full Scale

0

9999999990000

Related Statistics

Related Statistics Measuring Components

Record Actions

Edit

Delete

Record Information

Fallback VEE Groups

Initial Load

Estimation

Manual Override

Projection

Electric Scalar - Initial Load

Electric Scalar - Estimation

Electric Scalar - Manual Override

Initial Measurement Data History

Initial Measurement Data

1	01-01-2020 1:00:00 PST - 07-01-2020 1:00:00 PDT / Manual / Exception
2	01-01-2020 1:00:00 PST - 06-01-2020 1:00:00 PDT / Manual / Exception
3	01-01-2020 1:00:00 PST - 05-01-2020 1:00:00 PDT / Manual / Exception
4	01-01-2020 1:00:00 PST - 04-01-2020 1:00:00 PDT / Manual / Exception
5	01-01-2020 1:00:00 PST - 03-01-2020 0:00:00 PST / Manual / Exception
6	01-01-2020 1:00:00 PST - 02-01-2020 0:00:00 PST / Manual / Exception
7	End Date/Time: 01-01-2020 1:00:00 PST / Manual / Finalized

Page 1 of 1 (7 Records)

Measuring Component Profile Use

Measurements - Scalar

Device Configuration Overview

Measuring Component Comparison Periods Details

Device Configuration Portal

Device Configuration: Electric Smart Meter / Effective Date/Time:01-01-2020 0:00:00 ...

SearchBookmarkRefresh

MainLog

Device Configuration

Go To Search

Main

Record Actions

Record Information

Information

Electric Smart Meter / Effective Date/Time:01-01-2020 0:00:00 PST / Electric Auto Read - kWh - Scalar / 1 Measuring Component(s) / Active

Device Configuration Type

Electric Auto Read - kWh - Scalar

Device

SD-DVC-E-SMART-6221 / Electric Smart Meter / Install Date/Time: 01-01-2020 0:00:10 PST / Connected / Commissioned / Sensus / Active

Effective Date/Time

01-01-2020 0:00:00 PST

Time Zone

US Pacific Time

Status

Active

Edit

Delete

Device Configuration

584578043160

Business Object

Device Configuration

Status Date/Time

02-19-2024 6:51:05

Create Date/Time

02-19-2024 6:51:04

Measuring Components

Add

	Measuring Component	Measuring Component Type
1	SD-DVC-E-SMART-6221 / 1 / Electric Scalar kWh - Auto Read	Electric Scalar kWh - Auto Read

Scalar Readings

Enter New Read

Filters: Device Configuration 584578043160 , Device 584426182942

	Read Date Time	Edit	Do Not Use
1	Meter: 584426182942, Read Date: 01-01-2020 1:00:00 PST, 1 register read, Reading: 500, Condition: Regular		Do Not Use

Measurement Date/Time

Search

Review Pending State IMD

Initial Measurement: 12-25-2019 0:00:00 PST - 01-01-2020 0:00:00 ...

Search

Bookmark

Refresh

Main

Log

Initial Measurement

Main

Information

Measuring Component

External ID

From Date/Time

To Date/Time

Original From Date/Time

Original To Date/Time

Status

Data Source

Time Zone

Comments

Trace

Interval Date Time Populated

12-25-2019 0:00:00 PST - 01-01-2020 0:00:00 PST / Manual / Pending

ER-SM-010 / Electric Interval kWh - 60 min

12-25-2019 0:00:00 PST

01-01-2020 0:00:00 PST

Pending

US Pacific Time

Off

No

Record Actions

Edit

Delete

Prepare for VEE

Remove from Processing

Held

Record Information

Initial Measurement Data ID

Business Object

Status Date/Time

Create Date/Time

98466144922982

Manual IMD (Interval)

11-06-2024 6:45:40

11-06-2024 6:45:40

Retry Details

IMD Automated Retry

Next Retry Date/Time

Retry Until Date/Time

No

Raw Data, Pre-VEE and Post-VEE XML Data

Measurements of Initial Measurement

Filters: Initial Measurement Data ID 98466144922982

	Measurement Date/Time	Measurement	Condition
1	This Initial Measurement Data created 0 Measurement(s). Please use Export to Excel to download.		

4.2.1.1 C2M.Upload Device Measurements

4.2.1.1 C2M.Upload Device Measurements

Load IMDs Events Portal

Initial M

Main

Initial M

Main

Measur

Origin

Raw Da

Measur

Filters: 1

Online IMD and Event Upload

Online IMD and Event Upload

Online IMD Upload

Online Event Upload

This tool allows the creation of multiple Initial Measurement Data (IMD) for multiple devices.

```
<deviceList>Group Node
<device>1.00
<headEnd/>
<headEndExternalId/>
<deviceId/>
<deviceIdentifierNumber/>
<InitialMeasurementDataList>
<InitialMeasurementData>1.00
<preVEE>
<mclIdN>Populate with Channel Id</mclIdN>
<uom>Populate uom if Channel Id is not provided</uom>
<mclId/>
<stDt>Start Date/Time (YYYY-MM-DD-HH.MM.SS)</stDt>
<enDt>End Date/Time (YYYY-MM-DD-HH.MM.SS)</enDt>
<msrs>
<mL>1.00
<s>Sequence Number</s>
<q>Quantity</q>
</mL>
</msrs>
<enDt>End Date/Time (YYYY-MM-DD-HH.MM.SS)</enDt>
<enQty>End Quantity</enQty>
</preVEE>
```

The format required to create interval IMD(s) is as follows:

The format required to create scalar IMD(s) is as follows:

The format required to create Meter Read Remark(s) is as follows:

Submit

Cancel

Measuring Component Portal

Measuring Component: ER-SM-010 / Electric Interval kWh - 60 min

Main

Log

Measuring Component

Main

Information

ER-SM-010 / Electric Interval kWh - 60 min

Measuring Component Type

Electric Interval kWh - 60 min

Device Configuration

Electric Smart Meter / Effective Date/Time:01-01-2012 0:00:00 PST / Electric Auto Read - kWh - 60 min intervals / 1 Measuring Component(s) / Active

Consumption Reference Measuring Component

How To Use

Additive

Number of Digits Left

5

Number of Digits Right

4

Channel Multiplier

1.000000

Processing Information

Most Recent Read Date/Time

07-01-2020 0:00:00 PDT

Last Contiguous Read Date/Time

07-01-2020 0:00:00 PDT

Most Recent Non Estimated Read Date/Time

07-01-2020 0:00:00 PDT

Related Statistics

Related Statistics Measuring Components

Electric Channel Statistics - Last Month / ER-SM-010 / Electric Interval kWh - 60 min

Electric Channel Statistics - Same Month Last Year / ER-SM-010 / Electric Interval kWh - 60 min

Electric Channel Statistics - Prior 13 Months / ER-SM-010 / Electric Interval kWh - 60 min

Initial Measurement Data History

Initial Measurement Data

1

01-01-2020 0:00:00 PST - 07-01-2020 0:00:00 PDT / Manual / Finalized

2

12-25-2019 0:00:00 PST - 01-01-2020 0:00:00 PST / Manual / Pending

Add

Record Actions

Edit

Delete

Record Information

Related Projection Measuring Components

Related Projection Measuring Components

Fallback VEE Groups

Enable ML Based Validation

Initial Load

Streaming Initial Load

Estimation

Manual Override

Projection

Electric Interval - Initial Load

Electric Interval - Initial Load Streaming

Electric Interval - Estimation

Electric Interval - Manual Override

4.2.1.1 C2M.Upload Device Measurements

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49

Create Override IMD

360 De

Measur

2

3

4

5

Final Va

Paramete

Measurin

Create/Override Interval Consumption

Create/Override Intervals ⓘ

Measuring Component20190925001 / 1 / Electric Interval kWh - 60 min

Start Date/Time12-25-20190:00:00 PST

End Date/Time01-01-20200:00:00 PST

Copy Existing Measurements☐

Total Consumption100.000000

ConditionOffice Estimate

Conversion MethodUse Straight Line

OKCancel

Review IMD in VEE Ready State

Initial Measurement

Main

Record Actions

Trace On

Edit

Delete

Perform VEE

Perform VEE in Batch

Information

01-01-2020 0:00:00 PST - 02-01-2020 0:00:00 PST / Manual / VEE Ready

Measuring Component

20190925001 / 1 / Electric Interval kWh - 60 min

External ID

From Date/Time

01-01-2020 0:00:00 PST

To Date/Time

02-01-2020 0:00:00 PST

Original From Date/Time

Original To Date/Time

Status

VEE Ready

Data Source

Time Zone

US Pacific Time

Comments

Trace

Off

Interval Date Time Populated

No

Record Information

Retry Details

IMD Automated Retry

No

Next Retry Date/Time

Retry Until Date/Time

Raw Data, Pre-VEE and Post-VEE XML Data

Measurements of Initial Measurement

Error and To Do

Initial Measurement: 01-01-2020 1:00:00 PST - 02-01-2020 0:00:00 PST / Manual / Exception

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Main

Log

Initial Measurement Log

Filters: Initial Measurement Data ID 58499676191928

	Date/Time	Details	Status Reason	User	Log Type	Related Object
1	02-19-2024 6:52:02	UOM:CCF-W does not match KWH on Measuring Component Type		Radhakrishnan , Reshma (RRADHAKR)	Exception	IMD Exception - Open, 02-19-2024 6:52:02

Exception Summary

Filters: Initial Measurement Data ID 58499676191928

	VEE Exception	Exception Status	Exception Severity ⓘ	Create Date/Time	VEE Group ⓘ	VEE Rule
1	Insufficient Input Data / Information / Closed	Closed	Information	02-19-2024 6:52:02	Validations - Electric Scalar Common	Multiplier Check
2	Unit of Measure Discrepancy / Issues / Open	Open	Issues	02-19-2024 6:52:02	Validations - Electric Scalar Common	Unit of Measure Check

Initial Measurement Exception Detail

Main ⓘ

Record Information ⓘ

Exception Type

Unit of Measure Discrepancy

Initial Measurement Data

01-01-2020 1:00:00 PST - 02-01-2020 0:00:00 PST / Manual / Exception

VEE Group

Validations - Electric Scalar Common

VEE Rule

Unit of Measure Check

Exception Severity ⓘ

Issues

Exception Status

Open

Comments

Message: UOM:CCF-W does not match KWH on Measuring Component Type

To Do Type

To Do Role

Batch Program for Interval IMD Estimation Process

Batch Control
Bookmark Duplicate Delete Clear Save Refresh

Main Algorithms

Batch Control DI-SMMTR Q Owner Service and Measurement Data Foundation

Description Smart Meter State Monitor Process

Detailed Description

This batch control is used to monitor smart meter devices. Monitoring smart meter devices initiates processes such as periodic estimation (see algorithm Periodic Estimation - DI-PERESTM).

It is suggested that this batch control be executed with an Override Number Records to Commit of 1.

Note: If you would like any errors encountered during this batch process to be logged as a device specific To Do and displayed within the batch run tree then update the To Do Type IMD Periodic Estimation Processing Error (DI-IMDPE) with this batch control as the "Creation Process."

Note: this batch is threaded by device and the number of records processed will be a count of devices. The true throughput of

Application Service DI-DVC Q Device Execution Application Service

Batch Control Type Not Timed Batch Category Monitor

Program Type Java

Program Name com.splwg.base.domain.common.businessObject.batch.AutoTransitionBatchProcess

Level of Service Disabled - Level of Service information is not available for this batch job.

Last Update Timestamp Last Update Instance 0

Next Batch Nbr 1 Accumulate All Instances

Thread Count 0 Override Nbr Records to Commit 0

Trace Program Start Trace Program Exit

Trace SQL Trace Output

	Sequence	Parameter Name	Description	Detailed Description
+ -	* 10	maintenanceObject	Maintenance Object	
+ -	* 20	isRestrictedByBatchCode	Restrict by Batch Code	Enter a value of true to restrict processing to Smart Meters whose current state is linked to this batch code.
+ -	* 30	restrictToType	Restrict by Device Type	
+ -	* 40	restrictToBusinessObject	Restrict by Business Object	Enter a business object code here to limit the process to Smart Meters linked to this business object.
+ -	* 50	restrictToBOStatus	Restrict by Status Code	Enter a status code here to limit the process to Smart Meters in this state.
+ -	* 60	maxErrors	Override maximum errors	Enter a value here to override the maximum number of errors allowed before the run is terminated.
+ -	* 70	DIST-THD-POOL	Thread Pool Name	Thread pool name to use if the DEFAULT thread pool is not desired.

Hours configuration for Interval IMD Estimation

Measuring Component Type: Gas Interval CCF - 60 min

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Main

Measuring Component Type

Main

Measuring Component TypeG-I-CCF-60

DescriptionGas Interval CCF - 60 min

Measuring Component Business ObjectInterval Channel

Measurement Business ObjectMeasurement

Service TypeGas

Measuring Component ClassPhysical

Interval /ScalarInterval

Allow Negative Consumption

Consumptive/SubtractiveConsumptive

Interval Size01:00:00

Ignore Installation Constant (Fallback)

Record Actions

EditDeleteDuplicate

Record Information

Business ObjectInterval Channel Type - Physical

Estimation

Periodic Estimation Execution MethodPredictable Cut-off Time

Estimation Cut-off Time0:00:00

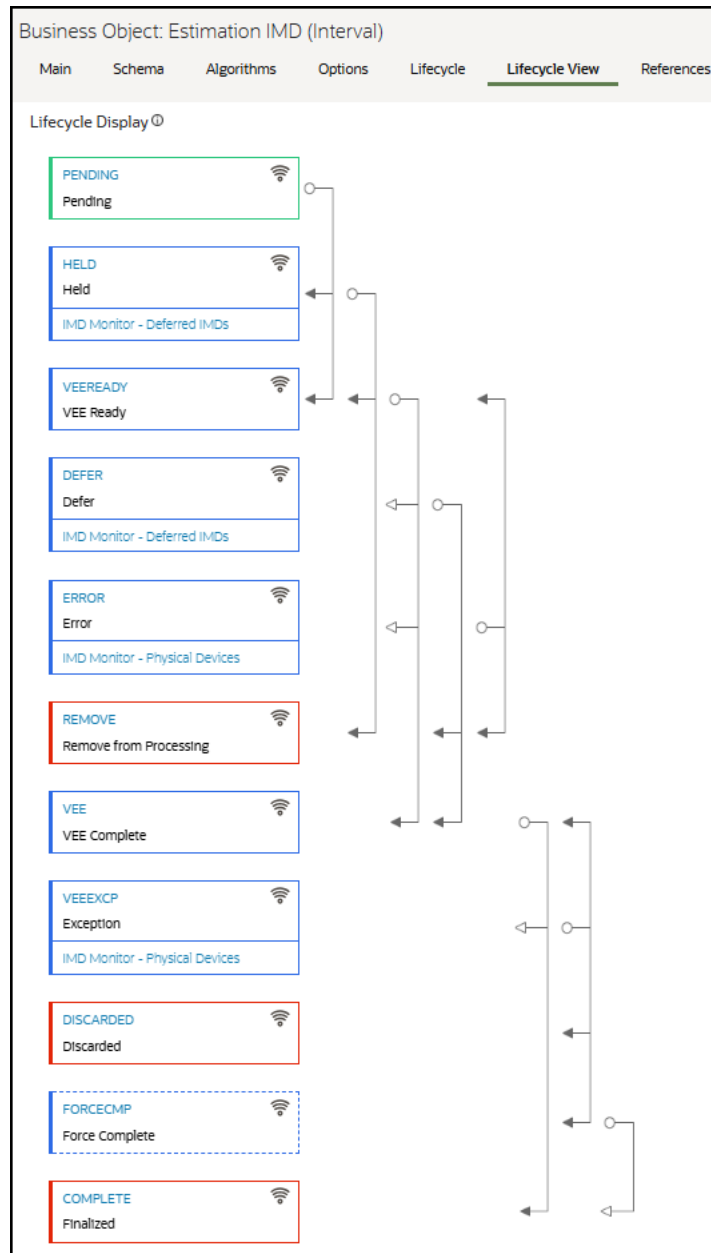
Hours Before Estimation24

Maximum Days To Estimate

Value Identifiers

Value Identifier Type	Short-Hand Description	UOM	TOU	SQI	Value Derivation Algorithm
Measurement	CCF	100 Cubic Feet (Gas)			

Estimate IMD Interval Lifecycle



Estimate IMD Scalar Lifecycle

