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**CCS**

**24B**

**5.6.3.2 Manage Device Installation and Commissioning**

Creation Date: July 25, 2011

Last Updated: January 22, 2025

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## Brief Description

**Business Process: 5.6.3.2 CCS.Manage Device Installation and Commissioning**

**Process Type:** Sub-Process

**Parent Process: 5.6.3 CCS.Manage Supplies/Devices**

**Sibling Processes: 5.6.3.1 CCS Manage Tracked Assets and Devices**

**5.6.3.3 CCS.Manage Device De-installation, Decommissioning and Retirement**

**3.3.1.1 CCS.Maintain Contact, 5.1.5.1 CCS Manage Metered Site**

This process describes how to manage device installation and device commission in CCS(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 CCS(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 (CCS(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 CCS(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

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## Business Process Model Page 2



## Business Process Model Page 3



## Business Process Model Page 4



## Business Process Model Page 5



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## Business Process Model Page 7



## Detail Business Process Model Description

[**1.0**](#_Business_Process_Model_4) **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**](#_Business_Process_Model_4) **Populate Device Configuration and Service Point**

A**ctor/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**](#_Business_Process_Model_4) **Evaluate Device Configuration and Service Point Group: Add Install Event Process**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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**](#_Business_Process_Model_4) **Populate Required Data**

A**ctor/Role:** CSR or Authorized User

**Description:**

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

[**1.4**](#_Business_Process_Model_4) **Request to Create Install Event**

A**ctor/Role:** CSR or Authorized User

**Description:**

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

[**1.5**](#_Business_Process_Model_4) **Validate Data and Eligibility to Install Device Group: Add Install Event Process**

**Group: Create Install Event**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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**](#_Business_Process_Model_4) **Create Install Event in Pending Status Group: Add Install Event Process**

**Group: Create Install Event**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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**](#_Business_Process_Model_4) **Update Asset(Device) Status to Installed and Disposition Location Group: Add Install Event Process**

**Group: Create Install Event**

**Actor/Role:** CCS(ODM)

**Description:**

CCS(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.**](#_Business_Process_Model_4)**8 Review Install Event Data**

A**ctor/Role:** CSR or Authorized User

**Description:**

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

[**1.**](#_Business_Process_Model_4)**9 Populate Data and Request to Update to Install Event**

A**ctor/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**](#_Business_Process_Model_4) **Update Install Event Group: Update Install Event Process**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(MDM) updates the install event.

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

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

[**2.1**](#_Business_Process_Model_4) **5.6.3.1 CCS.ODM-MDM. Manage Tracked Assets and Devices**

A**ctor/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 CCS. Manage Tracked Assets and Devices. Measurement Reprocessing** for further details.

[**2.**](#_Business_Process_Model_4)**2 Initiate Device Commission**

A**ctor/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.**](#_Business_Process_Model_4)**3 Analyze Device On/Off Status**

A**ctor/Role:** CSR or Authorized User

**Description:**

The CSR or Authorized User determines the [On/Off status](#_Install_Event_-_1).

[**2.**](#_Business_Process_Model_4)**4 Request to Update Device On/Off Status**

A**ctor/Role:** CSR or Authorized User

**Description:**

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

[**2.**](#_Business_Process_Model_4)**5 Update Install Event On/Off Status Group: Add Install Event Process**

**Group: Create Install Event for Component**

A**ctor/Role:** CCS(MDM)

**Description:**

The status is updated in CCS(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.](#_Business_Process_Model_4)6 Analyze Device Connect Status**

A**ctor/Role:** CSR or Authorized User

**Description:**

The CSR or Authorized User determines the [Connect](#_Install_Event_-_2) status.

[**2.**](#_Business_Process_Model_4)**7 Initiate Device Connect**

A**ctor/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](#_Business_Process_Model_4) Commission Device Group: Add Install Event Process**

A**ctor/Role:** CCS(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**](#_Business_Process_Model_4) **Connect Device Group: Add Install Event Process**

A**ctor/Role:** CCS(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**](#_Business_Process_Model_4) **Locate SP’s Install Event Group: Update Install Event Process**

A**ctor/Role:** CCS(MDM)

**Description:**

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

[**3.1**](#_Business_Process_Model_3) **Search for Component**

A**ctor/Role:** CSR or Authorized User

**Description:**

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

[**3.2**](#_Business_Process_Model_3) **5.6.3.1 CCS.Manage Tracked Assets and Devices**

A**ctor/Role:** CSR or Authorized User

**Description:**

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

[**3.3**](#_Business_Process_Model_3) **Search for Asset(Device)**

A**ctor/Role:** CSR or Authorized User

**Description:**

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

[**3.4**](#_Business_Process_Model_3) **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**](#_Business_Process_Model_3) **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**](#_Business_Process_Model_3) **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**](#_Business_Process_Model_3) **Evaluate Eligibility to Attach Component to Asset (Device) Group: Pre-Assemble Meter**

**Group: Attach Component to Installed Device**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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**](#_Business_Process_Model_3) **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:** CCS(ODM)

**Description:**

CCS(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**](#_Business_Process_Model_3) **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.

[**4.0**](#_Business_Process_Model_3) **5.6.3.3 CCS.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 CCS.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**](#_Business_Process_Model_3) **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**](#_Business_Process_Model_5) **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**](#_Business_Process_Model_5) **Evaluate Component Device Configuration and Service Point Group: Add Install Event Process**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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**](#_Business_Process_Model_5) **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**](#_Business_Process_Model_5) **Request Create Install Event**

A**ctor/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**](#_Business_Process_Model_5) **Validate Data and Eligibility to Link Component to Service Point Group: Add Install Event Process**

**Group: Create Install Event for Component**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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**](#_Business_Process_Model_5) **Create Install Event for Component In Pending Status Group: Add Install Event Process**

**Group: Create Install Event for Component**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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**](#_Business_Process_Model_5) **Update Asset (Secondary Device) Status to Installed and Disposition Group: Create Install Event for Component**

**Actor/Role:** CCS(ODM)

**Description:**

CCS(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**](#_Business_Process_Model_5) **Update Asset (Component) Disposition Group: Create Install Event for Component**

**Actor/Role:** CCS(ODM)

**Description:**

CCS(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**](#_Business_Process_Model_1) **Identify Device to Commission**

A**ctor/Role:** CSR or Authorized User

**Description:**

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

[**5.1**](#_Business_Process_Model_1) **Request to Initiate Command Device Commissioning**

A**ctor/Role:** CSR or Authorized User

**Description:**

The Authorized User will select the [Device Commissioning command](#_Device_Commission_Command_1) and populate the data acquired during analyzing the requirements.

[**5.2**](#_Business_Process_Model_1) **Populate Data and Request to Commission**

A**ctor/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**](#_Business_Process_Model_1) **Create Commissioning Activity in ‘Pending’ Status**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(MDM) creates the maintenance object with the data provided. When the activity is created, CCS(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.**](#_Business_Process_Model_1)**4 Perform Validations and Update Activity To 'Validate' Status Group: Validation**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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-VALEXTREQ - Validate External Requester |
| D1-VDVRINSUP - Validate Device Registration And Support For Installation |

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

|  |
| --- |
| D1-DeviceCommission |

[**5.**](#_Business_Process_Model_1)**5 Update Activity to ‘Validation Error’ State Group: Validation**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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.**](#_Business_Process_Model_1)**6 Create To Do Group: Validation**

**Group: Communicate**

**Group: Complete Event**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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.**](#_Business_Process_Model_1)**7 Update Activity To ‘Waiting For Effective Date’ Status**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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**](#_Business_Process_Model_1) **Wait For Effective Date Group: Pre-communicate**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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.**](#_Business_Process_Model_1)**9 Update Activity To ‘Commission Ready’ Status**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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**](#_Business_Process_Model_1) **Communicate to Complete Commissioning Group: Communicate**

**Group: Perform Command**

A**ctor/Role:** CCS(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**](#_Business_Process_Model_1) **Communicate with Device to Commission Group: Perform Command**

A**ctor/Role:** CCS(SGG)

**Description:**

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

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

|  |
| --- |
| D1-DeviceCommission |

**Group: Communicate**

[**6.2**](#_Business_Process_Model_1) **Update Activity ‘Communication Error’ State Group: Communicate**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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) |
| 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.**](#_Business_Process_Model_1)**3 Update Activity ‘Communication In Progress’ Status Group: Communicate**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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-DeviceCommission |

[**6.**](#_Business_Process_Model_1)**4 Update Activity ‘Waiting for Measurement’ Status**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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):**

|  |
| --- |
| D1-CHKIMD - Check For Initial Measurement Data |
| D1-CHKIMDFLG - Check For Wait For IMD Flag |

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

|  |
| --- |
| D1-DeviceCommission |
| D1-CreateIMD |

[**6.5**](#_Business_Process_Model_1) **Execute Completion Event Group: Complete Event**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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-DeviceCommission |
| D1-CommissionDevice |

[**6.**](#_Business_Process_Model_1)**6 Update Install Event to ‘Pre-Connected/Commissioned’ Status‘Group: Complete Event**

A**ctor/Role:** CCS(MDM)

**Description:**

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

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

|  |
| --- |
| D1-SmartMeterInstallEvent |

[**6.7**](#_Business_Process_Model_1) **Update Activity to ‘Completion Event Error’ State**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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.**](#_Business_Process_Model_1)**8 Complete Commission Activity**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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.**](#_Business_Process_Model_1)**9 Review Activity waiting for Eff. Date**

A**ctor/Role:** CSR or Authorized User

**Description:**

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

[**7.0**](#_Business_Process_Model_1) **Request to Commission Device**

A**ctor/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**](#_Business_Process_Model_1) **Request to Update Activity**

A**ctor/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**](#_Business_Process_Model_1) **Update Activity**

A**ctor/Role:** CCS(MDM)

**Description:**

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

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

|  |
| --- |
| D1-DeviceCommission |

[**7.**](#_Business_Process_Model_1)**3 Request to ‘Discard’**

A**ctor/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**](#_Business_Process_Model_1) **Update Activity to ‘Discarded’ State Group: Automated Retry Process**

**Group: Wait Time Out**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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.**](#_Business_Process_Model_1)**5 Request to Delete Activity**

A**ctor/Role:** CSR or Authorized User

**Description:**

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

[**7.**](#_Business_Process_Model_1)**6 Delete Activity**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(MDM) updates removes activity that was created.

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

|  |
| --- |
| D1-DeviceCommission |

**[7.7](#_Business_Process_Model_7) Identify Device to Connect**

A**ctor/Role:** CSR or Authorized User

**Description:**

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

[**7.8**](#_Business_Process_Model_7) **Request to Initiate Command Remote Connect**

A**ctor/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**](#_Business_Process_Model_7) **Populate Data and Request to Connect**

A**ctor/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**](#_Business_Process_Model_7) **Create Remote Connect Activity in ‘Pending’ Status**

A**ctor/Role:** CCS(MDM)

**Description:**

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

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

|  |
| --- |
| D1-SETREMESC - Set Retrieve Start Measurement Flag to true |

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

|  |
| --- |
| D1-RemoteConnect |

[**8.1**](#_Business_Process_Model_7) **Perform Validations and Update Activity To 'Validate' Status Group: Validation**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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 |
| D1-CACTCONN - Check for Existing Active Connect Command Request |
| D1-CHKDISCON - Check for Concurrent Disconnect Command Request |
| D1-VALEXTREQ - Validate External Requester |

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

|  |
| --- |
| D1-RemoteConnect |

**8.2 Update Activity to ‘Validation Error’ State Group: Validation**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(MDM) updates the status to ‘Validation Error’ if any of the validations fail.

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

|  |
| --- |
| D1-RemoteConnect |

[**8.3**](#_Business_Process_Model_7) **Create To Do Group: Validation**

**Group: Communicate**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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**](#_Business_Process_Model_7) **Update Activity To ‘Waiting For Effective Date’ Status**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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**](#_Business_Process_Model_7) **Wait For Effective Date Group: Pre-communicate**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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.**](#_Business_Process_Model_7)**6 Update Activity To ‘Connection Ready’ Status**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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.**](#_Business_Process_Model_7)**7 Communicate to Complete Connection Group: Communicate**

**Group: Perform Command**

A**ctor/Role:** CCS(MDM)

**Description:**

Application creates outbound communication.

**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.**](#_Business_Process_Model_7)**8 Communicate with Device to Connection Group: Perform Command**

A**ctor/Role:** CCS(SGG)

**Description:**

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

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

|  |
| --- |
| D1-RemoteConnect |

[**8.**](#_Business_Process_Model_7)**9 Update Activity ‘Communication Error’ State Group: Communicate**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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**](#_Business_Process_Model_7) **Update Activity ‘Communication In Progress’ Status Group: Communicate**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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**](#_Business_Process_Model_7) **Execute Completion Event Group: Complete Event**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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**](#_Business_Process_Model_7) **Create IMD Group: Complete Event**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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**](#_Business_Process_Model_7) **Connect Device Group: Complete Event**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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.**](#_Business_Process_Model_7)**4 Update Activity to ‘Completion Event Error’ State**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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.**](#_Business_Process_Model_7)**5 Update Activity ‘Waiting for Measurement’ Status Group: Waiting for Measurement**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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-RFINSC - 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**](#_Business_Process_Model_7) **Update Activity to ‘Wait Expired’ State**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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.**](#_Business_Process_Model_7)**7 Update Install Event to ‘Connected/Commissioned’ Status‘**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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.**](#_Business_Process_Model_7)**8 Update Remote Connect Activity to ‘Completed’ Status**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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.**](#_Business_Process_Model_7)**9 Review Activity waiting for Eff. Date**

A**ctor/Role:** CSR or Authorized User

**Description:**

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

[**10.0**](#_Business_Process_Model_7) **Request to Connect Device**

A**ctor/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**](#_Business_Process_Model_7) **Request to Update Activity**

A**ctor/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**](#_Business_Process_Model_7) **Update Activity**

A**ctor/Role:** CCS(MDM)

**Description:**

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

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

|  |
| --- |
| D1-RemoteConnect |

[**10.3**](#_Business_Process_Model_7) **Request to ‘Discard’**

A**ctor/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**](#_Business_Process_Model_7) **Update Activity to ‘Discarded’ State Group: Automated Retry Process**

**Group: Wait Time Out**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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**](#_Business_Process_Model_7) **Request to Delete Activity**

A**ctor/Role:** CSR or Authorized User

**Description:**

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

[**10.**](#_Business_Process_Model_7)**6 Delete Activity**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(MDM) updates removes activity that was created.

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

|  |
| --- |
| D1-RemoteConnect |

**[10.](#_Business_Process_Model_6)7 Analyze Error and Work To Do**

A**ctor/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**](#_Business_Process_Model_6) **Complete To Do(s) Group: Automated Retry Process**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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-DeviceCommission |

[**10.**](#_Business_Process_Model_6)**9 Request to ‘Revalidate’**

A**ctor/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**](#_Business_Process_Model_6) **Update Activity to ‘Validate’ State and Initialize Reprocessing Group: Automated Validation Retry Process**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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**](#_Business_Process_Model_6) **Identify Activity in ‘Validation Error’ State Group: Automated Validation Retry Process**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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**](#_Business_Process_Model_6) **Evaluate Criteria to Run Automated Retry Process Group: Automated Retry Process**

A**ctor/Role:** CCS(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**](#_Business_Process_Model_6) **Evaluate Waiting Period Group: Automated Retry Process**

**Group: Wait Time Out**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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**](#_Business_Process_Model_6) **Request to ‘Retry’**

A**ctor/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**](#_Business_Process_Model_6) **Update Activity to ‘Retry’ State and Initialize Reprocessing Group: Automated Communication Retry Process**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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.**](#_Business_Process_Model_6)**6 Identify Activity in ‘Communication Error’ State Group: Automated Communication Retry Process**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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.**](#_Business_Process_Model_6)**7 Request to ‘Execute Completion Events’**

A**ctor/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.**](#_Business_Process_Model_6)**8 Update Activity to Execute Completion Event State and Initialize Reprocessing Group: Automated Completion Retry Process**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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.**](#_Business_Process_Model_6)**9 Identify Activity in ‘Completion Event Error’ State Group: Automated Completion Retry Process**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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**](#_Business_Process_Model_8) **Analyze Error and Work To Do**

A**ctor/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**](#_Business_Process_Model_8) **Complete To Do(s) Group: Automated Retry Process**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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**](#_Business_Process_Model_8) **Request to ‘Revalidate’**

A**ctor/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**](#_Business_Process_Model_8) **Update Activity to ‘Validate’ State and Initialize Reprocessing Group: Automated Validation Retry Process**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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**](#_Business_Process_Model_8) **Identify Activity in ‘Validation Error’ State Group: Automated Validation Retry Process**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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-RemoteConnect |

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

|  |
| --- |
| D1-CRERR (Command Request Error – Retry) |

[**12.5**](#_Business_Process_Model_8) **Evaluate Criteria to Run Automated Retry Process Group: Automated Retry Process**

A**ctor/Role:** CCS(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-RemoteConnect |

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

|  |
| --- |
| D1-CRERR (Command Request Error – Retry) |

[**12.6**](#_Business_Process_Model_8) **Evaluate Waiting Period Group: Automated Retry Process**

**Group: Wait Time Out**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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-RemoteConnect |

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

|  |
| --- |
| D1-CRERR (Command Request Error – Retry) |

[**12.7**](#_Business_Process_Model_8) **Request to ‘Retry’**

A**ctor/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**](#_Business_Process_Model_8) **Update Activity to ‘Retry’ State and Initialize Reprocessing Group: Automated Communication Retry Process**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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**](#_Business_Process_Model_8) **Identify Activity in ‘Communication Error’ State Group: Automated Communication Retry Process**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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**](#_Business_Process_Model_8) **Request to ‘Execute Completion Events’**

A**ctor/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**](#_Business_Process_Model_8) **Update Activity to Execute Completion Event State and Initialize Reprocessing Group: Automated Completion Retry Process**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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**](#_Business_Process_Model_8) **Identify Activity in ‘Completion Event Error’ State Group: Automated Completion Retry Process**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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**](#_Business_Process_Model_8) **Request to ‘Continue Waiting’**

A**ctor/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**](#_Business_Process_Model_8) **Update Activity to ‘Waiting for Measurement’ State and Initialize Reprocessing Group: Automated Waiting Measurement Retry Process**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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**](#_Business_Process_Model_8) **Identify Activity in ‘Wait Expired’ State Group: Automated Waiting Measurement Retry Process**

A**ctor/Role:** CCS(MDM)

**Description:**

CCS(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-CCS-5632-001-Create-Install-Event-Scalar-Status-ON | 2 |
| 2 | URM-CCS-5632-002-Create-Install-Event-Scalar-Status-OFF | 2 |
| 3 | URM-CCS-5632-003-Create-Install-Event-Smart-Status-CONN-COMM | 2 |
| 4 | URM-CCS-5632-004-Create-Install-Event-Smart-Status-DIS-COMM | 2 |
| 5 | URM-CCS-5632-005-Update-Install-Event-Scalar-Date-Time | 2 |
| 6 | URM-CCS-5632-006-Enable-Service-Install-Meter-ScalarDevice | 2 |
| 7 | URM-CCS-5632-007-Create-Install-Event-Item-Status-ON | 1 |
| 8 | URM-CCS-5632-008-Create-Install-Event-Scalar-Status-ON-Direct | 1 |

## Document Control

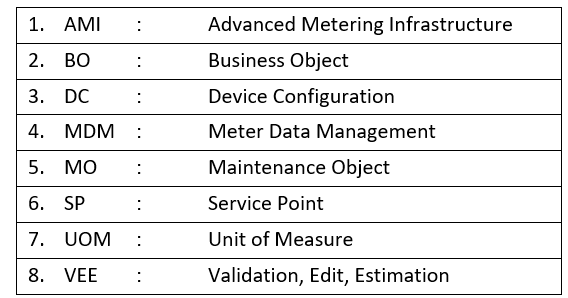
**Change Record**

50

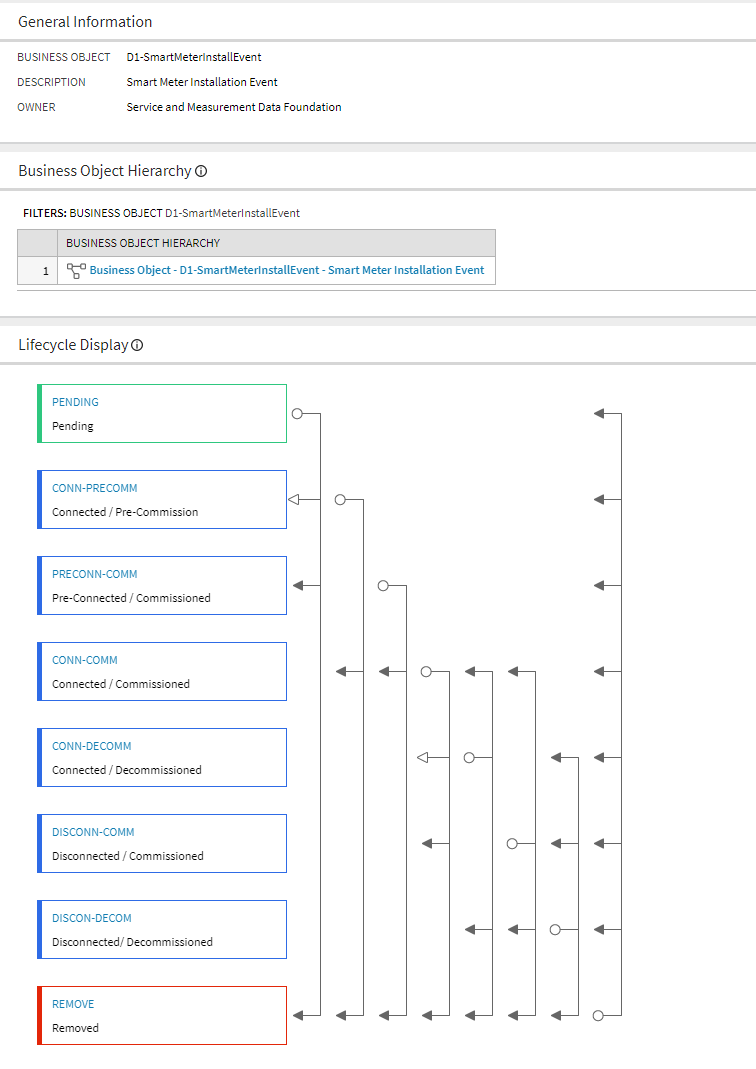
| Date | Author | Version | Change Reference |
| --- | --- | --- | --- |
|  |  |  |  |
| 7/25/2011 | Giezelle Raynor | 1 | Initial draft |
| 9/13/2011 | Srinivas Rao Kanteti | 2 | Second draft |
| 9/17/2011 | Galina Polonsky | 2 | Review |
| 10/17/2011 | Layne Nelson | 2 | Review |
| 12/12/2011 | Galina 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 |
| 10/19/2024 | Kunal Nerkar |  | Updated for CCS 24B |
| 10/20/2024 | Sundar Krishnamachariar |  | Reviewed |
| 10/20/2024 | Ashish Shukla |  | Reviewed |
| 12/16/2024 | Galina Polonsky |  | Reviewed, Approved |

## Attachments

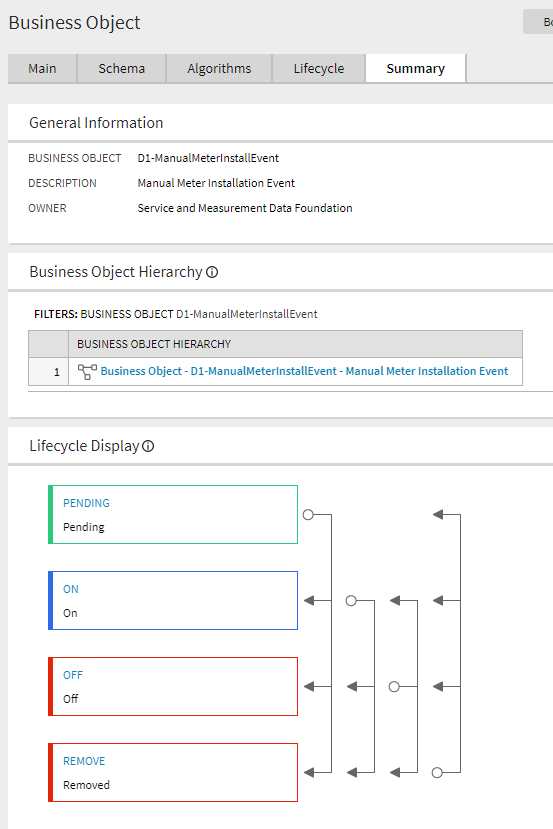
### Acronyms & Definitions



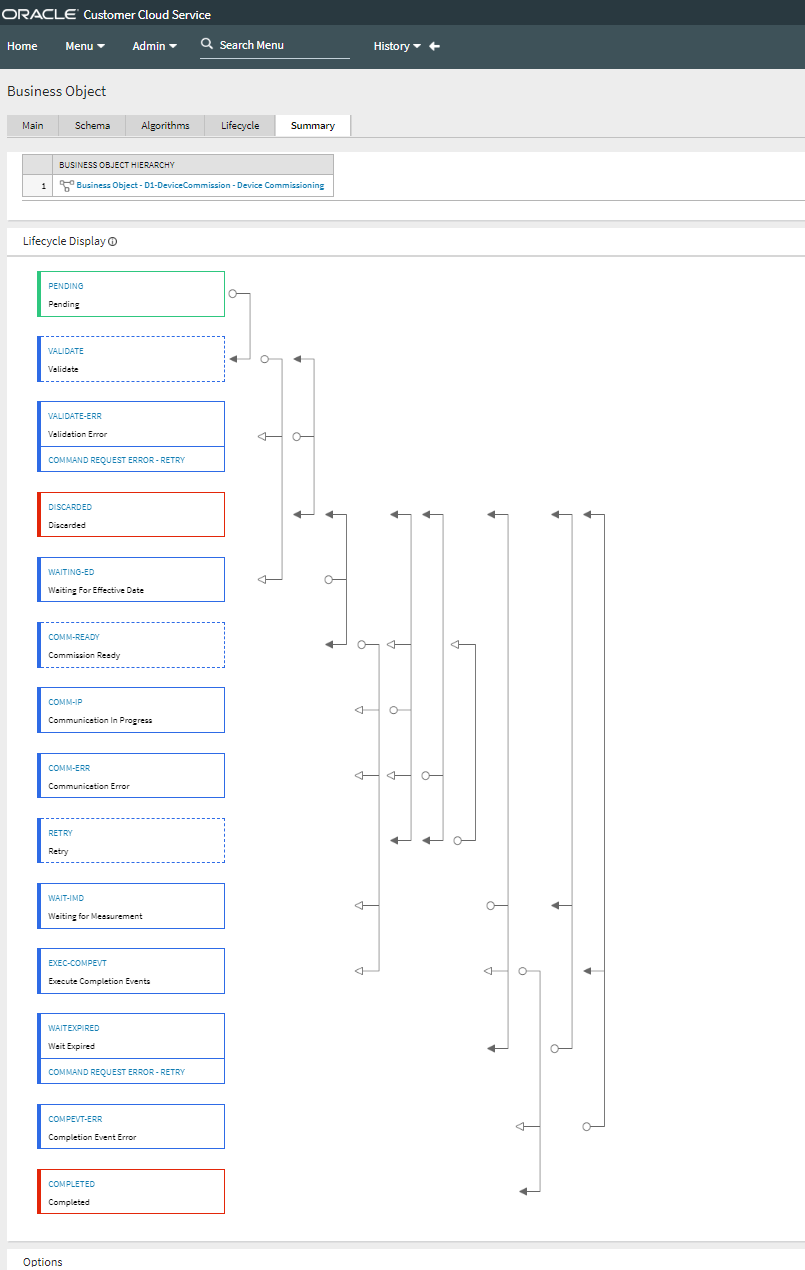
### Smart Meter Install Event BO - Lifecycle



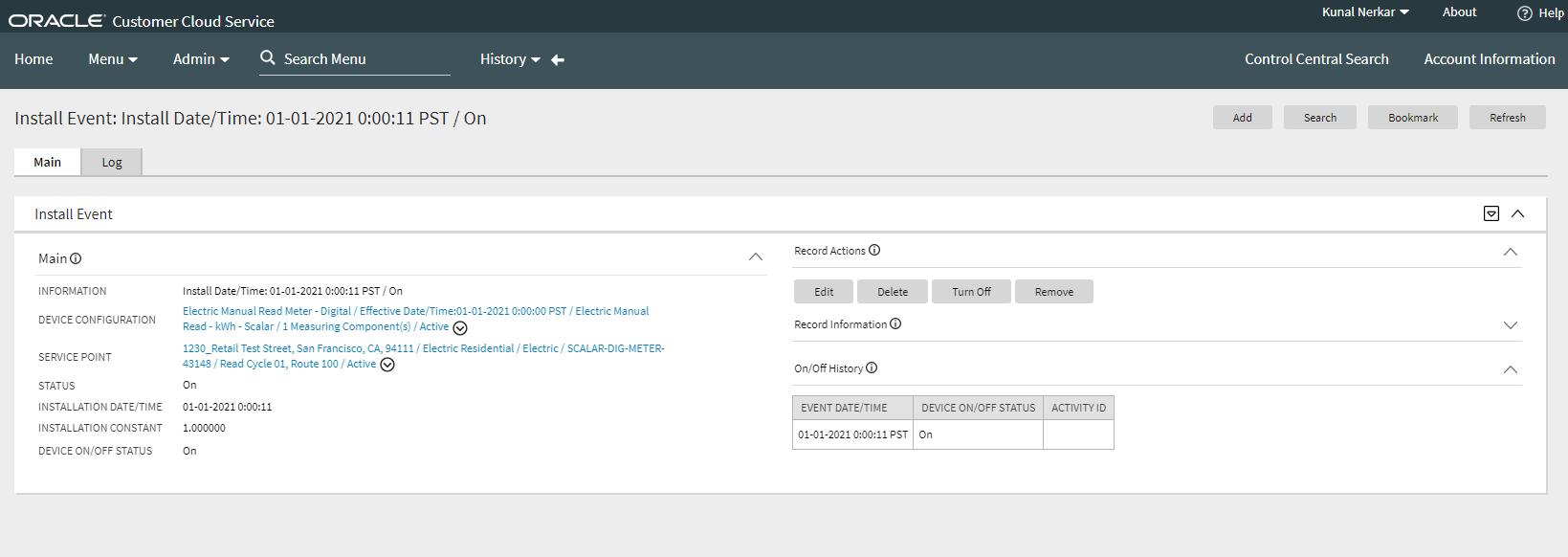
### Manual Meter Install Event BO – Lifecycle



### Device Commission BO - Lifecycle

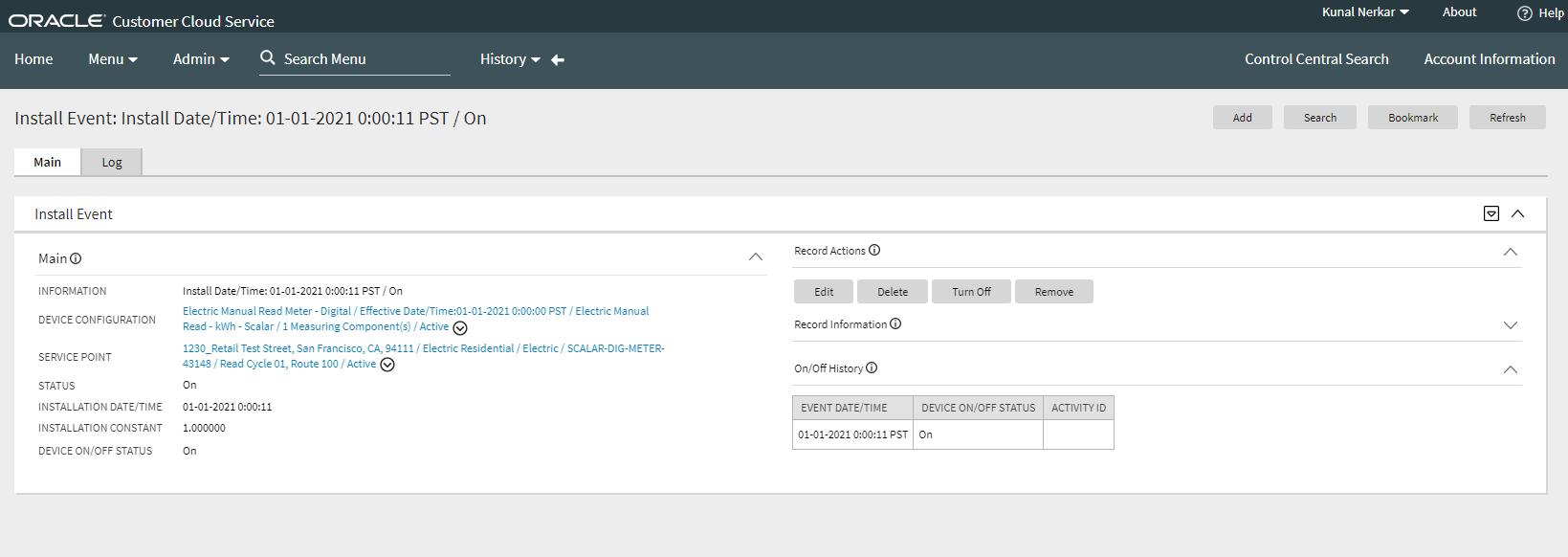


### Install Event - Link DC and Service Point

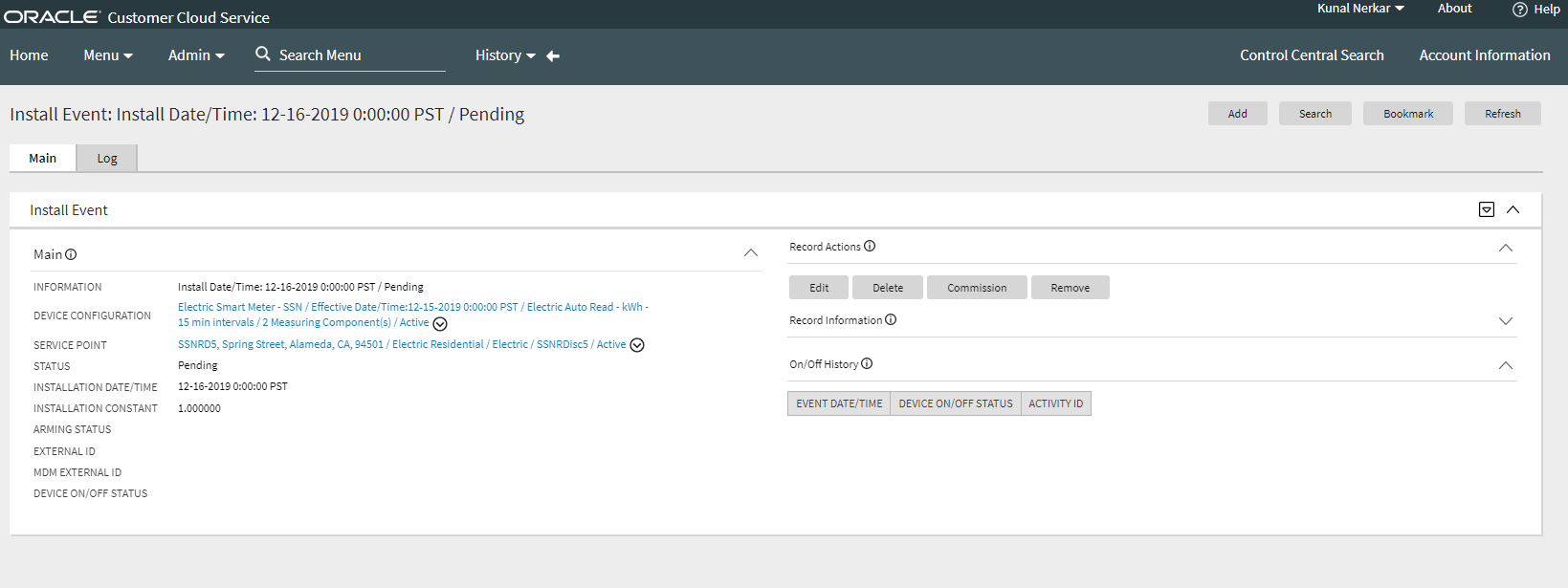


### Install Event - Details\_On\_Off\_History

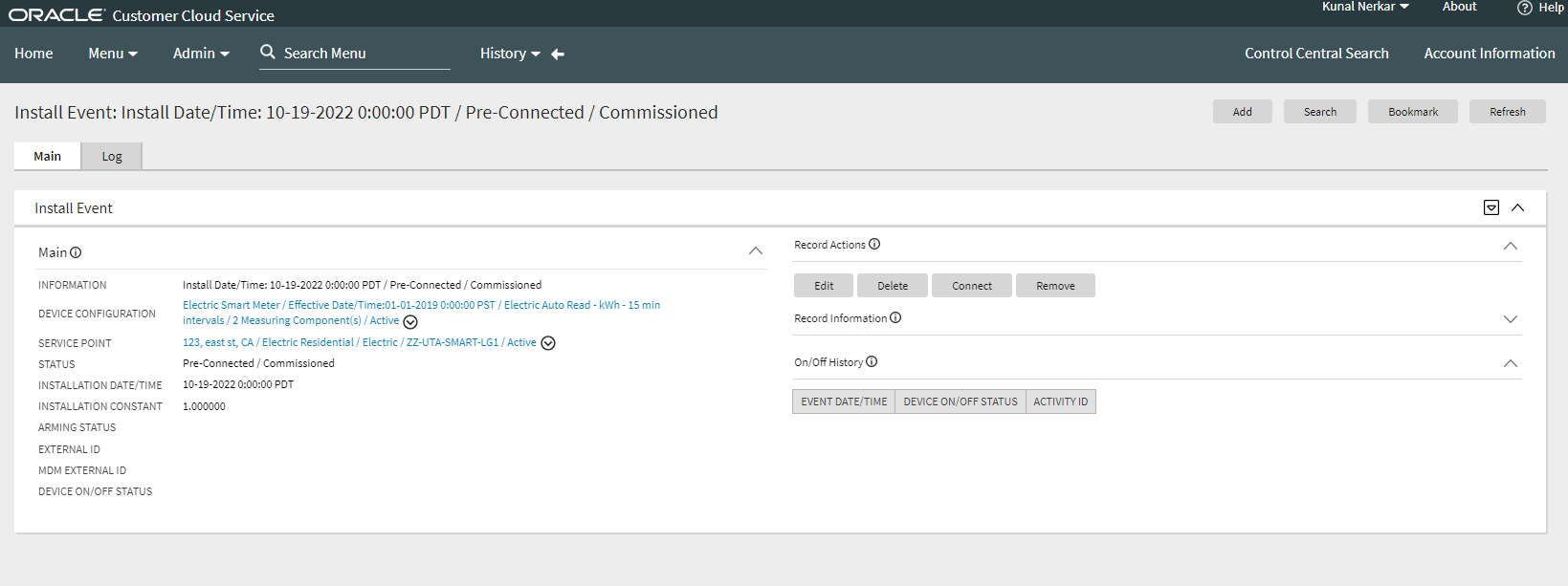
Install Event Details

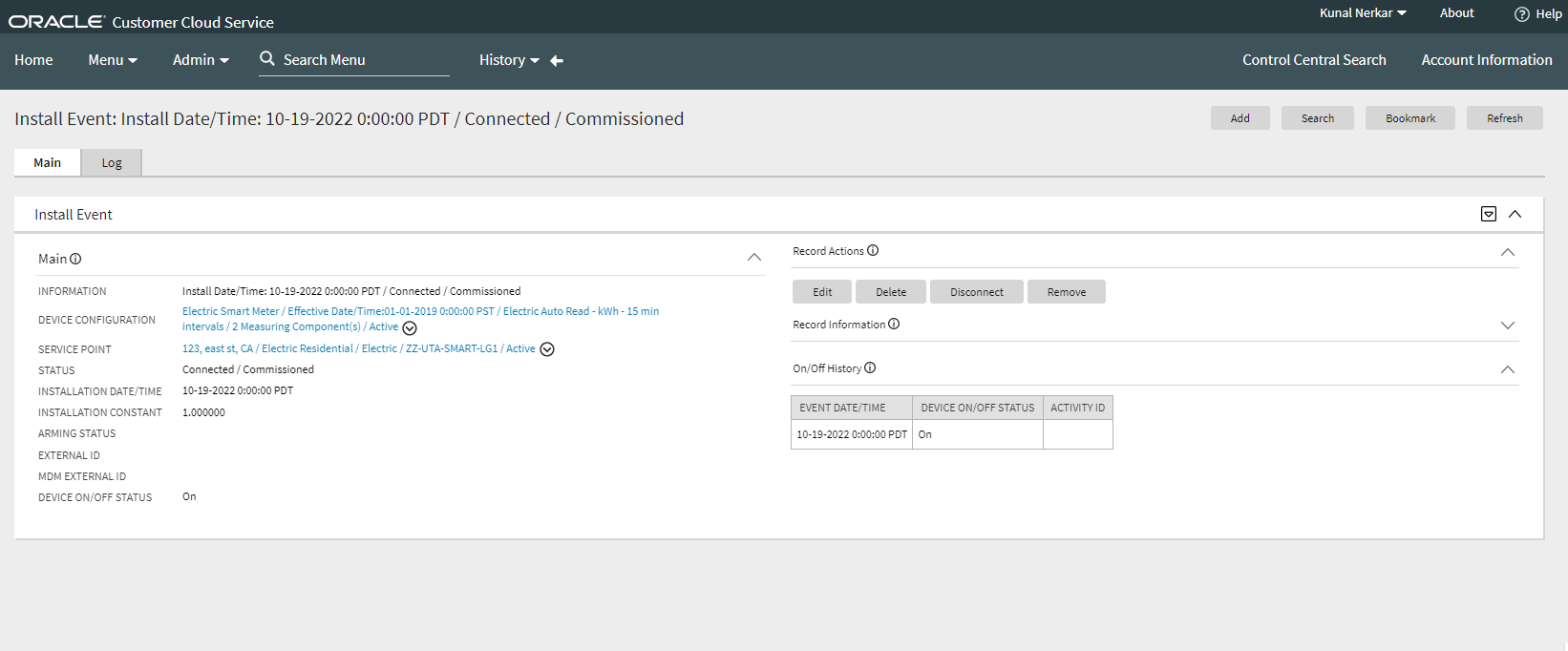


### Device Commission Command



### Install Event - Update\_Connect\_Disconnect\_Remove





### 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 |