



C2M v2.9

5.6.3.2 Manage Device Installation and Commissioning

Creation Date: July 25, 2011
Last Updated: January 29, 2025

ORACLE®

Copyright © 2024, Oracle. All rights reserved.

This document is provided for information purposes only and the contents hereof are subject to change without notice. This document is not warranted to be error-free, nor subject to any other warranties or conditions, whether expressed orally or implied in law, including implied warranties and conditions of merchantability or fitness for a particular purpose. We specifically disclaim any liability with respect to this document and no contractual obligations are formed either directly or indirectly by this document. This document may not be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without our prior written permission. Oracle, JD Edwards, PeopleSoft, and Siebel are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.

Contents

BRIEF DESCRIPTION	2
BUSINESS PROCESS MODEL PAGE 1	3
BUSINESS PROCESS MODEL PAGE 2	4
BUSINESS PROCESS MODEL PAGE 3	5
BUSINESS PROCESS MODEL PAGE 4	6
BUSINESS PROCESS MODEL PAGE 5	7
BUSINESS PROCESS MODEL PAGE 6	8
BUSINESS PROCESS MODEL PAGE 7	9
DETAIL BUSINESS PROCESS MODEL DESCRIPTION.....	10
TEST ASSETS RELATED TO THE CURRENT PROCESS.....	45
DOCUMENT CONTROL	46
ATTACHMENTS	47
<i>Acronyms & Definitions.....</i>	<i>47</i>
<i>Smart Meter Install Event BO - Lifecycle.....</i>	<i>48</i>
<i>Manual Meter Install Event BO – Lifecycle</i>	<i>49</i>
<i>Device Commission BO - Lifecycle</i>	<i>50</i>
<i>Install Event - Link DC and Service Point</i>	<i>51</i>
<i>Install Event - Details_On_Off_History</i>	<i>51</i>
<i>Device Commission Command.....</i>	<i>52</i>
<i>Install Event - Update_Connect_Disconnect_Remove</i>	<i>52</i>
<i>Miscellaneous. Related Web Services</i>	<i>53</i>

Brief Description

Business Process:	5.6.3.2 C2M.Manage Device Installation and Commissioning
Process Type:	Sub-Process
Parent Process:	5.6.3 C2M.Manage Supplies/Devices
Sibling Processes:	5.6.3.1 C2M Manage Tracked Assets and Devices 5.6.3.3 C2M.Manage Device De-installation, Decommissioning and Retirement 3.3.1.1 C2M.Maintain Contact, 5.1.5.1 C2M Manage Metered Site

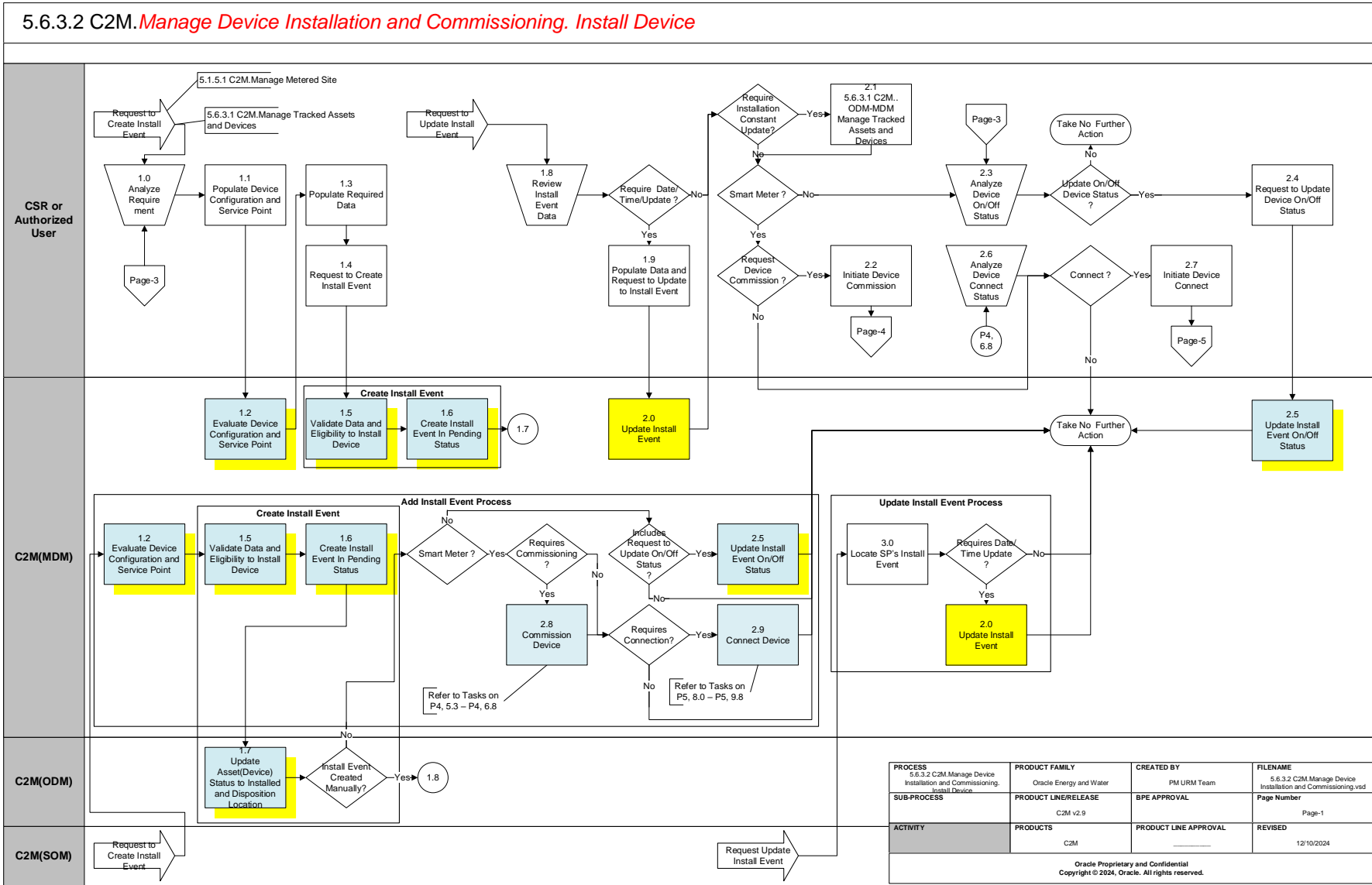
This process describes how to manage device installation and device commission in C2M(MDM). Device installation and Device commissioning can be initiated by CSR or Authorized User using user interface or automatically. The process assumes that the device and service point have already been setup in C2M(MDM) – refer to Manage Device and Manage SP process for more information. Installation event is the process of connecting the device to the service point. For those smart meters and head-end systems that are part of Oracle Smart Grid Gateway, the process commissioning the device with the head-end system including the ability for the device to communicate (take commands) between the two systems (C2M(MDM) and the head-end system)

Installation events capture the history of the devices that have been installed at a service point. In technical terms, installation events (or install events) link a specific device configuration to a service point. While a device is installed at a service point, it may be turned off (and back on again). The installation event that records the original installation date and time also records the dates and times when the device has been turned on and off. When a device is removed, the original installation event is updated with the removal date and time.

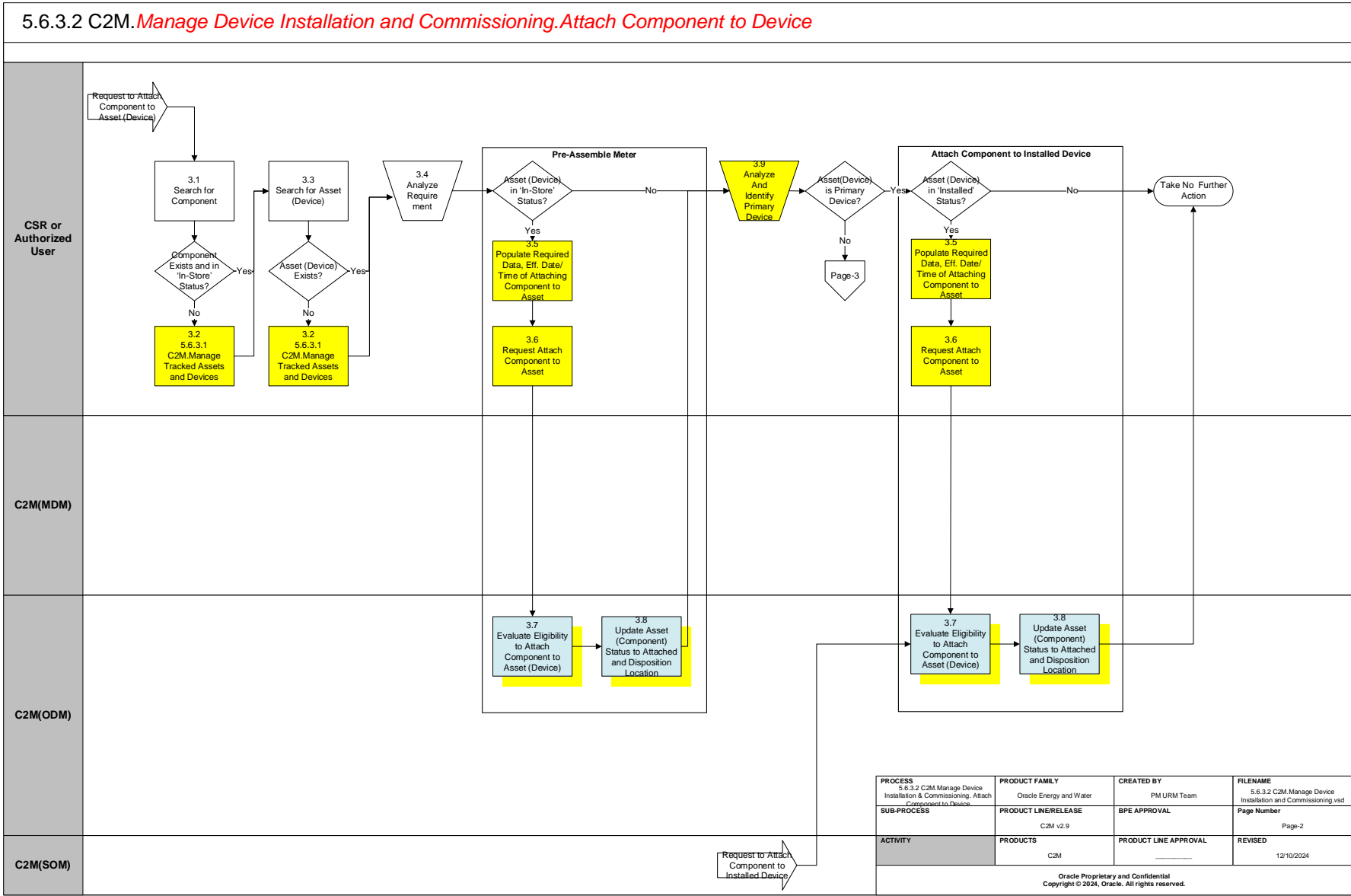
Device Commission is a command issued to establish communication between a device and the head-end system. Commissioning of a Device is reserved for Smart Meters. A Commissioned device is an active device found on the smart grid. Arming status is set (either Armed or blank) and the On/Off history is created. Device Commissioning is a part of the Install Event process.

Note: Current document represents complete process for Device Commissioning .The C2M(MDM) as an application provides ability to initiate command, orchestrate processing and record results. However the actual communication with any Head End System requires integration with Head End system(s) that could be implemented by using Oracle SGG or any other similar software or custom development

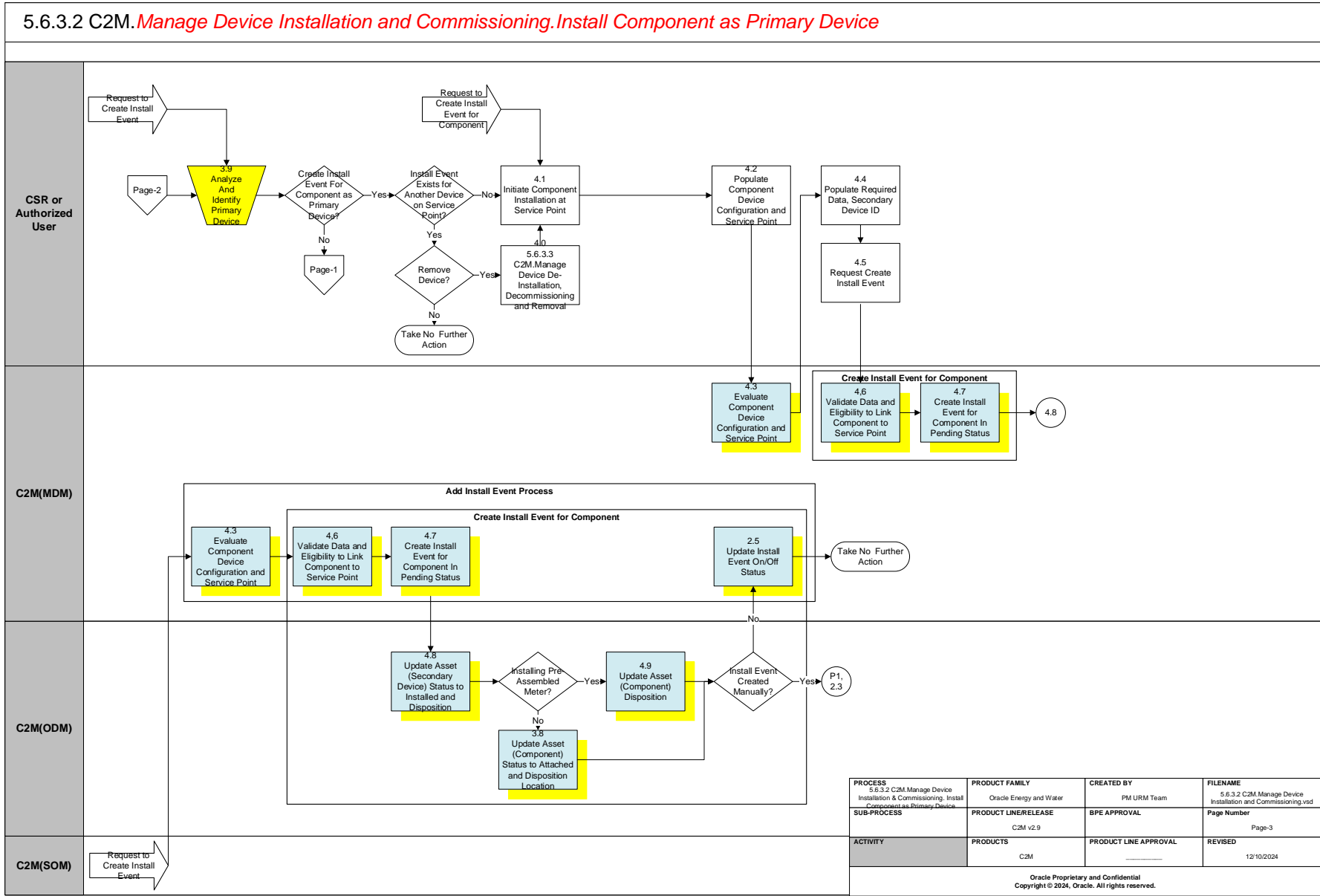
Business Process Model Page 1



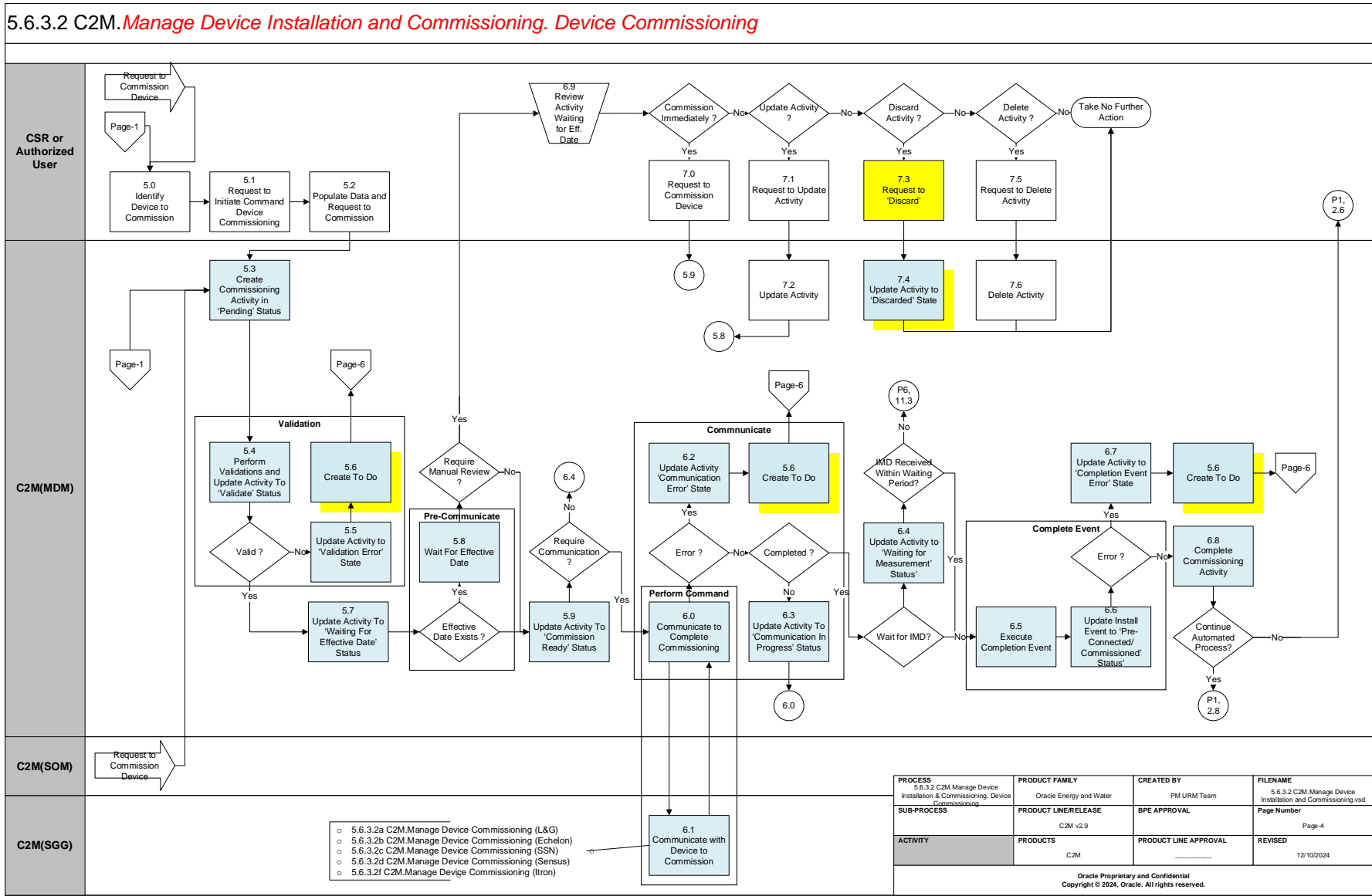
Business Process Model Page 2



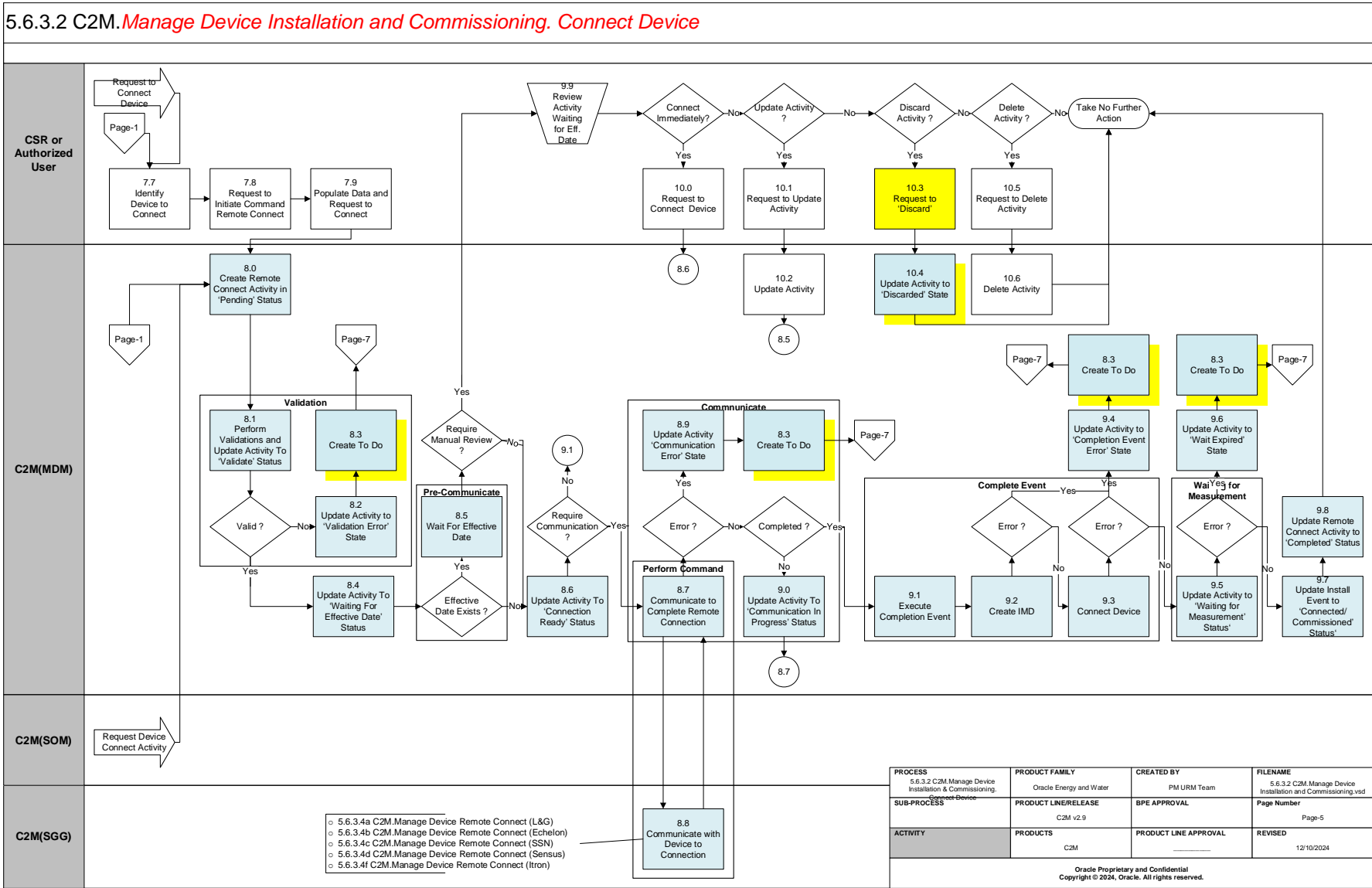
Business Process Model Page 3



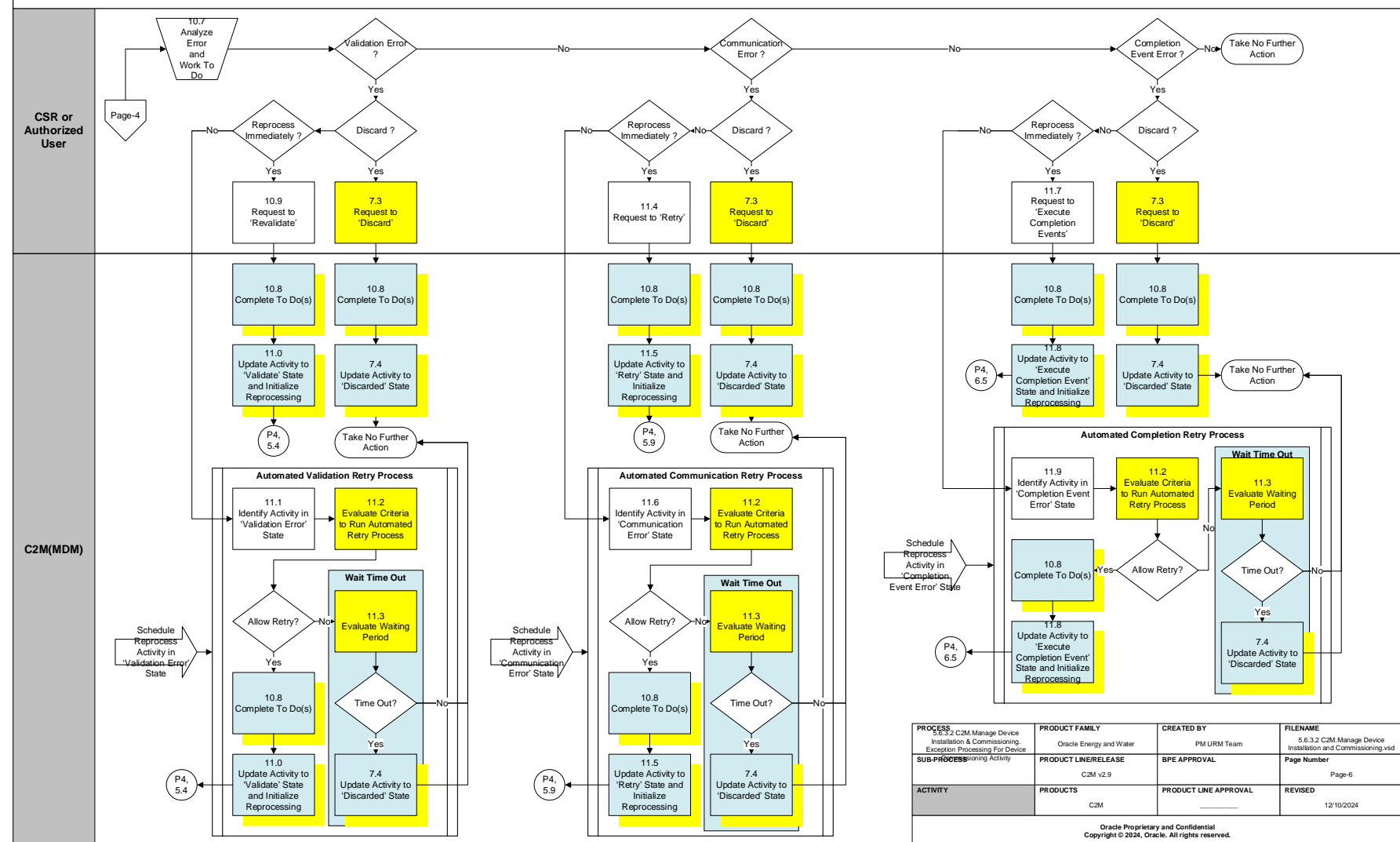
Business Process Model Page 4



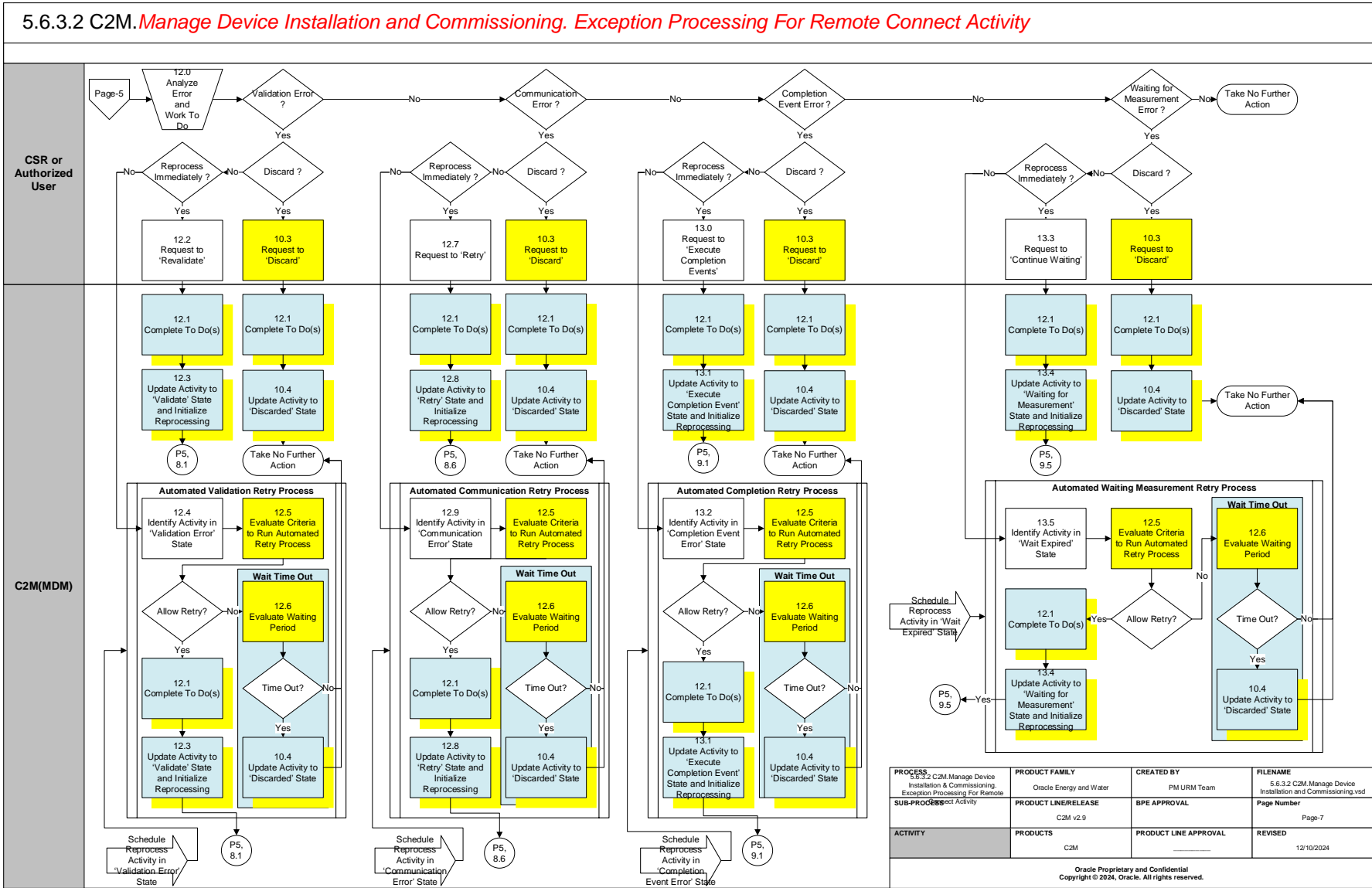
Business Process Model Page 5



5.6.3.2 C2M.*Manage Device Installation and Commissioning. Exception Processing For Device Commissioning Activity*



Business Process Model Page 7



Detail Business Process Model Description

1.0 Analyze Requirement

Actor/Role: CSR or Authorized User

Description:

When creating an install event, the CSR or Authorized User gathers all the required attributes for adding an event.

1.1 Populate Device Configuration and Service Point

Actor/Role: CSR or Authorized User

Description:

The CSR or Authorized User populates and/or updates the maintenance object with the analyzed service point requirements.

Note: Contact on the SP for smart meters is important when the device has arming required set to “arming required”.

1.2 Evaluate Device Configuration and Service Point Group: Add Install Event Process

Actor/Role: C2M(MDM)

Description:

C2M(MDM) checks to see if the meter type and service point type match.

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

D1-DEVCFGVAL (Validate the Device Configuration)
D1-INSTDEV (Install Device)

Business Object (Y/N) **Business Object**

D1-InstallDevice
D1-ManualMeter
D1-SmartMeter
D1-CommComponentDevice
D1-Item

Inbound Web Service(s):

D1-InstallEvent

Note: There is a validation to check if the meter type and the service point type match.

1.3 Populate Required Data

Actor/Role: CSR or Authorized User

Description:

The CSR or Authorized User enters the remaining install event data.

1.4 Request to Create Install Event

Actor/Role: CSR or Authorized User

Description:

Authorized makes a request by clicking “Save” – which is the actual request to create the [install event](#).

1.5 Validate Data and Eligibility to Install Device Group: Add Install Event Process**Group: Create Install Event**

Actor/Role: C2M(MDM)

Description:

C2M(MDM) runs several validations to check the device and service point.

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

D1-DEVCFGVAL (Validate the Device Configuration)
--

Business Object (Y/N) **Business Object**

D1-SmartMeterInstallEvent

D1-ManualMeterInstallEvent

D1-ItemInstallEvent

Note: Validations include the following:

- Check if Device Configuration is installed at another Service Point for the same install date/ time
- Determine if any other install event exists for the SP, where the install date/ time lies between the current install date/ time and removal date/ time.
- Device Configuration has "Active" status
- Device Configuration Install on Another SP

1.6 Create Install Event in Pending Status Group: Add Install Event Process**Group: Create Install Event**

Actor/Role: C2M(MDM)

Description:

C2M(MDM) creates the install event.

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

D1-CREINSEVT (Create Install Event)

D1-DET-ASMVT (Determine If Asset Movement Occurred)
--

D1-CRSYRQMSG (Create Sync Request Message)

X1-SENDIESY (Synchronize Install Event)

D1-VALDVCMST (Warn if Installing a Device Configuration that has Measurements)
--

Business Object (Y/N) **Business Object**

D1-SmartMeterInstallEvent

D1-ManualMeterInstallEvent
D1-CommComponentInstallEvent
D1-ItemInstallEvent

1.7 Update Asset(Device) Status to Installed and Disposition Location Group: Add Install Event Process
Group: Create Install Event

Actor/Role: C2M(ODM)

Description:

C2M(ODM) transitions the asset status to installed and updates disposition location accordingly

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

W1-UPDASTND (Update Asset Node data)

Business Object (Y/N) **Business Object**

W2-SmartMeter
W2-ManualMeter

Configuration required Y **Entities to Configure:**

Extendable Lookup (Asset/Device Status)
Asset Type
Component Type
Template Asset
W1-StorageLocationType
W1-StorageLocation

1.8 Review Install Event Data

Actor/Role: CSR or Authorized User

Description:

The CSR or Authorized User reviews the data after the install event has been added.

1.9 Populate Data and Request to Update to Install Event

Actor/Role: CSR or Authorized User

Description:

The CSR or Authorized User enters the required data and save the data to update the install event.

2.0 Update Install Event Group: Update Install Event Process

Actor/Role: C2M(MDM)

Description:

C2M(MDM) updates the install event.

Business Object (Y/N) Business Object

D1-SmartMeterInstallEvent
D1-ManualMeterInstallEvent
D1-ItemInstallEvent
D1-CommComponentInstallEvent

2.1 5.6.3.1 C2M.ODM-MDM. Manage Tracked Assets and Devices

Actor/Role: CSR or Authorized User

Description:

The CSR or Authorized User updates the installation constant. This leads to measurement reprocessing. Please refer to process **5.6.3.1 C2M. Manage Tracked Assets and Devices. Measurement Reprocessing** for further details.

2.2 Initiate Device Commission

Actor/Role: CSR or Authorized User

Description:

The Authorized User will select the Device Commission Command, populate the required data and initiates appropriate activity to make a request for Device Commission.

2.3 Analyze Device On/Off Status

Actor/Role: CSR or Authorized User

Description:

The CSR or Authorized User determines the [On/Off status](#).

2.4 Request to Update Device On/Off Status

Actor/Role: CSR or Authorized User

Description:

The CSR or Authorized User makes the request to update the status.

2.5 Update Install Event On/Off Status Group: Add Install Event Process

Group: Create Install Event for Component

Actor/Role: C2M(MDM)

Description:

The status is updated in C2M(MDM) to the request. The history of On/Off status updates of Install Event is logged in the system.

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

D1-CRONOFHIS (Create On/Off History Based on Status)
D1-VALDVCMST - Warn if Installing a Device Configuration that has Measurements

Business Object (Y/N) Business Object

D1-SmartMeterInstallEvent
D1-ManualMeterInstallEvent
D1-ItemInstallEvent
D1-CommComponentInstallEvent

2.6 Analyze Device Connect Status

Actor/Role: CSR or Authorized User

Description:

The CSR or Authorized User determines the [Connect](#) status.

2.7 Initiate Device Connect

Actor/Role: CSR or Authorized User

Description:

The Authorized User will select the Remote Connect Command, populate the required data and initiates appropriate activity to make a request for device connection.

2.8 Commission Device Group: Add Install Event Process

Actor/Role: C2M(MDM)

Description:

On the Install Event, the request for commission is initiated. This then allows the user to view the connect button.

Business Object (Y/N) Business Object

D1-DeviceCommission

2.9 Connect Device Group: Add Install Event Process

Actor/Role: C2M(MDM)

Description:

On the Install Event, the request for Connect is initiated.

Business Object (Y/N) Business Object

D1-RemoteConnect

Note: The request to update the Connect Status also updated the On/Off status for a Smart Meter

3.0 Locate SP's Install Event Group: Update Install Event Process

Actor/Role: C2M(MDM)

Description:

During the sync process, C2M(MDM) looks for the Maintenance Object (MO) that needs to be updated.

3.1 Search for Component

Actor/Role: CSR or Authorized User

Description:

The Authorized User searches for the given Device(Component) in C2M to determine if it is in existing inventory. Searching for the Device can be accomplished through Device Search using various search criteria.

3.2 5.6.3.1 C2M.Manage Tracked Assets and Devices

Actor/Role: CSR or Authorized User

Description:

The Device information needs to be recorded in inventory prior to installation in C2M. Refer to 5.6.3.1 C2M.Manage Tracked Assets and Devices to Create and Asset and Device.

3.3 Search for Asset(Device)

Actor/Role: CSR or Authorized User

Description:

The Authorized User searches for the given Device(Actual Meter) in C2M to determine if it is in existing inventory. Searching for the Device can be accomplished through Device Search using various search criteria.

3.4 Analyze Requirement

Actor/Role: CSR or Authorized User

Description:

When attaching Component to Device, the CSR or Authorized User gathers all the required attributes.

3.5 Populate Required Data, Eff. Date/Time of Attaching Component to Asset Group: Pre-Assemble Meter **Group: Attach Component to Installed Device**

Actor/Role: CSR or Authorized User

Description:

The CSR or Authorized User enters the required effective date and time of attaching the Component to the Asset.

Note: For pre-assembled meters where components are attached to meter before installation, Asset(Device) should be in 'In-Store' Status.

Component can also be attached to installed device. In this case, Device serves as the primary device and component is not linked to the service point.

3.6 Request Attach Component to Asset Group: Pre-Assemble Meter **Group: Attach Component to Installed Device**

Actor/Role: CSR or Authorized User

Description:

The CSR or Authorized User request to attach Asset (Component) to Asset (Device)

3.7 Evaluate Eligibility to Attach Component to Asset (Device) Group: Pre-Assemble Meter **Group: Attach Component to Installed Device**

Actor/Role: C2M(MDM)

Description:

5.6.3.2. C2M Manage Device Installation and Commissioning

C2M(MDM) checks if the component is a valid attachment to the device Asset type

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

W2-CMPATTVLD (Communication Component Enter Attached Validation)
--

Configuration required Y Entities to Configure:

Asset Type
Component Type
Template Asset
W1-StorageLocationType
W1-StorageLocation

3.8 Update Asset(Component) Status to Attached and Update Disposition Group: Pre-Assemble Meter

Group: Attach Component to Installed Device

Group: Create Install Event for Component

Actor/Role: C2M(ODM)

Description:

C2M(ODM) transitions the asset status to Attached and updates disposition location accordingly

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

W2-CMPATTVLD (Communication Component Enter Attached Validation)
--

Business Object (Y/N) Business Object

W2-CommunicationComponent
W1-ComponentType

Configuration required Y Entities to Configure:

Extendable Lookup (Asset/Device Status)
Asset Type
Component Type
Template Asset
W1-StorageLocationType
W1-StorageLocation

3.9 Analyze and Identify Primary Device

Actor/Role: CSR or Authorized User

Description:

When Attaching Component to Device, the CSR or Authorized User gathers all the required attributes and identify if Asset (Device) or Asset(Component) is primary device. Primary device is the device which would be linked to Service point while creation of install event.

5.6.3.2 C2M.Manage Device Installation and Commissioning

4.0 5.6.3.3 C2M.Manage Device De-Installation, Decommissioning and Removal

Actor/Role: CSR or Authorized User

Description:

The CSR or Authorized User validates if there is already an installed device on service point. If another meter already exists on service point, the user will have to initiate request to remove existing meter before initiating the installation process of component as a primary device.

Please refer to 5.6.3.3 C2M.Manage Device De-Installation, Decommissioning and Retirement for details of device removal (Office Removal) process.

Note: In case the component should be linked to existing device, CSR must ensure install event for the meter receiving the module is transitioned into the 'Removed' state with a Removal Type of 'Office Removal'. This will allow the location of the underlying meter to remain unchanged in the asset system even though the install event for the meter has a removal date/time.

4.1 Initiate Component Installation at Service Point

Actor/Role: CSR or Authorized User

Description:

CSR or Authorized User initiates creation of install event for component at service point.

4.2 Populate Component Device Configuration and Service Point

Actor/Role: CSR or Authorized User

Description:

The CSR or Authorized User populate component's device configuration id and service point id.

4.3 Evaluate Component Device Configuration and Service Point Group: Add Install Event Process

Actor/Role: C2M(MDM)

Description:

C2M(MDM) checks if the device type of component and service point type match.

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

D1-DEVCFGVAL (Validate the Device Configuration)

Business Object (Y/N) **Business Object**

D1-CommComponentInstallEvent

Inbound Web Service(s):

D1-InstallEvent

4.4 Populate Required Data, Secondary Device ID

Actor/Role: CSR or Authorized User

Description:

: The CSR or Authorized User enters the remaining install event data and secondary device id on which the component is to be attached.

4.5 Request Create Install Event

Actor/Role: CSR or Authorized User

Description:

Authorized makes a request by clicking “Save” – which is the actual request to create the Service Point.

4.6 Validate Data and Eligibility to Link Component to Service Point Group: Add Install Event Process
Group: Create Install Event for Component

Actor/Role: C2M(MDM)

Description:

C2M(MDM) runs several validations to check eligibility to link component and service point.

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

D1-DEVCFGVAL (Validate the Device Configuration)
D1-VALRMAFIN (Validate Removal Date/Time is on or after Installation Date/Time)
D1-DEVCFGVAL (Validate the Device Configuration)
D1-ONHISTVAL (Validate the On/Off History Based on Previous On/Off Event)
D1-CHKHISEVT (Validate the On/Off History Based on Install Event's Status)
D1-VALSPDCTZ (Validate Service Point and Device Configuration Time Zones)
D1-CKIFOVLEX (Validate Overlapping Install Events)
D1-VALIERMDT (Validate Removal Information)
D1-VALOFFEXC (Validate Office Exchange)
D1-VAL-CREW (Validate Crew)
D1-DETIECHG (Detect Installation Constant Change for Install Event)

Business Object (Y/N)

Business Object

D1-CommComponentInstallEvent

Note: Validations include the following:

- Check if Device Configuration of component is installed at another Service Point for the same install date/time
- Determine if any other install event exists for the SP, where the install date/time lies between the current install date/time and removal date/time.
- Device Configuration has "Active" status
- Device Configuration of component Install on Another SP

4.7 Create Install Event for Component In Pending Status Group: Add Install Event Process
Group: Create Install Event for Component

5.6.3.2. C2M Manage Device Installation and Commissioning

Actor/Role: C2M(MDM)

Description:

C2M(MDM) creates the install event for component.

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

D1-CREINSEVT (Create Install Event)

Business Object (Y/N) **Business Object**

D1-CommComponentInstallEvent

4.8 Update Asset (Secondary Device) Status to Installed and Disposition Group: Create Install Event for Component

Actor/Role: C2M(ODM)

Description:

C2M(ODM) transitions the asset(secondary device) status to installed and updates disposition location accordingly

Business Object (Y/N) **Business Object**

W2-ManualMeter

Configuration required Y **Entities to Configure:**

Extendable Lookup (Asset/Device Status)

4.9 Update Asset (Component) Disposition Group: Create Install Event for Component

Actor/Role: C2M(ODM)

Description:

C2M(ODM) updates disposition location to that of Service point location, on which the component is installed.

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

W2-CMPATTVLD (Communication Component Enter Attached Validation)

Business Object (Y/N) **Business Object**

W2-CommunicationComponent

5.0 Identify Device to Commission

Actor/Role: CSR or Authorized User

Description:

CSR or Authorized User analyzes the requirements and identifies the device to be commissioned.

5.1 Request to Initiate Command Device Commissioning

Actor/Role: CSR or Authorized User

Description:

The Authorized User will select the [Device Commissioning command](#) and populate the data acquired during analyzing the requirements.

5.6.3.2 C2M.Manage Device Installation and Commissioning

5.2 Populate Data and Request to Commission

Actor/Role: CSR or Authorized User

Description:

CSR or Authorized User populates the needed data based on analysis and selects the appropriate activity to make a request for device commission.

5.3 Create Commissioning Activity in 'Pending' Status

Actor/Role: C2M(MDM)

Description:

C2M(MDM) creates the maintenance object with the data provided. When the activity is created, C2M(MDM) creates an Activity ID in Pending Status.

Business Object (Y/N) Business Object

D1-DeviceCommission

Inbound Web Service(s):

D1-DeviceCommissioning - Device Commissioning

5.4 Perform Validations and Update Activity To 'Validate' Status Group: Validation

Actor/Role: C2M(MDM)

Description:

C2M(MDM) updates the activity to Validate state and performs validation on Head-End system compatibility, commissioning status, external requestor, command eligibility and device registration.

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

D1-VALACTTDI - Validate Activity Type and Transition to Error State If Invalid
D1-VALDVCNAC - Validate Device Not Already Commissioned
D1-CHKCMDELG - Check Device Command Eligibility
D1-VHCPCOMMS - Validate Head-End's Capability to Commission Device
D1-CACTCOMM - Check for Existing Active Commissioning Command Request
D1-CHKFDCOMM - Check for Concurrent Decommissioning Command Request
D1-VAEXTREQ - Validate External Requester
D1-VDVRINSUP - Validate Device Registration And Support For Installation

Business Object (Y/N) Business Object

D1-DeviceCommission

5.5 Update Activity to 'Validation Error' State Group: Validation**Actor/Role:** C2M(MDM)**Description:**

C2M(MDM) updates the status to 'Validation Error' if any of the validations fail.

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

D1-CTDEBOE - Create To Do Entry for BO in Error
D1-ALLOWCTRP - Allow Child to Transition Parent Activity

Business Object (Y/N) **Business Object**

D1-DeviceCommission

5.6 Create To Do Group: Validation**Group: Communicate****Group: Complete Event****Actor/Role:** C2M(MDM)**Description:**

C2M(MDM) attempts to create a To Do entry using the To Do type and role specified by the first and second algorithm parameters.

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

D1-CTDEBOE (Create To Do Entry for BO in Error)

Business Object (Y/N) **Business Object**

D1-DeviceCommission

5.7 Update Activity To 'Waiting For Effective Date' Status**Actor/Role:** C2M(MDM)**Description:**

C2M(MDM) acknowledges to External Requester of the received data.

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

D1-RRER (Send Received Response to External Requester)
D1-WAITEFFDT - Wait for Effective Date

Business Object (Y/N) **Business Object**

D1-DeviceCommission

5.8 Wait For Effective Date Group: Pre-communicate

Actor/Role: C2M(MDM)

Description:

C2M(MDM) transitions the activity to a state configured with a transition condition of F1OK when the activity's effective date time is reached (process date time >= effective date time). If the activity's effective date time is not provided, the application initiates execution of the command and transitions - the activity to a state configured with a transition condition of F1OK without waiting.

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

D1-WAITEFFDT (Wait for Effective Date)

Business Object (Y/N) **Business Object**

D1-DeviceCommission

5.9 Update Activity To 'Commission Ready' Status

Actor/Role: C2M(MDM)

Description:

C2M(MDM) transitions the activity to 'Commission Ready' status. This is a transitory state that initiates outbound communication with head end system.

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

D1-AMIOBCOMM - AMI Device Identifier Outbound Communication Creation
D1-UPDEVIDD - Update AMI Device ID on Device
D1-EVLRESREG - Evaluate Device's Head-End System Registration Status
D1-CMSOBCOMM - Commissioning Outbound Communication Creation
D1-VHCPCMVER - Validate Head-End's Ability to Perform Commission Verification
D1-VERCOMM - Verify Commission based on Completion and Verification Required Flag
D1-EVLREGONL - Support for Registration-Only Mode
D1-CMEOC - Create Device Installation Outbound Communication

Business Object (Y/N) **Business Object**

D1-DeviceCommission

**6.0 Communicate to Complete Commissioning Group: Communicate
Group: Perform Command**

Actor/Role: C2M(MDM)

Description:

Application creates outbound communication.

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

D1-AMIOBCOMM - AMI Device Identifier Outbound Communication Creation
D1-UPDEVIDD - Update AMI Device ID on Device
D1-EVLRESREG - Evaluate Device's Head-End System Registration Status
D1-CMSOBCOMM - Commissioning Outbound Communication Creation
D1-VHCPCMVER - Validate Head-End's Ability to Perform Commission Verification
D1-VERCOMM - Verify Commission based on Completion and Verification Required Flag
D1-EVLREGONL - Support for Registration-Only Mode
D1-CMEOC - Create Device Installation Outbound Communication

Business Object (Y/N)

Business Object

D1-DeviceCommission

6.1 Communicate with Device to Commission Group: Perform Command

Actor/Role: C2M(SGG)

Description:

Head-End communicates with C2M(MDM) via Middleware on one-side and with Device on the other side to communicate the Commissioning Instructions/Information between C2M(MDM) and Devices.

Business Object (Y/N)

Business Object

D1-DeviceCommission

Group: Communicate

6.2 Update Activity 'Communication Error' State Group: Communicate

Actor/Role: C2M(MDM)

Description:

C2M(MDM) send a response to the initiator of the device commission request.

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

D1-RBOE (Retry BO in Error)

Business Object (Y/N)	Business Object	D1-CTDEBOE - Create To Do Entry for BO in Error
		D1-ALLOWCTRP - Allow Child to Transition Parent Activity
		D1-DeviceCommission

6.3 Update Activity 'Communication In Progress' Status Group: Communicate**Actor/Role:** C2M(MDM)**Description:**

C2M(MDM) updates the status to 'Communication in Progress' if any of the existing child communication are not complete.

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

Business Object (Y/N)	Business Object	D1-CHKCHILD - Check Children Communications
		D1-DeviceCommission

6.4 Update Activity 'Waiting for Measurement' Status**Actor/Role:** C2M(MDM)**Description:**

C2M(MDM) updates the status to 'Waiting for Measurement'. In case of for Device Commissioning, this status is moved to F1OK next status condition if Wait for IMD flag is set to false

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

Business Object (Y/N)	Business Object	D1-CHKIMD - Check For Initial Measurement Data
		D1-CHKIMDFLG - Check For Wait For IMD Flag
		D1-DeviceCommission
		D1-CreateIMD

6.5 Execute Completion Event Group: Complete Event**Actor/Role:** C2M(MDM)**Description:**

C2M(MDM) transitions all completion events associated to the current activity Business Object (BO) to their executed state.

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

Business Object (Y/N)	Business Object	D1-EXCMPEVTS (Execute Completion Events)
		D1-DeviceCommission

D1-CommissionDevice

6.6 Update Install Event to ‘Pre-Connected/Commissioned’ Status’Group: Complete Event

Actor/Role: C2M(MDM)

Description:

C2M(MDM) updates the Install Event status to Pre-connected / Commissioned status

Business Object (Y/N) Business Object

D1-SmartMeterInstallEvent

6.7 Update Activity to ‘Completion Event Error’ State

Actor/Role: C2M(MDM)

Description:

C2M(MDM) updates the Install Event to have a status of Commission.

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

D1-CTDEBOE (Create To Do Entry for BO in Error)
D1-ALLOWCTRP - Allow Child to Transition Parent Activity

Business Object (Y/N) Business Object

D1-DeviceCommission

6.8 Complete Commission Activity

Actor/Role: C2M(MDM)

Description:

C2M(MDM) complete commission activity.

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

D1-PASSPA - Pass Parent Activity
D1-UPAEDT - Update Parent Activity's Event Date Time
D1-LOCKBULK - Lock Bulk Header
D1-PREPBULK - Prepare Bulk Response
D1-SRER - Send Success Response to External Requester
X1-CRELVYADJ - Create Levy Adjustment Completion Event
D1-COMOUTTD - Complete Outstanding To Do

Business Object (Y/N) Business Object

D1-DeviceCommission

6.9 Review Activity waiting for Eff. Date

Actor/Role: CSR or Authorized User

Description:

CSR or Authorized User reviews when required for manual Effective Date.

7.0 Request to Commission Device

Actor/Role: CSR or Authorized User

Description:

The CSR or Authorized User makes the request to update an existing device commission activity.

Business Object (Y/N) **Business Object**

D1-DeviceCommission

7.1 Request to Update Activity

Actor/Role: CSR or Authorized User

Description:

The CSR or Authorized User makes the request to update an existing device commission activity.

Business Object (Y/N) **Business Object**

D1-DeviceCommission

7.2 Update Activity

Actor/Role: C2M(MDM)

Description:

C2M(MDM) accepts the changes made by the user for the device commission.

Business Object (Y/N) **Business Object**

D1-DeviceCommission

7.3 Request to 'Discard'

Actor/Role: CSR or Authorized User

Description:

CSR or Authorized User when reviews the Activity in current state and decides that the Activity cannot be used, can manually make a request to discard it.

Business Object (Y/N) **Business Object**

D1-DeviceCommission

7.4 Update Activity to 'Discarded' State Group: Automated Retry Process
Group: Wait Time Out

Actor/Role: C2M(MDM)

Description:

C2M(MDM) transitions Activity to 'Discarded' state indicating that it cannot be used further. However, it remains in the system.

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

D1-COOC - Cancel Outstanding Outbound Communication
D1-COCE - Cancel Outstanding Completion Events
D1-FAILPA - Fail Parent Activity
D1-PREPBULK - Prepare Bulk Response
D1-PCANRSN - Populate Cancel Reason
D1-FRER - Send Fail Response to External Requester
D1-CFCMDSIM - Create Service Issue Monitor from Failed Command
D1-COMOUTTD - Complete Outstanding To Do

Business Object (Y/N) **Business Object**

D1-DeviceCommission

7.5 Request to Delete Activity

Actor/Role: CSR or Authorized User

Description:

The CSR or Authorized User makes the request to delete an existing device commission activity.

7.6 Delete Activity

Actor/Role: C2M(MDM)

Description:

C2M(MDM) updates removes activity that was created.

Business Object (Y/N) **Business Object**

D1-DeviceCommission

7.7 Identify Device to Connect

Actor/Role: CSR or Authorized User

Description:

CSR or Authorized User analyzes the requirements and identifies the device to be connected.

7.8 Request to Initiate Command Remote Connect

Actor/Role: CSR or Authorized User

Description:

The Authorized User will select the Remote Connect Command and populate the data acquired during analyzing the requirements.

7.9 Populate Data and Request to Connect

Actor/Role: CSR or Authorized User

Description:

CSR or Authorized User populates the needed data based on analysis and selects the appropriate activity to make a request for device connect.

8.0 Create Remote Connect Activity in 'Pending' Status

Actor/Role: C2M(MDM)

Description:

C2M(MDM) creates the maintenance object with the data provided. When the activity is created, C2M(MDM) creates an Activity ID in Pending Status.

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

Business Object (Y/N)

Business Object

D1-SETREMESC - Set Retrieve Start Measurement Flag to true

D1-RemoteConnect

8.1 Perform Validations and Update Activity To 'Validate' Status Group: Validation

Actor/Role: C2M(MDM)

Description:

C2M(MDM) updates the activity to Validate state and performs validation on Head-End system compatibility, connection status, external requestor, command eligibility and device registration.

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

D1-VALACTTDI - Validate Activity Type and Transition to Error State If Invalid
D1-VALDVCNCD - Validate Device Not Already Connected
D1-VALDEVMCS - Validate that Device has appropriate Measuring Component
D1-CHKCMDELG - Check Device Command Eligibility
D1-VHCPODR - Validate Head-End's Ability to Perform On-Demand Read
D1-VHCPCD - Validate Head-End's Ability to Perform Connect

Business Object (Y/N)	Business Object	D1-CACTCONN - Check for Existing Active Connect Command Request
		D1-CHKDISCON - Check for Concurrent Disconnect Command Request
		D1-VALEXTREQ - Validate External Requester
		D1-RemoteConnect

8.2 Update Activity to 'Validation Error' State Group: Validation

Actor/Role: C2M(MDM)

Description:

C2M(MDM) updates the status to 'Validation Error' if any of the validations fail.

Business Object (Y/N)	Business Object	D1-RemoteConnect
-----------------------	-----------------	------------------

8.3 Create To Do Group: Validation
Group: Communicate

Actor/Role: C2M(MDM)

Description:

C2M(MDM) attempts to create a To Do entry using the To Do type and role specified by the first and second algorithm parameters.

Process Plug-in enabled (Y/N)	Available Algorithm(s):	D1-CTDEBOE (Create To Do Entry for BO in Error)
Business Object (Y/N)	Business Object	D1-RemoteConnect

8.4 Update Activity To 'Waiting For Effective Date' Status

Actor/Role: C2M(MDM)

Description:

C2M(MDM) acknowledges to External Requester of the received data.

Process Plug-in enabled (Y/N)	Available Algorithm(s):	D1-RRER (Send Received Response to External Requester)
Business Object (Y/N)	Business Object	D1-RemoteConnect

8.5 Wait For Effective Date Group: Pre-communicate

Actor/Role: C2M(MDM)**Description:**

C2M(MDM) transitions the activity to a state configured with a transition condition of F1OK when the activity's effective date time is reached (process date time >= effective date time). If the activity's effective date time is not provided, the application initiates execution of the command and transitions - the activity to a state configured with a transition condition of F1OK without waiting.

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

D1-WAITEFFDT (Wait for Effective Date)

Business Object (Y/N) **Business Object**

D1-RemoteConnect

8.6 Update Activity To 'Connection Ready' Status**Actor/Role:** C2M(MDM)**Description:**

C2M(MDM) transitions the activity to 'Connection Ready' status. This is a transitory state that initiates outbound communication with head end system.

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

D1-CLCOC - Create Load Check Outbound Communication

D1-CLCROC - Create Load Check Results Outbound based on Completion Flag

D1-CODROC - Create On-Demand Read for Start Measurement

D1-CODRSRTOB - Create On Demand Read Results (Scalar) Outbound based on Completion Flag

D1-CRCOC - Create Remote Connect Outbound Communication

D1-CRCROC - Create Reconnect Results Outbound based on Completion Flag

Business Object (Y/N) **Business Object**

D1-RemoteConnect

8.7 Communicate to Complete Connection Group: Communicate
Group: Perform Command**Actor/Role:** C2M(MDM)**Description:**

Application creates outbound communication.

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

Business Object (Y/N)	Business Object	D1-CLCOC - Create Load Check Outbound Communication
		D1-CLCROC - Create Load Check Results Outbound based on Completion Flag
		D1-CODROC - Create On-Demand Read for Start Measurement
		D1-CODRSRTOB - Create On Demand Read Results (Scalar) Outbound based on Completion Flag
		D1-CRCOC - Create Remote Connect Outbound Communication
		D1-CRCROC - Create Reconnect Results Outbound based on Completion Flag
		D1-RemoteConnect

8.8 Communicate with Device to Connection Group: Perform Command

Actor/Role: C2M(SGG)
Description:
Head-End communicates with C2M(MDM) via Middleware on one-side and with Device on the other side to communicate the Connection Instructions/Information between C2M(MDM) and Devices.

Business Object (Y/N)	Business Object
	D1-RemoteConnect

8.9 Update Activity 'Communication Error' State Group: Communicate

Actor/Role: C2M(MDM)
Description:
C2M(MDM) send a response to the initiator of the device Connection request.

Process Plug-in enabled (Y/N)	Available Algorithm(s):
	D1-RBOE (Retry BO in Error)
Business Object (Y/N)	Business Object
	D1-RemoteConnect

9.0 Update Activity 'Communication In Progress' Status Group: Communicate

Actor/Role: C2M(MDM)
Description:
C2M(MDM) updates the status to 'Communication in Progress' if any of the existing child communication are not complete.

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

D1-CHKCHILD - Check Children Communications

Business Object (Y/N) Business Object

D1-RemoteConnect

9.1 Execute Completion Event Group: Complete Event

Actor/Role: C2M(MDM)

Description:

C2M(MDM) transitions all completion events associated to the current activity Business Object (BO) to their executed state.

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

D1-EXCMPEVTS (Execute Completion Events)

Business Object (Y/N) Business Object

D1-RemoteConnect

D1-ConnectDevice

D1-CreateIMD

9.2 Create IMD Group: Complete Event

Actor/Role: C2M(MDM)

Description:

C2M(MDM) transitions all completion events associated to the current activity Business Object (BO) to their executed state.

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

D1-CREIMD (Create IMD)

Business Object (Y/N) Business Object

D1-CreateIMD

9.3 Connect Device Group: Complete Event

Actor/Role: C2M(MDM)

Description:

C2M(MDM) transitions all completion events associated to the current activity Business Object (BO) to their executed state.

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

D1-CONNDEV (Connect Device)

Business Object (Y/N) Business Object

D1-ConnectDevice

9.4 Update Activity to 'Completion Event Error' State

Actor/Role: C2M(MDM)

Description:

C2M(MDM) updates the Install Event to have a status of Completion Event Error.

Process Plug-in enabled (Y/N)	Available Algorithm(s):	D1-CTDEBOE (Create To Do Entry for BO in Error)
Business Object (Y/N)	Business Object	D1-RemoteConnect

9.5 Update Activity ‘Waiting for Measurement’ Status Group: Waiting for Measurement

Actor/Role: C2M(MDM)

Description:

C2M(MDM) updates the status to ‘Waiting for Measurement’.

Process Plug-in enabled (Y/N)	Available Algorithm(s):	D1-RBOE (Retry BO in Error)
		D1-RMVCE - Retrieve Measurements via Completion Events
		D1-RFINS - Retrieve Scalar Final Measurements
		D1-RSINIMS - Retrieve Scalar Initial Measurements
		D1-WFMTO - Wait for Measurement Time Out
		D1-MSRMTVAL - Validate Start or End Measurement
Business Object (Y/N)	Business Object	D1-RemoteConnect
		D1-CreateIMD

9.6 Update Activity to ‘Wait Expired’ State

Actor/Role: C2M(MDM)

Description:

C2M(MDM) updates the Install Event to have a status of Wait Expired.

Process Plug-in enabled (Y/N)	Available Algorithm(s):	D1-CTDEBOE (Create To Do Entry for BO in Error)
Business Object (Y/N)	Business Object	D1-RemoteConnect

9.7 Update Install Event to ‘Connected/Commissioned’ Status’

Actor/Role: C2M(MDM)

Description:

C2M(MDM) updates the Install Event status to Connected/Commissioned status

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

D1-CONNDEV (Connect Device)
D1-CREIMD (Create IMD)

Business Object (Y/N) **Business Object**

D1-SmartMeterInstallEvent
D1-ConnectDevice

9.8 Update Remote Connect Activity to ‘Completed’ Status

Actor/Role: C2M(MDM)

Description:

C2M(MDM) complete Connect activity.

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

D1-PASSPA - Pass Parent Activity
D1-UPAEDT - Update Parent Activity's Event Date Time
D1-LOCKBULK - Lock Bulk Header
D1-PREPBULK - Prepare Bulk Response
D1-SRCNTEA - Send Remote Connect Notification to Edge Application
D1-SODRTEA - Send Start Measurement to Edge Application
X1-CRELVYADJ - Create Levy Adjustment Completion Event
D1-COMOUTTD - Complete Outstanding To Do

Business Object (Y/N) **Business Object**

D1-RemoteConnect

9.9 Review Activity waiting for Eff. Date

Actor/Role: CSR or Authorized User

Description:

CSR or Authorized User reviews when required for manual Effective Date.

10.0 Request to Connect Device

Actor/Role: CSR or Authorized User

Description:

The CSR or Authorized User makes the request to update an existing device connect activity.

Business Object (Y/N)	Business Object
	D1-RemoteConnect

10.1 Request to Update Activity

Actor/Role: CSR or Authorized User

Description:

The CSR or Authorized User makes the request to update an existing device connect activity.

Business Object (Y/N)	Business Object
	D1-RemoteConnect

10.2 Update Activity

Actor/Role: C2M(MDM)

Description:

C2M(MDM) accepts the changes made by the user for the device connection activity.

Business Object (Y/N)	Business Object
	D1-RemoteConnect

10.3 Request to 'Discard'

Actor/Role: CSR or Authorized User

Description:

CSR or Authorized User when reviews the Activity in current state and decides that the Activity cannot be used, can manually make a request to discard it.

Business Object (Y/N)	Business Object
	D1-RemoteConnect

10.4 Update Activity to 'Discarded' State Group: Automated Retry Process

Group: Wait Time Out

Actor/Role: C2M(MDM)

Description:

C2M(MDM) transitions Activity to 'Discarded' state indicating that it cannot be used further. However, it remains in the system.

Process Plug-in enabled (Y/N)	Available Algorithm(s):
	D1-COOC - Cancel Outstanding Outbound Communication
	D1-COCE - Cancel Outstanding Completion Events

D1-FAILPA - Fail Parent Activity
D1-PREPBULK - Prepare Bulk Response
D1-PCANRSN - Populate Cancel Reason
D1-FRER - Send Fail Response to External Requester
D1-CFCMDSIM - Create Service Issue Monitor from Failed Command
D1-COMOUTTD - Complete Outstanding To Do

Business Object (Y/N) Business Object

D1-RemoteConnect

10.5 Request to Delete Activity

Actor/Role: CSR or Authorized User

Description:

The CSR or Authorized User makes the request to delete an existing device connect activity.

10.6 Delete Activity

Actor/Role: C2M(MDM)

Description:

C2M(MDM) updates removes activity that was created.

Business Object (Y/N) Business Object

D1-RemoteConnect

10.7 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/N) Business Object

D1-DeviceCommission

10.8 Complete To Do(s) Group: Automated Retry Process

Actor/Role: C2M(MDM)

Description:

C2M(MDM) find all non-completed ‘To Do’ entries and completes them before reprocessing.

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

Business Object (Y/N)	Business Object	D1-GTDCBO (Generic To Do Completion for BOs)
		D1-DeviceCommission

10.9 Request to 'Revalidate'**Actor/Role:** CSR or Authorized User**Description:**

When the Activity is in 'Validation Error' state and CSR or Authorized User has corrected the error, can manually make request to 'Revalidate'.

Business Object (Y/N)	Business Object	D1-DeviceCommission
-----------------------	-----------------	---------------------

11.0 Update Activity to 'Validate' State and Initialize Reprocessing Group: Automated Validation Retry Process**Actor/Role:** C2M(MDM)**Description:**

C2M(MDM) transitions the Activity to 'Revalidate' state and initializes reprocessing.

Process Plug-in enabled (Y/N)	Available Algorithm(s):	D1-RBOE (Retry BO in Error)
Business Object (Y/N)	Business Object	D1-DeviceCommission

11.1 Identify Activity in 'Validation Error' State Group: Automated Validation Retry Process**Actor/Role:** C2M(MDM)**Description:**

C2M(MDM) identifies all Device Commission and Device Connect Activities in 'Validation Error' state.

Process Plug-in enabled (Y/N)	Available Algorithm(s):	D1-RBOE (Retry BO in Error)
Business Object (Y/N)	Business Object	D1-DeviceCommission
Customizable process (Y/N)	Process Name	D1-CRERR (Command Request Error - Retry)

11.2 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 maintenance object, batch code, command request type, business object, status, etc. Currently, the Batch process used for reprocessing the Activity is "Command Request Error - Retry (D1-CRERR)". This batch process invokes monitoring rules associated with the current state of Activity.

Process Plug-in enabled (Y/N)	Available Algorithm(s):	D1-RBOE (Retry BO in Error)
Business Object (Y/N)	Business Object	D1-DeviceCommission
Customizable process (Y/N)	Process Name	D1-CRERR (Command Request Error – Retry)

11.3 Evaluate Waiting Period Group: Automated Retry Process Group: Wait Time Out

Actor/Role: C2M(MDM)

Description:

C2M(MDM) evaluates the waiting period to ensure that the Activity does not stay in its current state for too long. On the expiration of the wait time, it transitions the Activity to 'Discard' State.

Process Plug-in enabled (Y/N)	Available Algorithm(s):	D1-WTTMOUT (Wait Time Out - Transition to Rejection)
Business Object (Y/N)	Business Object	D1-DeviceCommission
Customizable process (Y/N)	Process Name	D1-CRERR (Command Request Error – Retry)

11.4 Request to 'Retry'

Actor/Role: CSR or Authorized User

Description:

When the Activity is in 'Communication Error' state and CSR or Authorized User has corrected the error, can manually make request to 'Retry'.

Business Object (Y/N)	Business Object	D1-DeviceCommission
-----------------------	-----------------	---------------------

11.5 Update Activity to 'Retry' State and Initialize Reprocessing Group: Automated Communication Retry Process

Actor/Role: C2M(MDM)

Description:

C2M(MDM) transitions the Activity to 'Retry' state and initializes reprocessing.

Process Plug-in enabled (Y/N)	Available Algorithm(s):	D1-RBOE (Retry BO in Error)
Business Object (Y/N)	Business Object	D1-DeviceCommission

11.6 Identify Activity in 'Communication Error' State Group: Automated Communication Retry Process**Actor/Role:** C2M(MDM)**Description:**

C2M(MDM) identifies all Device Commission and Device Connect Activities in 'Communication Error' state.

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

D1-RBOE (Retry BO in Error)

Business Object (Y/N) **Business Object**

D1-DeviceCommission

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

D1-CRERR (Command Request Error – Retry)

11.7 Request to 'Execute Completion Events'**Actor/Role:** CSR or Authorized User**Description:**

When the Activity is in 'Completion Event Error' state and CSR or Authorized User has corrected the error, can manually make request to 'Execute completion events'.

Business Object (Y/N) **Business Object**

D1-DeviceCommission

11.8 Update Activity to Execute Completion Event State and Initialize Reprocessing Group: Automated Completion Retry Process**Actor/Role:** C2M(MDM)**Description:**

C2M(MDM) transitions the Activity to 'Execute Completion Event' state and initializes reprocessing.

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

D1-RBOE (Retry BO in Error)

Business Object (Y/N) **Business Object**

D1-DeviceCommission

11.9 Identify Activity in 'Completion Event Error' State Group: Automated Completion Retry Process**Actor/Role:** C2M(MDM)**Description:**

C2M(MDM) identifies all Device Commission and Device Connect Activities in 'Completion Event Error' state.

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

D1-RBOE (Retry BO in Error)

Business Object (Y/N)	Business Object	D1-DeviceCommission
Customizable process (Y/N)	Process Name	D1-CRERR (Command Request Error – Retry)

12.0 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/N)	Business Object	D1-RemoteConnect
-----------------------	-----------------	------------------

12.1 Complete To Do(s) Group: Automated Retry Process

Actor/Role: C2M(MDM)

Description:

C2M(MDM) find all non-completed ‘To Do’ entries and completes them before reprocessing.

Process Plug-in enabled (Y/N)	Available Algorithm(s):	D1-GTDCBO (Generic To Do Completion for BOs)
Business Object (Y/N)	Business Object	D1-RemoteConnect

12.2 Request to ‘Revalidate’

Actor/Role: CSR or Authorized User

Description:

When the Activity is in ‘Validation Error’ state and CSR or Authorized User has corrected the error, can manually make request to ‘Revalidate’.

Business Object (Y/N)	Business Object	D1-RemoteConnect
-----------------------	-----------------	------------------

12.3 Update Activity to ‘Validate’ State and Initialize Reprocessing Group: Automated Validation Retry Process

Actor/Role: C2M(MDM)

Description:

C2M(MDM) transitions the Activity to ‘Revalidate’ state and initializes reprocessing.

Process Plug-in enabled (Y/N)	Available Algorithm(s):	D1-RBOE (Retry BO in Error)
Business Object (Y/N)	Business Object	

D1-RemoteConnect

12.4 Identify Activity in ‘Validation Error’ State Group: Automated Validation Retry Process

Actor/Role: C2M(MDM)

Description:

C2M(MDM) identifies all Device Commission and Device Connect Activities in ‘Validation Error’ state.

Process Plug-in enabled (Y/N)	Available Algorithm(s):	<div>D1-RBOE (Retry BO in Error)</div>
Business Object (Y/N)	Business Object	<div>D1-RemoteConnect</div>
Customizable process (Y/N)	Process Name	<div>D1-CRERR (Command Request Error – Retry)</div>

12.5 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 maintenance object, batch code, command request type, business object, status, etc. Currently, the Batch process used for reprocessing the Activity is “Command Request Error – Retry (D1-CRERR)”. This batch process invokes monitoring rules associated with the current state of Activity.

Process Plug-in enabled (Y/N)	Available Algorithm(s):	<div>D1-RBOE (Retry BO in Error)</div>
Business Object (Y/N)	Business Object	<div>D1-RemoteConnect</div>
Customizable process (Y/N)	Process Name	<div>D1-CRERR (Command Request Error – Retry)</div>

12.6 Evaluate Waiting Period Group: Automated Retry Process

Group: Wait Time Out

Actor/Role: C2M(MDM)

Description:

C2M(MDM) evaluates the waiting period to ensure that the Activity does not stay in its current state for too long. On the expiration of the wait time, it transitions the Activity to ‘Discard’ State.

Process Plug-in enabled (Y/N)	Available Algorithm(s):	<div>D1-WTTMOUT (Wait Time Out - Transition to Rejection)</div>
Business Object (Y/N)	Business Object	

Customizable process (Y/N)	Process Name	D1-RemoteConnect
		D1-CRERR (Command Request Error – Retry)

12.7 Request to ‘Retry’

Actor/Role: CSR or Authorized User

Description:

When the Activity is in ‘Communication Error’ state and CSR or Authorized User has corrected the error, can manually make request to ‘Retry’.

Business Object (Y/N)	Business Object	D1-RemoteConnect
-----------------------	-----------------	------------------

12.8 Update Activity to ‘Retry’ State and Initialize Reprocessing Group: Automated Communication Retry Process

Actor/Role: C2M(MDM)

Description:

C2M(MDM) transitions the Activity to ‘Retry’ state and initializes reprocessing.

Process Plug-in enabled (Y/N)	Available Algorithm(s):	D1-RBOE (Retry BO in Error)
Business Object (Y/N)	Business Object	D1-RemoteConnect

12.9 Identify Activity in ‘Communication Error’ State Group: Automated Communication Retry Process

Actor/Role: C2M(MDM)

Description:

C2M(MDM) identifies all Device Commission and Device Connect Activities in ‘Communication Error’ state.

Process Plug-in enabled (Y/N)	Available Algorithm(s):	D1-RBOE (Retry BO in Error)
Business Object (Y/N)	Business Object	D1-RemoteConnect
Customizable process (Y/N)	Process Name	D1-CRERR (Command Request Error – Retry)

13.0 Request to ‘Execute Completion Events’

Actor/Role: CSR or Authorized User

Description:

When the Activity is in ‘Completion Event Error’ state and CSR or Authorized User has corrected the error, can manually make request to ‘Execute completion events’.

Business Object (Y/N)	Business Object
	D1-RemoteConnect

13.1 Update Activity to Execute Completion Event State and Initialize Reprocessing Group: Automated Completion Retry Process

Actor/Role: C2M(MDM)

Description:

C2M(MDM) transitions the Activity to ‘Execute Completion Event’ state and initializes reprocessing.

Process Plug-in enabled (Y/N)	Available Algorithm(s):
	D1-RBOE (Retry BO in Error)
Business Object (Y/N)	Business Object
	D1-RemoteConnect

13.2 Identify Activity in ‘Completion Event Error’ State Group: Automated Completion Retry Process

Actor/Role: C2M(MDM)

Description:

C2M(MDM) identifies all Device Commission and Device Connect Activities in ‘Completion Event Error’ state.

Process Plug-in enabled (Y/N)	Available Algorithm(s):
	D1-RBOE (Retry BO in Error)
Business Object (Y/N)	Business Object
	D1-RemoteConnect
Customizable process (Y/N)	Process Name
	D1-CRERR (Command Request Error – Retry)

13.3 Request to ‘Continue Waiting’

Actor/Role: CSR or Authorized User

Description:

When the Activity is in ‘Completion Event Error’ state and CSR or Authorized User has corrected the error, can manually make request to ‘Execute completion events’.

Business Object (Y/N)	Business Object
	D1-RemoteConnect

13.4 Update Activity to ‘Waiting for Measurement’ State and Initialize Reprocessing Group: Automated Waiting Measurement Retry Process

Actor/Role: C2M(MDM)

Description:

C2M(MDM) transitions the Activity to 'Execute Completion Event' state and initializes reprocessing.

Process Plug-in enabled (Y/N)	Available Algorithm(s):	D1-RBOE (Retry BO in Error)
Business Object (Y/N)	Business Object	D1-RemoteConnect

13.5 Identify Activity in 'Wait Expired' State Group: Automated Waiting Measurement Retry Process

Actor/Role: C2M(MDM)

Description:

C2M(MDM) identifies all Device Commission and Device Connect Activities in 'Completion Event Error' state.

Process Plug-in enabled (Y/N)	Available Algorithm(s):	D1-RBOE (Retry BO in Error)
Business Object (Y/N)	Business Object	D1-RemoteConnect
Customizable process (Y/N)	Process Name	D1-CRERR (Command Request Error - Retry)

Test Assets related to the Current Process

Testing Asset Sr.No	Testing Asset-Flows	No Of Data sets
1	URM-C2M-5632-001-Create-Install-Event-Scalar-Status-ON	2
2	URM-C2M-5632-002-Create-Install-Event-Scalar-Status-OFF	2
3	URM-C2M-5632-003-Create-Install-Event-Smart-Status-CONN-COMM	2
4	URM-C2M-5632-004-Create-Install-Event-Smart-Status-DIS-COMM	2
5	URM-C2M-5632-005-Update-Install-Event-Scalar-Date-Time	2
6	URM-C2M-5632-006-Create-Install-Event-Item-Status-ON	1
7	URM-C2M-5632-007-Create-Install-Event-Scalar-Status-ON-Direct	1

Document Control

Change Record

Date	Author	Version	Change Reference
7/25/2011	Giezelle Raynor	1	Initial draft
9/13/2011	Srinivas Rao Kanteti	2	Second draft
9/17/2011	Galina Polonsky	2	Review
10/17/2011	Layne Nelson	2	Review
12/12/2011	Galina Polonsky	2.1	Minor Updates. Review, Approval
07/12/2015	Galina Polonsky	2.2	Minor Updates. Review, Approval
08/29/2017	Isuru Ranasinghe	2.2	Minor formatting changes
10/20/2017	Chetan Raut	2.3	Modified Visio, Process description and C2M Screenshots
12/03/2017	Galina Polonsky		Reviewed, Approved
10/02/2019	Satya Kalavala		Update for v2.7 format
10/10/2019	Jerry Chick		Updated to include ODM related tasks
12/05/2019	Galina Polonsky		Reviewed, Approved
10/30/2024	Kunal Nerkar		Updated for C2M v2.9
11/09/2024	Sundar Krishnamachariar		Reviewed
11/20/2024	Ashish Shukla		Reviewed
12/17/2024	Galina Polonsky		Reviewed, Approved

Attachments

Acronyms & Definitions

1.	AMI	:	Advanced Metering Infrastructure
2.	BO	:	Business Object
3.	DC	:	Device Configuration
4.	MDM	:	Meter Data Management
5.	MO	:	Maintenance Object
6.	SP	:	Service Point
7.	UOM	:	Unit of Measure
8.	VEE	:	Validation, Edit, Estimation

Smart Meter Install Event BO - Lifecycle

General Information

BUSINESS OBJECT

D1-SmartMeterInstallEvent

DESCRIPTION

Smart Meter Installation Event

OWNER

Service and Measurement Data Foundation

Business Object Hierarchy

FILTERS: BUSINESS OBJECT D1-SmartMeterInstallEvent

BUSINESS OBJECT HIERARCHY

1

Business Object - D1-SmartMeterInstallEvent - Smart Meter Installation Event

Lifecycle Display

PENDING

Pending

CONN-PRECOMM

Connected / Pre-Commission

PRECONN-COMM

Pre-Connected / Commissioned

CONN-COMM

Connected / Commissioned

CONN-DECOMM

Connected / Decommissioned

DISCONN-COMM

Disconnected / Commissioned

DISCON-DECOM

Disconnected/ Decommissioned

REMOVE

Removed

Manual Meter Install Event BO - Lifecycle

Business Object

Main

Schema

Algorithms

Lifecycle

Summary

General Information

BUSINESS OBJECT

D1-ManualMeterInstallEvent

DESCRIPTION

Manual Meter Installation Event

OWNER

Service and Measurement Data Foundation

Business Object Hierarchy

FILTERS: BUSINESS OBJECT D1-ManualMeterInstallEvent

BUSINESS OBJECT HIERARCHY

1

Business Object - D1-ManualMeterInstallEvent - Manual Meter Installation Event

Lifecycle Display

PENDING

Pending

ON

On

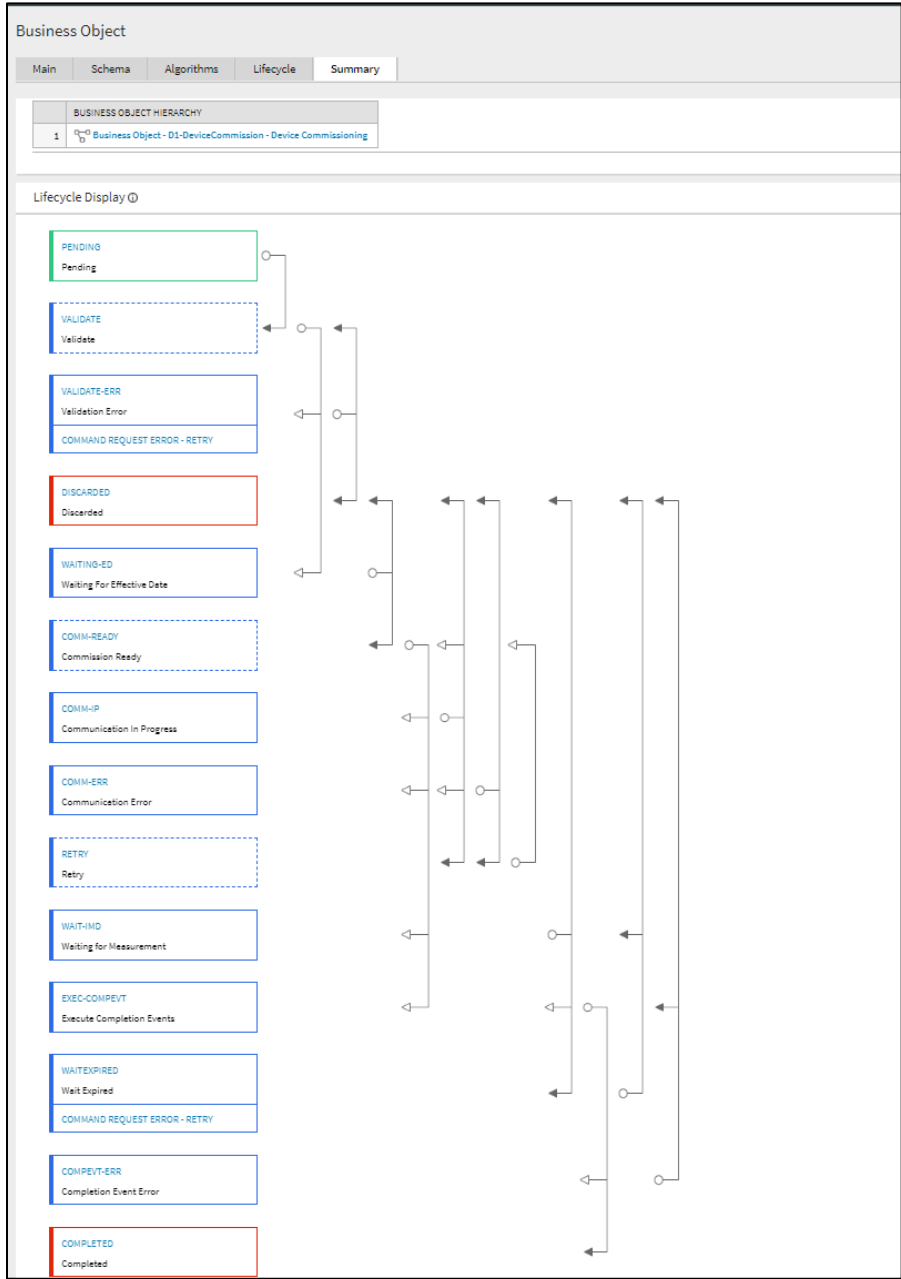
OFF

Off

REMOVE

Removed

Device Commission BO - Lifecycle



Install Event - Link DC and Service Point

Install Event: Install Date/Time: 01-01-2021 0:00:11 PST / On

Add

Search

Bookmark

Refresh

MainLog

Install Event

Main

INFORMATION

Install Date/Time: 01-01-2021 0:00:11 PST / On

DEVICE CONFIGURATION

Electric Manual Read Meter - Digital / Effective Date/Time:01-01-2021 0:00:00 PST / Electric Manual Read - kWh - Scalar / 1 Measuring Component(s) / Active

SERVICE POINT

1230_Retail Test Street, San Francisco, CA, 94111 / Electric Residential / Electric / SCALAR-DIG-METER-43148 / Read Cycle 01, Route 100 / Active

STATUS

On

INSTALLATION DATE/TIME

01-01-2021 0:00:11

INSTALLATION CONSTANT

1.000000

DEVICE ON/OFF STATUS

On

Record Actions

Edit

Delete

Turn Off

Remove

Record Information

On/Off History

EVENT DATE/TIME	DEVICE ON/OFF STATUS	ACTIVITY ID
01-01-2021 0:00:11 PST	On	

Install Event - Details_On_Off_History

Install Event Details

Install Event: Install Date/Time: 01-01-2021 0:00:11 PST / On

Add

Search

Bookmark

Refresh

MainLog

Install Event

Main

INFORMATION

Install Date/Time: 01-01-2021 0:00:11 PST / On

DEVICE CONFIGURATION

Electric Manual Read Meter - Digital / Effective Date/Time:01-01-2021 0:00:00 PST / Electric Manual Read - kWh - Scalar / 1 Measuring Component(s) / Active

SERVICE POINT

1230_Retail Test Street, San Francisco, CA, 94111 / Electric Residential / Electric / SCALAR-DIG-METER-43148 / Read Cycle 01, Route 100 / Active

STATUS

On

INSTALLATION DATE/TIME

01-01-2021 0:00:11

INSTALLATION CONSTANT

1.000000

DEVICE ON/OFF STATUS

On

Record Actions

Edit

Delete

Turn Off

Remove

Record Information

On/Off History

EVENT DATE/TIME	DEVICE ON/OFF STATUS	ACTIVITY ID
01-01-2021 0:00:11 PST	On	

Device Commission Command

Install Event: Install Date/Time: 12-16-2019 0:00:00 PST / Pending

Add

Search

Bookmark

Refresh

MainLog

Install Event

Main

INFORMATION

Install Date/Time: 12-16-2019 0:00:00 PST / Pending

DEVICE CONFIGURATION

Electric Smart Meter - SSN / Effective Date/Time:12-15-2019 0:00:00 PST / Electric Auto Read - kWh - 15 min Intervals / 2 Measuring Component(s) / Active

SERVICE POINT

SSNRD5, Spring Street, Alameda, CA, 94501 / Electric Residential / Electric / SSNRDisC5 / Active

STATUS

Pending

INSTALLATION DATE/TIME

12-16-2019 0:00:00 PST

INSTALLATION CONSTANT

1.000000

ARMING STATUS

EXTERNAL ID

MDM EXTERNAL ID

DEVICE ON/OFF STATUS

Record Actions

Edit

Delete

Commission

Remove

Record Information

On/Off History

EVENT DATE/TIME

DEVICE ON/OFF STATUS

ACTIVITY ID

Install Event - Update_Connect_Disconnect_Remove

Install Event: Install Date/Time: 10-19-2022 0:00:00 PDT / Pre-Connected / Commissioned

Add

Search

Bookmark

Refresh

MainLog

Install Event

Main

INFORMATION

Install Date/Time: 10-19-2022 0:00:00 PDT / Pre-Connected / Commissioned

DEVICE CONFIGURATION

Electric Smart Meter / Effective Date/Time:01-01-2019 0:00:00 PST / Electric Auto Read - kWh - 15 min Intervals / 2 Measuring Component(s) / Active

SERVICE POINT

123, east st, CA / Electric Residential / Electric / ZZ-UTA-SMART-LG1 / Active

STATUS

Pre-Connected / Commissioned

INSTALLATION DATE/TIME

10-19-2022 0:00:00 PDT

INSTALLATION CONSTANT

1.000000

ARMING STATUS

EXTERNAL ID

MDM EXTERNAL ID

DEVICE ON/OFF STATUS

Record Actions

Edit

Delete

Connect

Remove

Record Information

On/Off History

EVENT DATE/TIME

DEVICE ON/OFF STATUS

ACTIVITY ID

5.6.3.2. C2M Manage Device Installation and Commissioning

Install Event: Install Date/Time: 10-19-2022 0:00:00 PDT / Connected / Commissioned

Add

Search

Bookmark

Refresh

Main

Log

Install Event

Main

INFORMATION

Install Date/Time: 10-19-2022 0:00:00 PDT / Connected / Commissioned

DEVICE CONFIGURATION

Electric Smart Meter / Effective Date/Times:01-01-2019 0:00:00 PST / Electric Auto Read - kWh - 15 min intervals / 2 Measuring Component(s) / Active

SERVICE POINT

123, east st, CA / Electric Residential / Electric / ZZ-UTA-SMART-LG1 / Active

STATUS

Connected / Commissioned

INSTALLATION DATE/TIME

10-19-2022 0:00:00 PDT

INSTALLATION CONSTANT

1.000000

ARMING STATUS

EXTERNAL ID

MDM EXTERNAL ID

DEVICE ON/OFF STATUS

On

Record Actions

Edit

Delete

Disconnect

Remove

Record Information

On/Off History

EVENT DATE/TIME	DEVICE ON/OFF STATUS	ACTIVITY ID
10-19-2022 0:00:00 PDT	On	

Miscellaneous. Related Web Services

System supports communicating with the external system via RESTful services or via SOAP services. In both cases, the system uses an object called inbound web service (IWS) to store the configuration. A web service class is used to distinguish whether the IWS is used for REST or SOAP.

Inbound Web Services:

D1-DeviceCommissioning - Device Commissioning	SOAP
D1-DeviceConfiguration - Device Configurations	REST
W1-AssetLocation - Operational Device Asset Location	SOAP
W1-TrackedAsset - Operational Device Tracked Asset	SOAP
D1-InstallEvent -Install Events	REST