

**Oracle Utilities SGG V2.0.0 and MDM
V2.0.1 Integrations**

Utility Reference Model

5.6.3.1b SGG-MDM.Manage On-Demand Read
(Echelon)

December 2012

Oracle Utilities SGG V2.0.0 to MDM V2.0.1 Integration Utility Reference Model 5.6.3.1b

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Chapter 1

Overview

This chapter provides a brief description of the SGG-MDM.Manage On-Demand Read (Echelon) business process and associated process diagrams. This includes:

- **Brief Description**

Brief Description

Business Process: 5.6.3.1b SGG-MDM.Manage On-Demand Read (Echelon)

Process Type: Process

Parent Process: 5.6.3 SGG-MDM.Manage Devices

Sibling Processes: 5.6.3.4b SGG-MDM.Manage Device Remote Connect (Echelon), 5.6.3.5b SGG-MDM.Manage Device Remote Disconnect (Echelon)

This process gets initiated when a 3rd Party Application (E.g. Customer Care and Billing Application), makes a request for an On-demand Read or a MDM or SGG Authorized User manually requests for an On-demand Read within SGG system. SGG initiates On-demand Read by communicating with respective Echelon Head-End System that in turn communicates with the Smart Meter device, collects read, and sends it back to SGG.

Chapter 2

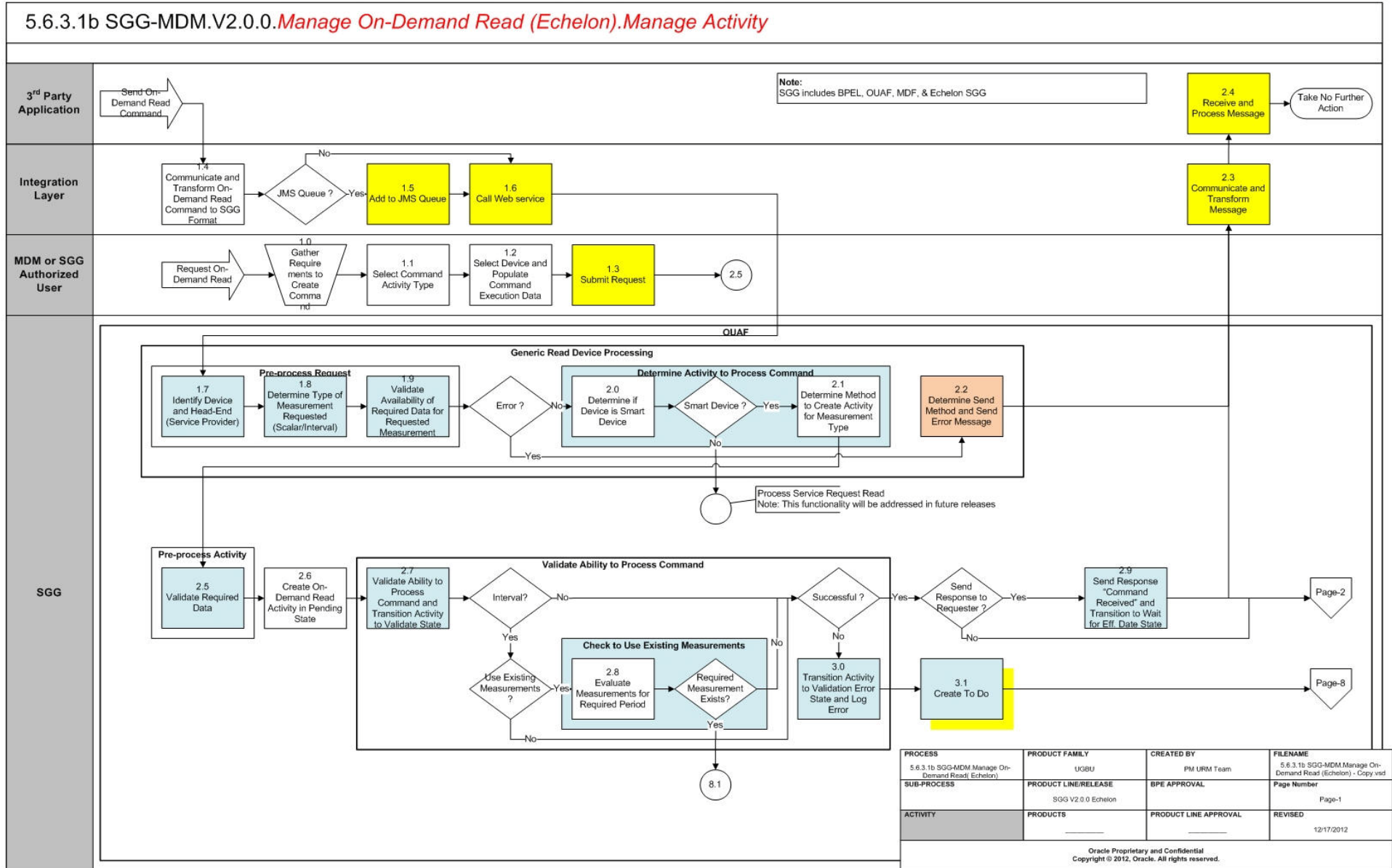
Detailed Business Process Model Description

This chapter provides a detailed description of the SGG-MDM.Manage On-Demand Read (Echelon) business process. This includes:

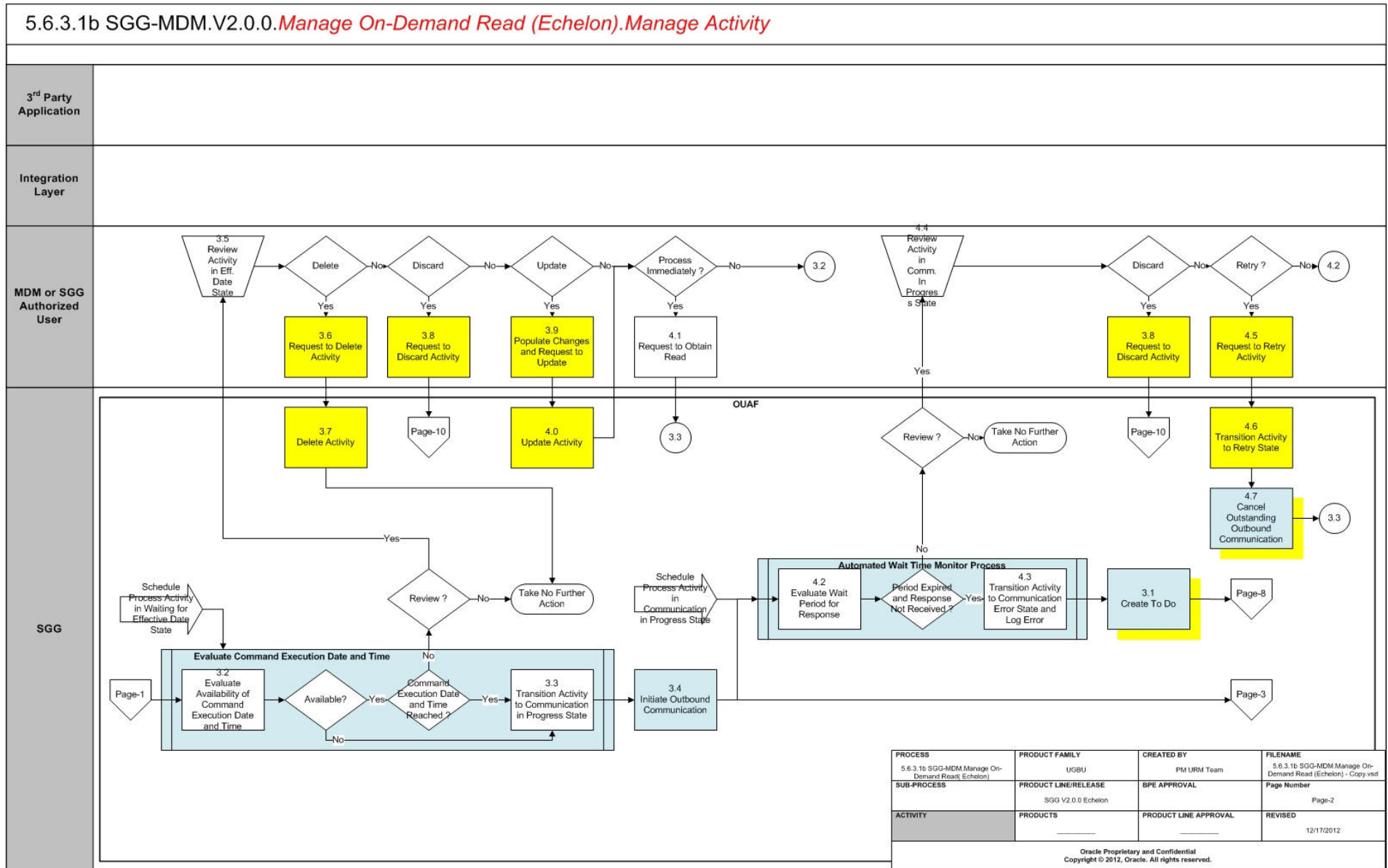
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- **SGG-MDM.Manage On-Demand Read (Echelon) Description**
- **Business Objects Life Cycle**
 - **D1-OnDemandReadAbstract**
 - **D1-OnDemandReadInterval**
 - **D4-ReadBillingData**
 - **D4-ReadBillingData**
 - **D4-ReadBillingDataNtf**
 - **D4-ReadLoadProfile**
 - **D4-ReadLoadProfileNtf**
 - **D1-CompletionEvent**
 - **D1-Create IMD Event**

Business Process Diagrams

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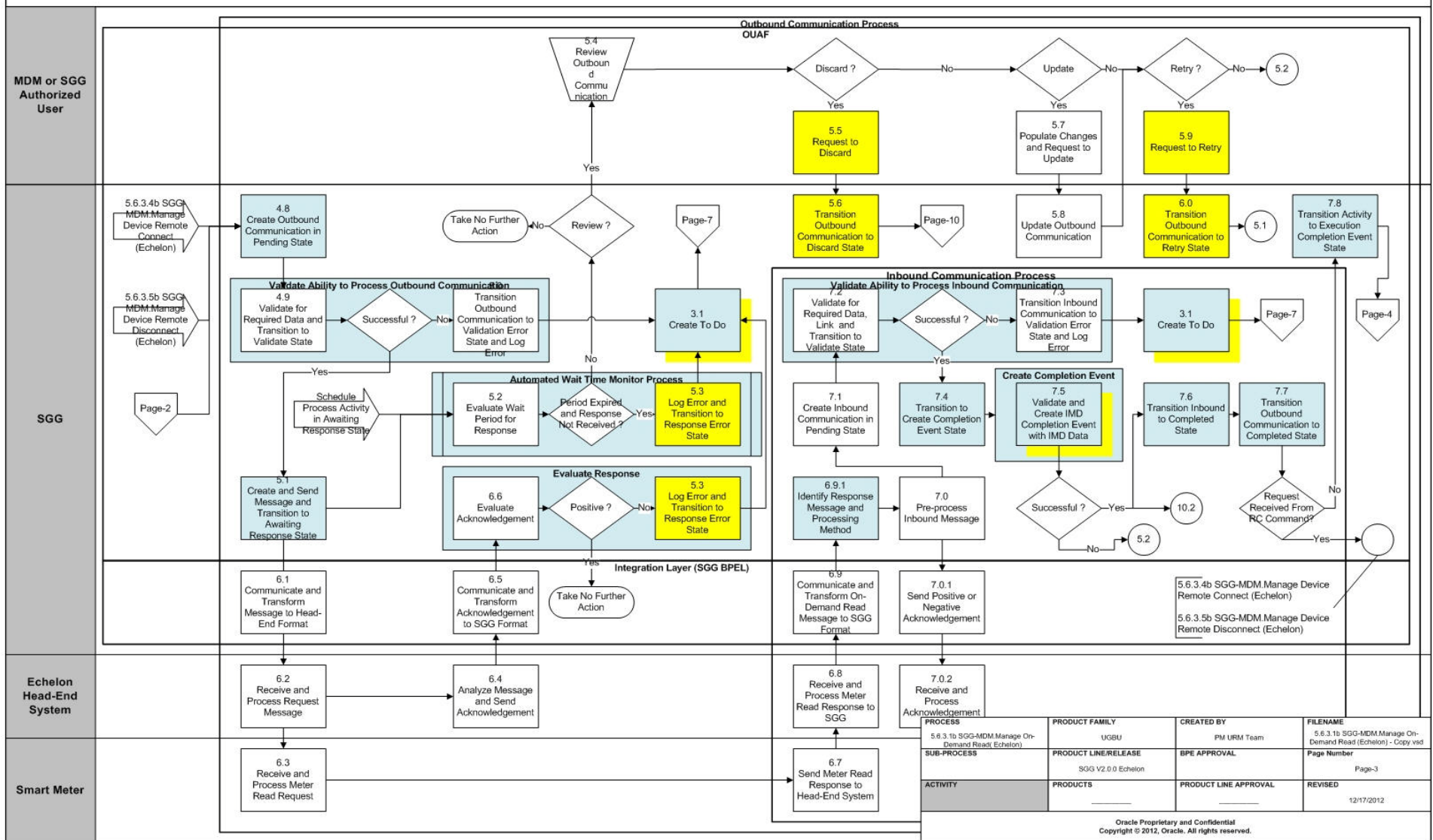


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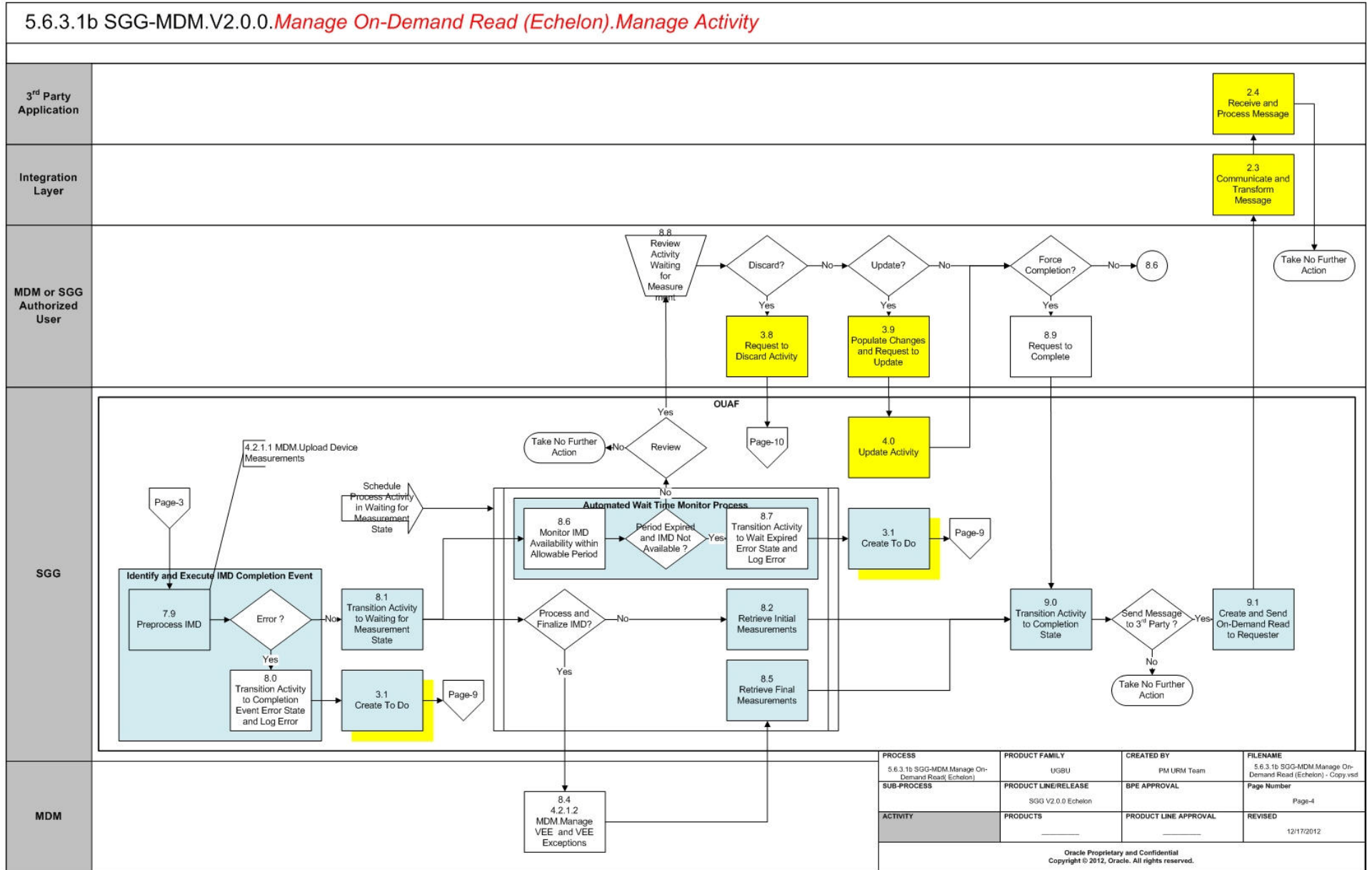


Business Process Model Page 3

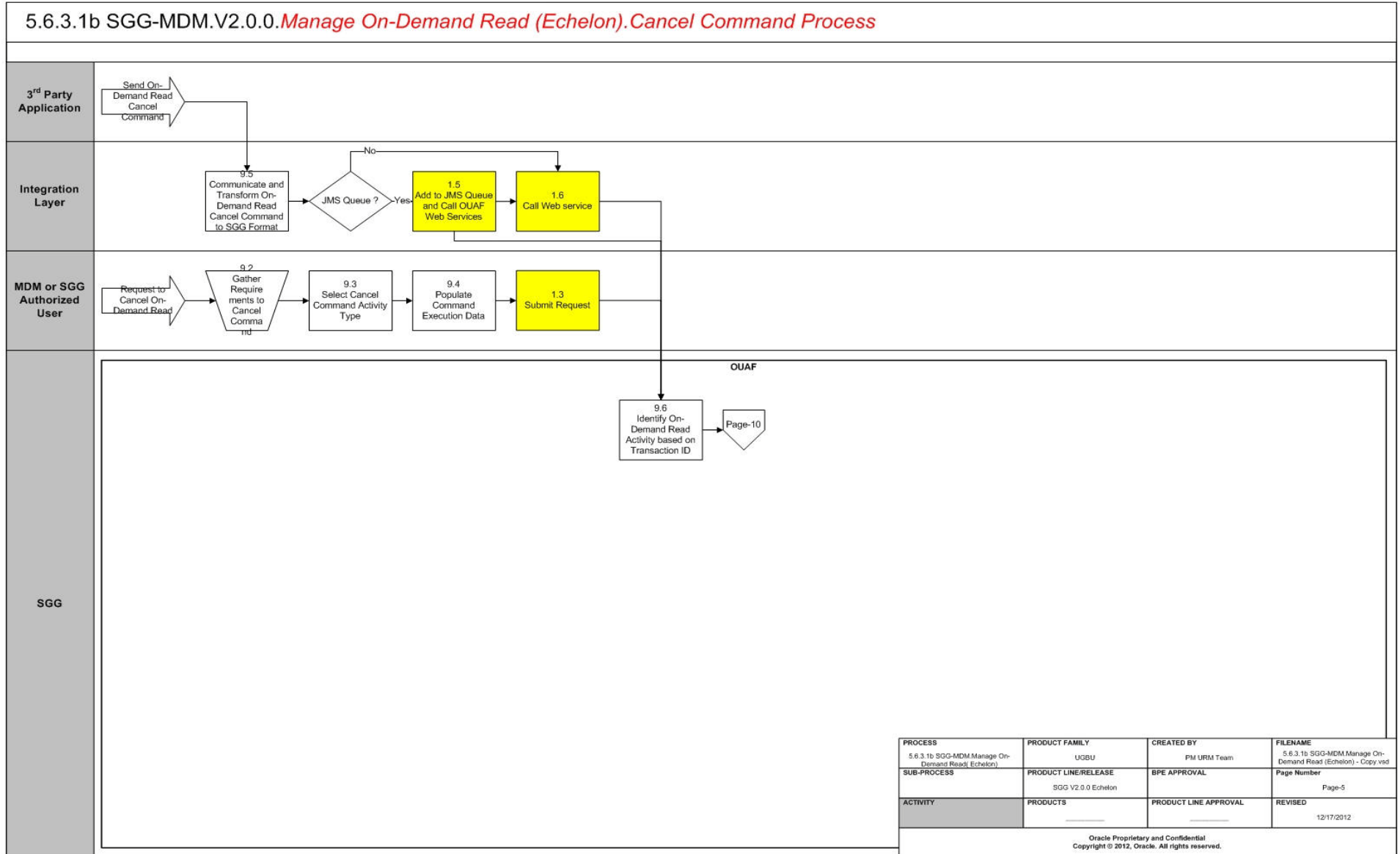
5.6.3.1b SGG-MDM.V2.0.0. *Manage On-Demand Read (Echelon). Manage Outbound and Inbound Communication*



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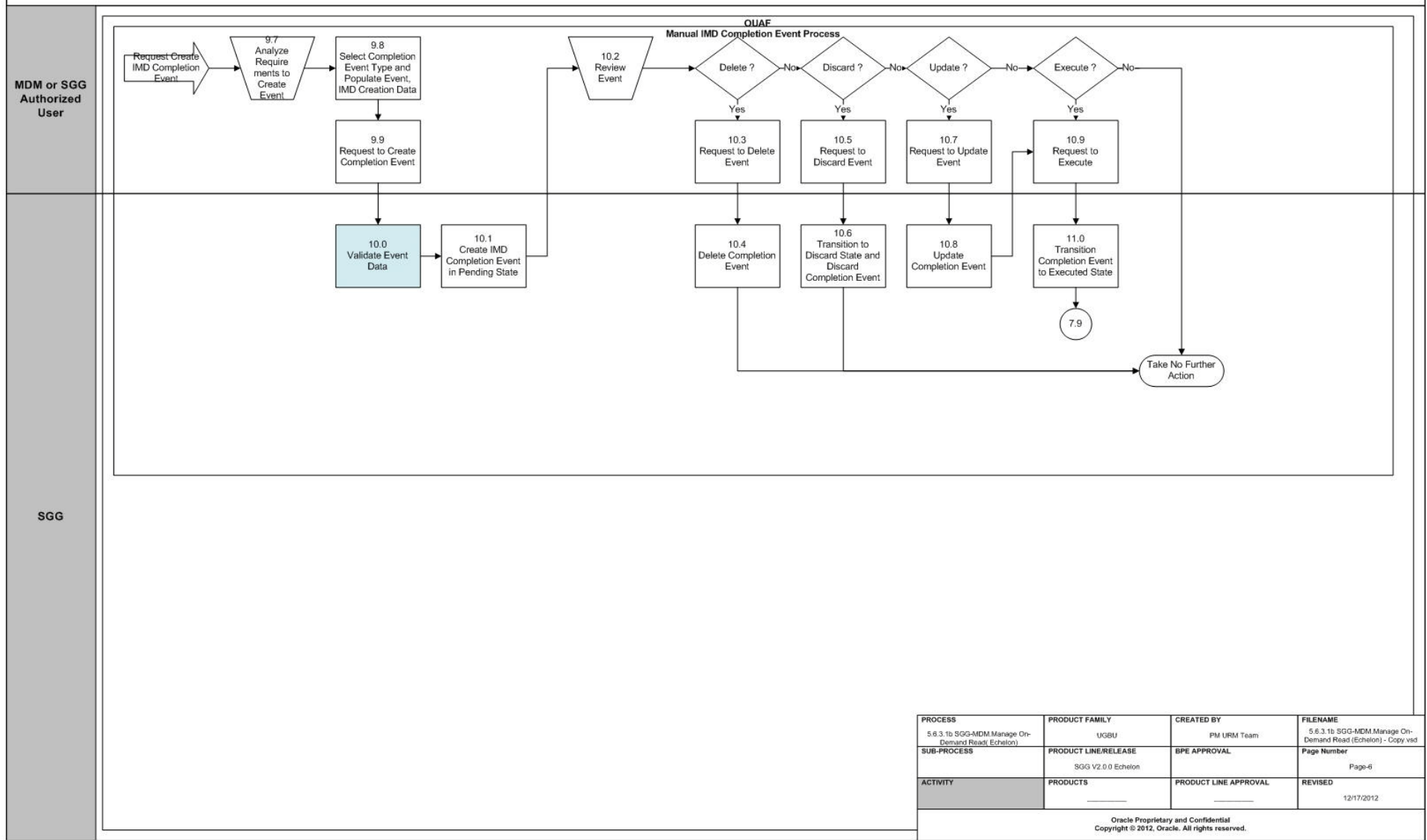


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5.6.3.1b SGG-MDM.V2.0.0.Manage On-Demand Read (Echelon).Manage Manual IMD Completion Event

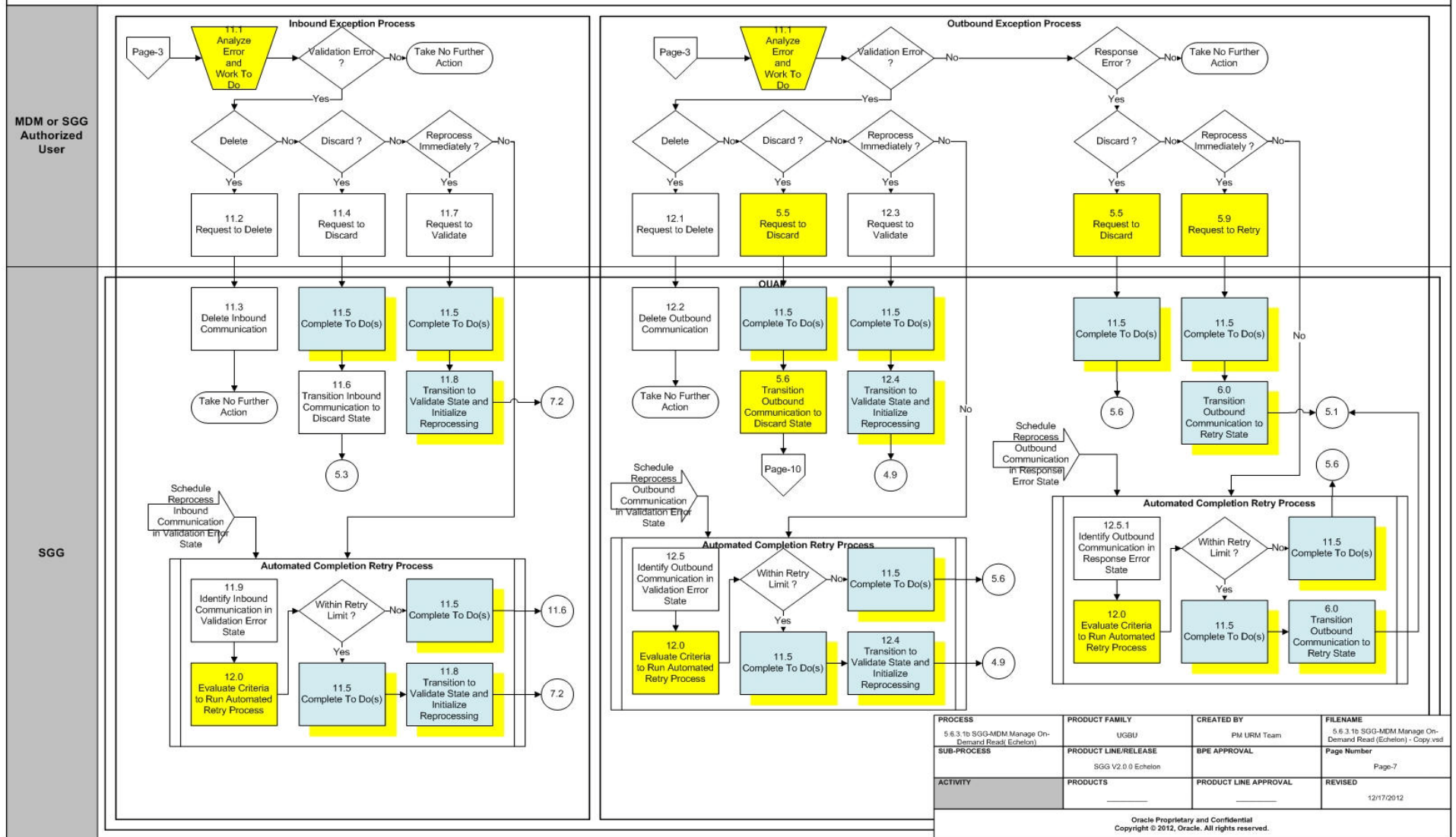


PROCESS 5.6.3.1b SGG-MDM.Manage On-Demand Read (Echelon)	PRODUCT FAMILY UGBU	CREATED BY PM URM Team	FILENAME 5.6.3.1b SGG-MDM.Manage On-Demand Read (Echelon) - Copy.vsd
SUB-PROCESS	PRODUCT LINE/RELEASE SGG V2.0.0 Echelon	BPE APPROVAL	Page Number Page-6
ACTIVITY	PRODUCTS	PRODUCT LINE APPROVAL	REVISED 12/17/2012

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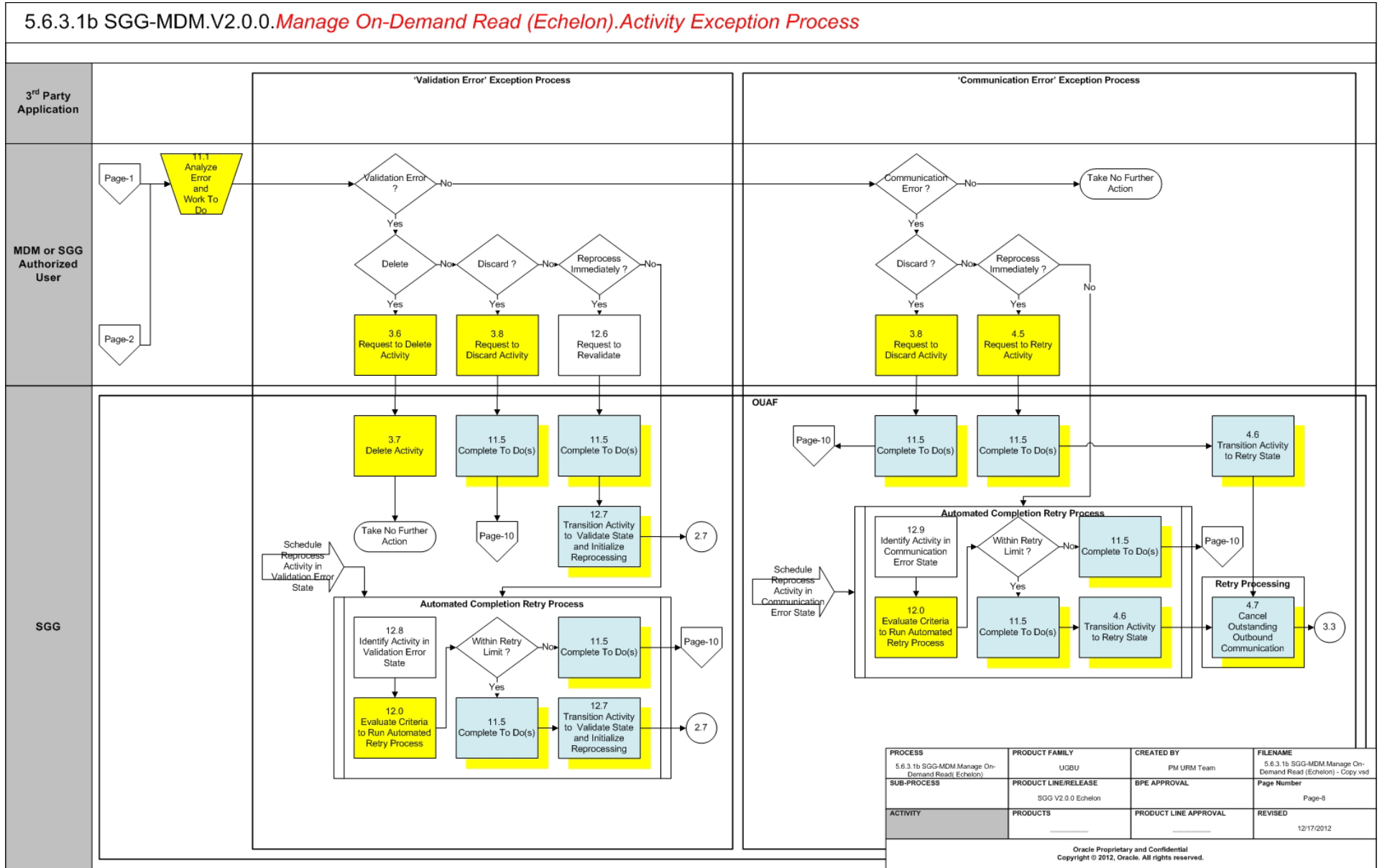
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5.6.3.1b SGG-MDM.V2.0.0.Manage On-Demand Read (Echelon).Inbound and Outbound Exception Process

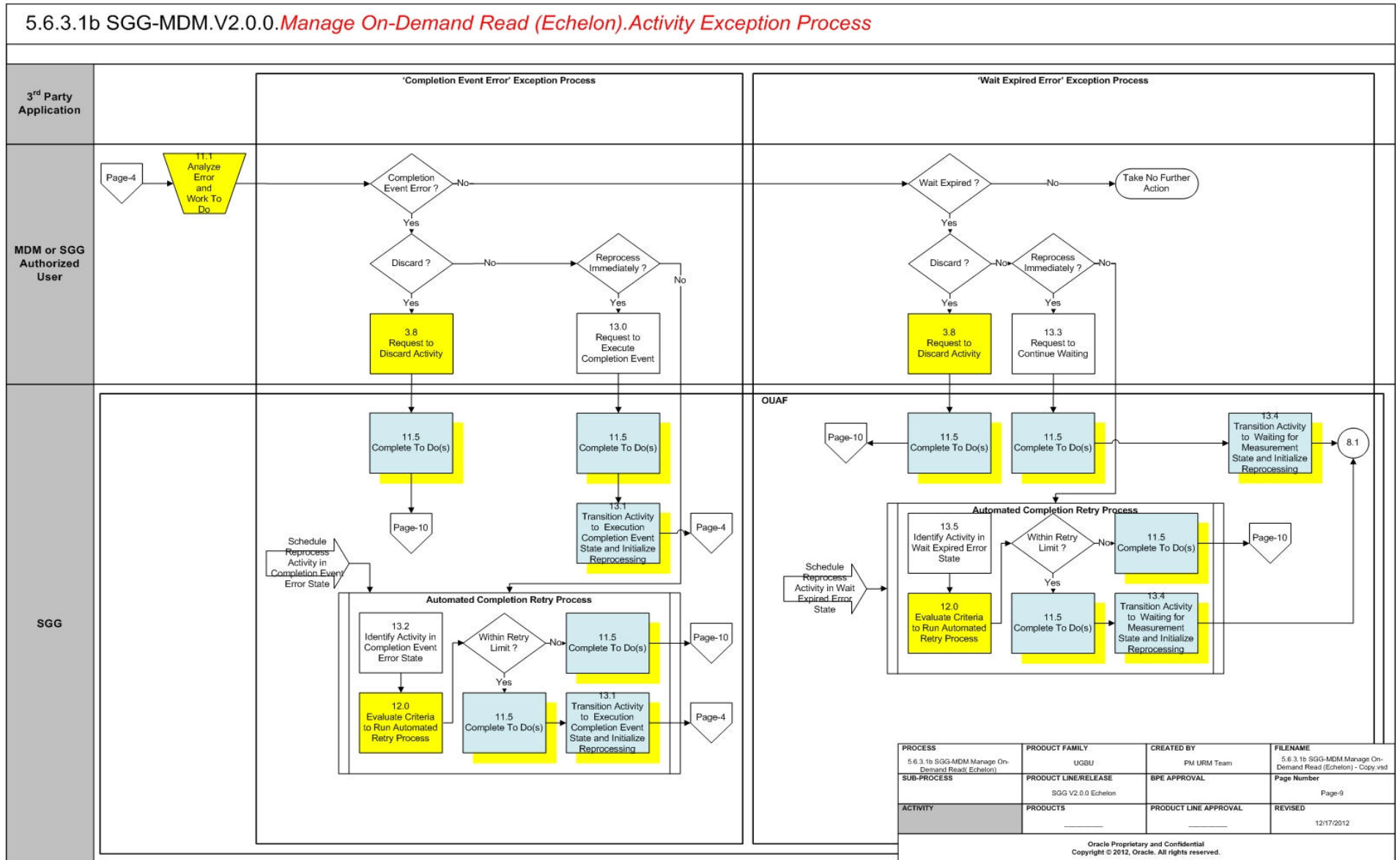


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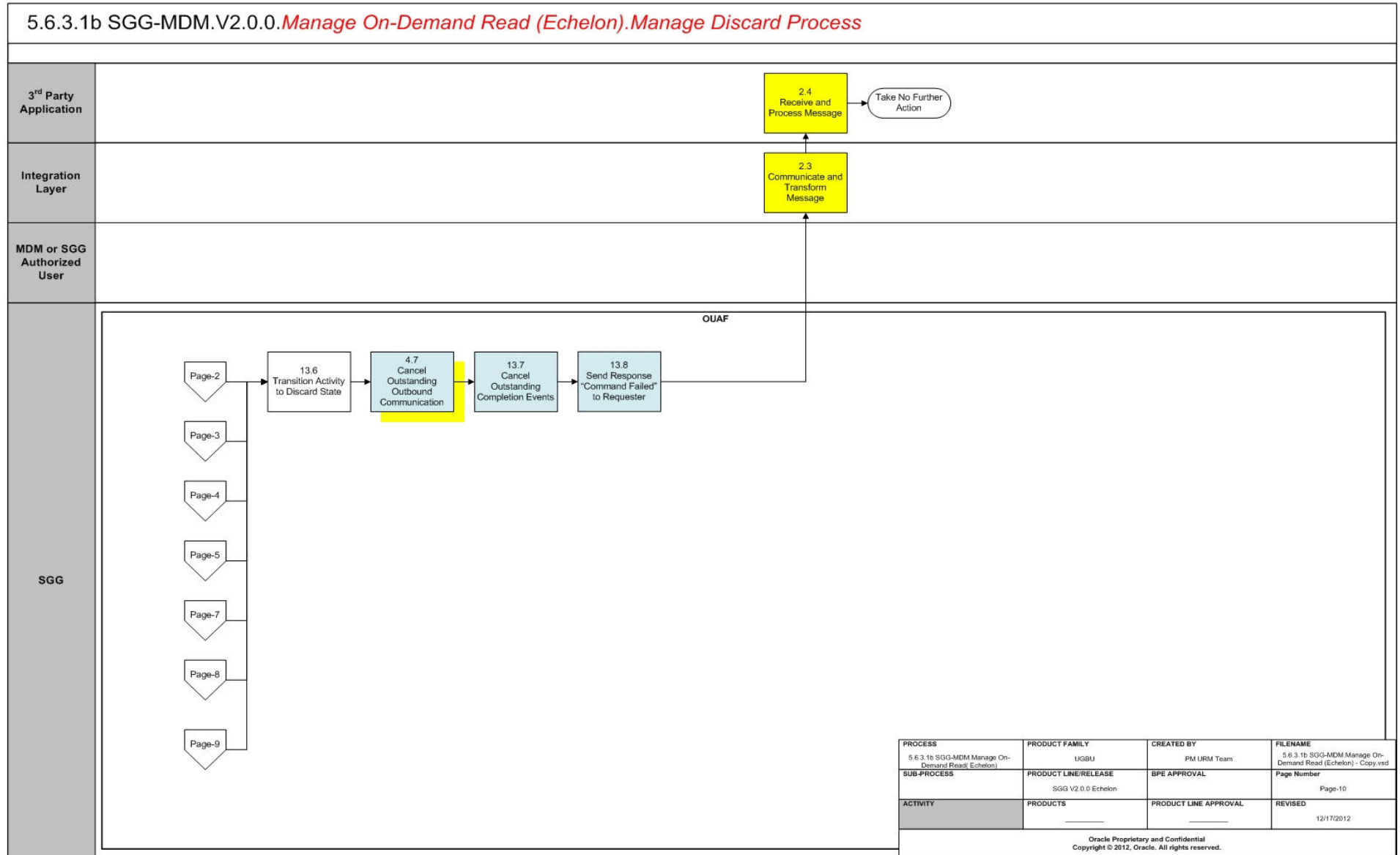
5.6.3.1b SGG-MDM.V2.0.0. *Manage On-Demand Read (Echelon). Activity Exception Process*



Business Process Model Page 9



Business Process Model Page 10



SGG-MDM.Manage On-Demand Read (Echelon) Description

This section includes detailed descriptions of the steps involved in the SGG-MDM.Manage On-Demand Read (Echelon) business process, including:

- **1.0 Gather Requirements to Create Command**
- **1.1 Select Command Activity Type**
- **1.2 Select Device and Populate Command Execution Data**
- **1.3 Submit Request**
- **1.4 Communicate and Transform On-Demand Read Command to SGG Format**
- **1.5 Add to JMS Queue**
- **1.6 Call Web service**
- **1.7 Identify Device and Head-End (Service Provider)**
- **1.8 Determine Type of Measurement Requested (Scalar/Interval)**
- **1.9 Validate Availability of Required Data for Requested Measurement**
- **2.0 Determine if Device is Smart Device**
- **2.1 Determine Method to Create Activity for Measurement Type**
- **2.2 Determine Send Method and Send Error Message**
- **2.3 Communicate and Transform Message**
- **2.4 Receive and Process Message**
- **2.5 Validate Required Data**
- **2.6 Create On-Demand Read Activity in Pending State**
- **2.7 Validate Ability to Process Command and Transition Activity to Validate State**
- **2.8 Evaluate Measurements for Required Period**
- **2.9 Send Response "Command Received" and Transition to Wait for Eff. Date State**
- **3.0 Transition Activity to Validation Error State and Log Error**
- **3.1 Create To Do**
- **3.2 Evaluate Availability of Command Execution Date and Time**
- **3.3 Transition Activity to Communication in Progress State**
- **3.4 Initiate Outbound Communication**
- **3.5 Review Activity in Eff. Date State**
- **3.6 Request to Delete Activity**
- **3.7 Delete Activity**
- **3.8 Request to Discard Activity**
- **3.9 Populate Changes and Request to Update**
- **4.0 Update Activity**
- **4.1 Request to Obtain Read**
- **4.2 Evaluate Wait Period for Response**
- **4.3 Transition Activity to Communication Error State and Log Error**
- **4.4 Review Activity in Comm. In Progress State**

- 4.5 Request to Retry Activity
- 4.6 Transition Activity to Retry State
- 4.7 Cancel Outstanding Outbound Communication
- 4.8 Create Outbound Communication in Pending State
- 4.9 Validate for Required Data and Transition to Validate State
- 5.0 Transition Outbound Communication to Validation Error State and Log Error
- 5.1 Create and Send Message and Transition to Awaiting Response State
- 5.2 Evaluate Wait Period for Response
- 5.3 Log Error and Transition to Response Error State
- 5.4 Review Outbound Communication
- 5.5 Request to Discard
- 5.6 Transition Outbound Communication to Discard State
- 5.7 Populate Changes and Request to Update
- 5.8 Update Outbound Communication
- 5.9 Request to Retry
- 6.0 Transition Outbound Communication to Retry State
- 6.1 Communicate and Transform Message to Head-End Format
- 6.2 Receive and Process Request Message
- 6.3 Receive and Process Meter Read Request
- 6.4 Analyze Message and Send Acknowledgement
- 6.5 Communicate and Transform Acknowledgement to SGG Format
- 6.6 Evaluate Acknowledgement
- 6.7 Send Meter Read Response to Head-End System
- 6.8 Receive and Process Meter Read Response to SGG
- 6.9 Communicate and Transform On-Demand Read Message to SGG Format
- 6.9.1 Identify Response Message and Processing Method
- 7.0 Process Inbound Message and Send Acknowledgement to Head-End
- 7.0.1 Send Positive or Negative Acknowledgement
- 7.0.2 Receive and Process Acknowledgement
- 7.1 Create Inbound Communication in Pending State
- 7.2 Validate for Required Data, Link and Transition to Validate State
- 7.3 Transition Inbound Communication to Validation Error State and Log Error
- 7.4 Transition to Create Completion Event State
- 7.5 Validate and Create IMD Completion Event with IMD Data
- 7.6 Transition Inbound to Completed State
- 7.7 Transition Outbound Communication to Completed State
- 7.8 Transition Activity to Execution Completion Event State
- 7.9 Preprocess IMD

- 8.0 Transition Activity to Completion Event Error State and Log Error
- 8.1 Transition Activity to Waiting for Measurement State
- 8.2 Retrieve Initial Measurements
- 8.4 4.2.1.2 MDM.Manage VEE and VEE Exceptions
- 8.5 Retrieve Final Measurements
- 8.6 Monitor IMD Availability within Allowable Period
- 8.7 Transition Activity to Wait Expired Error State and Log Error
- 8.8 Review Activity Waiting for Measurement
- 8.9 Request to Complete
- 9.0 Transition Activity to Completion State
- 9.1 Create and Send On-Demand Read to Requester
- 9.2 Gather Requirements to Cancel Command
- 9.3 Select Cancel Command Activity Type
- 9.4 Populate Command Execution Data
- 9.5 Communicate and Transform On-Demand Read Cancel Command to SGG Format
- 9.6 Identify On-Demand Read Activity based on Transaction ID
- 9.7 Analyze Requirements to Create Event
- 9.8 Select Completion Event Type and Populate Event, IMD Creation Data
- 9.9 Request to Create Completion Event
- 10.0 Validate Event Data
- 10.1 Create IMD Completion Event in Pending State
- 10.2 Review Event
- 10.3 Request to Delete Event
- 10.4 Delete Completion Event
- 10.5 Request to Discard Event
- 10.6 Transition to Discard State and Discard Completion Event
- 10.7 Request to Update Event
- 10.8 Update Completion Event
- 10.9 Request to Execute
- 11.0 Transition Completion Event to Executed State
- 11.1 Analyze Error and Work To Do
- 11.2 Request to Delete
- 11.3 Delete Inbound Communication
- 11.4 Request to Discard
- 11.5 Complete To Do(s)
- 11.6 Transition Inbound Communication to Discard State
- 11.7 Request to Validate

- 11.8 Transition to Validate State and Initialize Reprocessing
- 11.9 Identify Inbound Communication in Validation Error State
- 12.0 Evaluate Criteria to Run Automated Retry Process
- 12.1 Request to Delete
- 12.2 Delete Outbound Communication
- 12.3 Request to Validate
- 12.4 Transition to Validate State and Initialize Reprocessing
- 12.5 Identify Outbound Communication in Validation Error State
- 12.5.1 Identify Outbound Communication in Response Error State
- 12.6 Request to Revalidate
- 12.7 Transition Activity to Validate State and Initialize Reprocessing
- 12.8 Identify Activity in Validation Error State
- 12.9 Identify Activity in Communication Error State
- 13.0 Request to Execute Completion Event
- 13.1 Transition Activity to Execution Completion Event State and Initialize Reprocessing
- 13.2 Identify Activity in Completion Event Error State
- 13.3 Request to Continue Waiting
- 13.4 Transition Activity to Waiting for Measurement State and Initialize Reprocessing
- 13.5 Identify Activity in Wait Expired Error State
- 13.6 Transition Activity to Discard State
- 13.7 Cancel Outstanding Completion Events
- 13.8 Send Response "Command Failed" to Requester

1.0 Gather Requirements to Create Command

See **Business Process Model Page 1** on page 2-2 for the business process diagram associated with this activity.

Actor/Role: MDM or SGG Authorized User

Description: MDM or SGG Authorized User analyzes requirements and gathers information required to create On Demand read command.

1.1 Select Command Activity Type

See **Business Process Model Page 1** on page 2-2 for the business process diagram associated with this activity.

Actor/Role: MDM or SGG Authorized User

Description: MDM or SGG Authorized User selects Activity Type to create an On-demand Read request.

Entities to Configure

Activity Type

1.2 Select Device and Populate Command Execution Data

See **Business Process Model Page 1** on page 2-2 for the business process diagram associated with this activity..

Actor/Role: MDM or SGG Authorized User

Description: MDM or SGG Authorized User selects the device and populates required data such as request effective and expiration dates, priority. Authorized User also indicates if command creation is optional and could be substituted by existing read that matches all the business requirements.

Note: The logic of using existing measurements is applicable only for devices with interval Measuring Components.

1.3 Submit Request

See **Business Process Model Page 1** on page 2-2 for the business process diagram associated with this activity.

Actor/Role: MDM or SGG Authorized User

Description: MDM or SGG Authorized User submits request using On-Demand Read Manual Request screen.

Business Objects

D1-OnDemandReadAbstract

D1-OnDemandReadScalar

D1-OnDemandReadInterval

1.4 Communicate and Transform On-Demand Read Command to SGG Format

See **Business Process Model Page 1** on page 2-2 for the business process diagram associated with this activity.

Actor/Role: Integration Layer

Description: Integration Layer facilitates the communication between the 3rd Party Application and the SGG Application. It receives the On-demand Read request, transforms, and converts the request into format compatible with SGG Application.

1.5 Add to JMS Queue

See **Business Process Model Page 1** on page 2-2 for the business process diagram associated with this activity.

Actor/Role: Integration Layer

Description: Integration Layer of SGG adds the On-demand Read request to JMS queue.

1.6 Call Web service

See **Business Process Model Page 1** on page 2-2 for the business process diagram associated with this activity.

Actor/Role: Integration Layer

Description: Integration Layer of SGG calls web services to process further the On-demand Read request.

1.7 Identify Device and Head-End (Service Provider)

See **Business Process Model Page 1** on page 2-2 for the business process diagram associated with this activity.

Group: Generic Read Device Processing

Group: Pre-process Request

Actor/Role: SGG

Description: SGG initiates pre-processing of the On-demand Read request that came from 3rd Party Application. It attempts to read the request message and determines the Device for which the read request is made, and the Head-End system that communicates with the device.

Entities to Configure

Device

Head -End System (Service Provider)

Business Objects	Available Algorithms
D1-GenericReadDevice	D1-DDR (Determine Device and Recipient)

1.8 Determine Type of Measurement Requested (Scalar/Interval)

See **Business Process Model Page 1** on page 2-2 for the business process diagram associated with this activity.

Group: Generic Read Device Processing

Group: Pre-process Request

Actor/Role: SGG

Description: SGG determines the type of measurement for On-demand Read.

Entities to Configure

Measuring Component(s)

Measuring Component Types

Business Objects	Available Algorithms
D1-GenericReadDevice	D1-DMT (Default Measurement Type)

1.9 Validate Availability of Required Data for Requested Measurement

See **Business Process Model Page 1** on page 2-2 for the business process diagram associated with this activity.

Group: Generic Read Device Processing

Group: Pre-process Request

Actor/Role: SGG

Description: SGG validates the availability of required data for processing the On-demand Read request (e.g., Interval Start Date/Time and Interval End Date/Time are available for an Interval Read request).

Business Objects	Available Algorithms
D1-GenericReadDevice	D1-VSEDTMT (Validate Interval Start Date Time and Interval End Date Time)

2.0 Determine if Device is Smart Device

See **Business Process Model Page 1** on page 2-2 for the business process diagram associated with this activity.

Group: Generic Read Device Processing

Group: Determine Activity to Process Command

Actor/Role: SGG

Description: SGG determines whether the request for On-demand read is for Smart Device or not.

Note: Currently Application processes requests for Smart Devices only. Service Requests functionality will be included in later releases.

Business Objects	Available Algorithms
D1-GenericReadDevice	D1-DRDTBO (Determine Read Device Transaction BO)

2.1 Determine Method to Create Activity for Measurement Type

See **Business Process Model Page 1** on page 2-2 for the business process diagram associated with this activity.

Group: Generic Read Device Processing

Group: Determine Activity to Process Command

Actor/Role: SGG

Description: SGG determines the method to create Activity based on the measurement type (Interval or Scalar).

Business Objects	Available Algorithms
D1-GenericReadDevice	D1-DRDTBO (Determine Read Device Transaction BO)

2.2 Determine Send Method and Send Error Message

See **Business Process Model Page 1** on page 2-2 for the business process diagram associated with this activity.

Group: Generic Read Device Processing

Actor/Role: SGG

Description: SGG determines the send method to send the error message to 3rd Party Application and sends it.

Note: Sending mechanism could be different and depends on Application landscape. Currently it is determined based on customer requirements.

2.3 Communicate and Transform Message

See **Business Process Model Page 1** on page 2-2 for the business process diagram associated with this activity.

Actor/Role: Integration Layer

Description: Integration Layer receives the outbound message from SGG, transforms, and converts it into format compatible with 3rd Party Application.

2.4 Receive and Process Message

See **Business Process Model Page 1** on page 2-2 for the business process diagram associated with this activity.

Actor/Role: 3rd Party Application

Description: 3rd Party Application receives message from SGG and processes it.

2.5 Validate Required Data

See **Business Process Model Page 1** on page 2-2 for the business process diagram associated with this activity.

Group: Pre-process Activity

Actor/Role: SGG

Description: SGG validates the availability and correctness of required information to create Activity. Usually system checks Requester information, Device information, Effective Date/Time and Expiration Date/Time, Type of Requested Measurement (Existing or Initial), etc. Prior to this, SGG identifies the Activity Type to be assigned to the Activity.

Note: Typically system has different Activity types configured to reflect different business scenarios for scalar and interval. Echelon support both Scalar and Interval.

Entities to Configure

Activity Type
 Device
 Edge Application Details

Business Objects	Available Algorithms
D1-OnDemandReadAbstract	D1-DETTACTTYP (Determine Activity Type)
D1-OnDemandReadScalar	D1-GINPVAL (Common Input Validation)
D1-OnDemandReadInterval	D1-VALMDEST (Validate Measurement Destination) D1-VALMREQO (Validate Measurement Requested) D1-VALFINMES (Validate use existing measurements and measurement requested override)

2.6 Create On-Demand Read Activity in Pending State

See **Business Process Model Page 1** on page 2-2 for the business process diagram associated with this activity.

Actor/Role: SGG

Description: SGG creates an On-demand Read Activity in 'Pending' state.

Entities to Configure

D1-OnDemandReadAbstract
 D1-OnDemandReadScalar
 D1-OnDemandReadInterval

2.7 Validate Ability to Process Command and Transition Activity to Validate State

See **Business Process Model Page 1** on page 2-2 for the business process diagram associated with this activity.

Group: Validate Ability to Process Command

Actor/Role: SGG

Description: SGG validates ability to process On-demand Read request. Typically system validates for Device and its Measuring Components, ability of the Head-End system to support On-demand Read command, etc.

Entities to Configure

Activity Type
 Measuring Component
 On-demand Read Scalar Processing Method
 On-demand Read Interval Processing Method

Business Objects	Available Algorithms
D1-OnDemandReadAbstract	D1-VALACTTDDI (Validate Activity Type and Transition to Error State If Invalid)
D1-OnDemandReadScalar	D1-VALDEVMCS (Validate that Device has appropriate Measuring Component)
D1-OnDemandReadInterval	D1-VALDEVMC (Validate that Device has appropriate Measuring Component) D1-VALIDCMDSDS (Validate Headend's capability to perform On Demand Read (Scalar)) D1-VALIDCMD (Validate Headend's capability to perform On Demand Read (Interval)) F1-AT-RQJ (Transition to Default Next Status (Java))

2.8 Evaluate Measurements for Required Period

See **Business Process Model Page 1** on page 2-2 for the business process diagram associated with this activity.

Group: Validate Ability to Process Command

Actor/Role: SGG

Description: SGG checks if there exists existing measurements without any gaps for the same requested interval period.

Business Objects	Available Algorithms
D1-OnDemandReadAbstract	D1-CHKMST (Check for existing Measurements)
D1-OnDemandReadInterval	

2.9 Send Response "Command Received" and Transition to Wait for Eff. Date State

See **Business Process Model Page 1** on page 2-2 for the business process diagram associated with this activity.

Actor/Role: SGG

Description: SGG sends command received acknowledgement to the 3rd party requester.

Entities to Configure

Processing Role

Business Objects	Available Algorithms
D1-OnDemandReadAbstract	D1-RRER (Send Received Response to External Requester)
D1-OnDemandReadScalar	
D1-OnDemandReadInterval	

3.0 Transition Activity to Validation Error State and Log Error

See **Business Process Model Page 1** on page 2-2 for the business process diagram associated with this activity.

Group: Validate Ability to Process Command

Actor/Role: SGG

Description: If any error occurs during validations, SGG transitions the Activity to 'Validation Error' state and logs an error.

Business Objects

D1-OnDemandReadAbstract

D1-OnDemandReadScalar

D1-OnDemandReadInterval

3.1 Create To Do

See **Business Process Model Page 1** on page 2-2 for the business process diagram associated with this activity.

Actor/Role: SGG

Description: Once an error is logged, SGG creates a 'To Do' entry for the Authorized User.

Entities to Configure

Activity Type

Business Objects	Available Algorithms
D1-OnDemandReadAbstract	D1-CTDEBOE (Create To Do Entry for BO in Error)
D1-OnDemandReadScalar	
D1-OnDemandReadInterval	

3.2 Evaluate Availability of Command Execution Date and Time

See **Business Process Model Page 2** on page 2-3 for the business process diagram associated with this activity.

Actor/Role: SGG

Description: If command's effective date and time is available, SGG uses it to determine execution date and time. If the effective Date and Time is not available, SGG processes the Outbound Communication immediately. If effective Date and Time is in the future System waits till then in 'Wait for Effective Date' state.

Business Objects	Available Algorithms
D1-OnDemandReadAbstract	D1-WAITEFFDT (Wait for Effective Date)
D1-OnDemandReadScalar	
D1-OnDemandReadInterval	F1-AT-RQJ (Transition to Default Next Status (Java))

Customizable processes

D1-CRWT (Command Request Wait - Monitor)

3.3 Transition Activity to Communication in Progress State

See **Business Process Model Page 2** on page 2-3 for the business process diagram associated with this activity.

Actor/Role: SGG

Description: SGG transitions Activity to 'Communication in Progress' state to initiate outbound communication when command effective date and time has reached. The other possible option of transition and initiation is when the Authorized User makes a manual request for read.

Business Objects	Available Algorithms
D1-OnDemandReadAbstract	D1-WAITEFFDT (Wait for Effective Date)
D1-OnDemandReadScalar	
D1-OnDemandReadInterval	

3.4 Initiate Outbound Communication

See **Business Process Model Page 2** on page 2-3 for the business process diagram associated with this activity.

Actor/Role: SGG

Description: SGG determines the processing method for On-demand Read Outbound Communication and initiates the Outbound Communication process.

Entities to Configure

On-demand Read Scalar Processing Method

On-demand Read Interval Processing Method

Business Objects	Available Algorithms
D1-OnDemandReadAbstract	D1-CROBCA (Create Outbound Communication for On-Demand Read (Scalar))
D1-OnDemandReadScalar	
D1-OnDemandReadInterval	D1-COBCA (Create Outbound Communication for On-Demand Read (Interval))

3.5 Review Activity in Eff. Date State

See **Business Process Model Page 2** on page 2-3 for the business process diagram associated with this activity.

Actor/Role: MDM or SGG Authorized User

Description: MDM or SGG Authorized User reviews and analyzes the Activity.

Business Objects

D1-OnDemandReadAbstract

D1-OnDemandReadScalar

D1-OnDemandReadInterval

3.6 Request to Delete Activity

See **Business Process Model Page 2** on page 2-3 for the business process diagram associated with this activity.

Actor/Role: MDM or SGG Authorized User

Description: If MDM or SGG Authorized User determines that the Activity is not required, Authorized User requests to delete Activity record.

Business Objects

D1-OnDemandReadAbstract
D1-OnDemandReadScalar
D1-OnDemandReadInterval

3.7 Delete Activity

See **Business Process Model Page 2** on page 2-3 for the business process diagram associated with this activity.

Actor/Role: SGG

Description: SGG deletes the Activity.

Note: Once an Activity record is deleted it is permanently removed from the system and cannot be recovered. This option is not recommended for common business practice.

Business Objects

D1-OnDemandReadAbstract
D1-OnDemandReadScalar
D1-OnDemandReadInterval

3.8 Request to Discard Activity

See **Business Process Model Page 2** on page 2-3 for the business process diagram associated with this activity.

Actor/Role: MDM or SGG Authorized User

Description: MDM or SGG Authorized User if determines that the Activity is not required, Authorized User requests to discard it

Business Objects

D1-OnDemandReadAbstract
D1-OnDemandReadScalar
D1-OnDemandReadInterval

3.9 Populate Changes and Request to Update

See **Business Process Model Page 2** on page 2-3 for the business process diagram associated with this activity.

Actor/Role: MDM or SGG Authorized User

Description: MDM or SGG Authorized User modifies Activity data and requests to perform appropriate updates.

Business Objects

D1-OnDemandReadAbstract

D1-OnDemandReadScalar

D1-OnDemandReadInterval

4.0 Update Activity

See **Business Process Model Page 2** on page 2-3 for the business process diagram associated with this activity.

Actor/Role: SGG

Description: SGG updates the Activity with data populated by Authorized User.

Business Objects

D1-OnDemandReadAbstract

D1-OnDemandReadScalar

D1-OnDemandReadInterval

4.1 Request to Obtain Read

See **Business Process Model Page 2** on page 2-3 for the business process diagram associated with this activity.

Actor/Role: MDM or SGG Authorized User

Description: If command's effective date and time is in the future and MDM or SGG Authorized User identifies the need to execute command immediately, Authorized User requests to initiate the command processing.

Business Objects

D1-OnDemandReadAbstract

D1-OnDemandReadScalar

D1-OnDemandReadInterval

4.2 Evaluate Wait Period for Response

See **Business Process Model Page 2** on page 2-3 for the business process diagram associated with this activity.

Actor/Role: SGG

Description: SGG periodically check if the Activity expiration wait time configured for monitoring the response has expired or not.

Entities to Configure

Activity Type

Business Objects	Available Algorithms
D1-OnDemandReadAbstract	D1-WTTMOUTEX (Wait Time Out - Transition to Exception)
D1-OnDemandReadScalar	
D1-OnDemandReadInterval	

Customizable Processes

D1-CRWT (Command Request Wait - Monitor)

4.3 Transition Activity to Communication Error State and Log Error

See **Business Process Model Page 2** on page 2-3 for the business process diagram associated with this activity.

Actor/Role: SGG

Description: If the wait time for Outbound Communication response has expired, SGG transitions the Activity to 'Communication Error' state and logs an error.

Business Objects

D1-OnDemandReadAbstract

D1-OnDemandReadScalar

D1-OnDemandReadInterval

4.4 Review Activity in Comm. In Progress State

See **Business Process Model Page 2** on page 2-3 for the business process diagram associated with this activity.

Actor/Role: MDM or SGG Authorized User

Description: MDM or SGG Authorized User reviews and analyzes the Activity.

Business Objects

D1-OnDemandReadAbstract

D1-OnDemandReadScalar

D1-OnDemandReadInterval

4.5 Request to Retry Activity

See **Business Process Model Page 2** on page 2-3 for the business process diagram associated with this activity.

Actor/Role: MDM or SGG Authorized User

Description: MDM or SGG Authorized User requests to recreate the Outbound Communication process.

Business Objects

D1-OnDemandReadAbstract

D1-OnDemandReadScalar

D1-OnDemandReadInterval

4.6 Transition Activity to Retry State

See **Business Process Model Page 2** on page 2-3 for the business process diagram associated with this activity.

Actor/Role: SGG

Description: SGG transitions Activity to 'Retry' state.

Business Objects

D1-OnDemandReadAbstract

D1-OnDemandReadScalar

D1-OnDemandReadInterval

4.7 Cancel Outstanding Outbound Communication

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Actor/Role: SGG

Description: SGG cancels any existing outstanding Outbound Communications.

Business Objects	Available Algorithms
D1-OnDemandReadAbstract	D1-COOC (Cancel Outstanding Outbound Communication)
D1-OnDemandReadScalar	
D1-OnDemandReadInterval	

4.8 Create Outbound Communication in Pending State

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Actor/Role: SGG

Description: SGG creates an On-demand Read Outbound Communication in 'Pending' state. This creation can also be initiated from Remote Connect Process or Remote Disconnect Process.

Entities to Configure

On-demand Read Scalar Processing Method

On-demand Read Interval Processing Method

Business Objects	Available Algorithms
D4-ReadBillingData D4-ReadLoadProfile	D1-COMMINFO (Communication Information) D1-GDRFFPA (Default required fields from Parent Activity) D4-DRFFPA (Generic default required fields from Parent Activity) D1-DDR (Determine Device and Recipient)

4.9 Validate for Required Data and Transition to Validate State

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Group: Validate Ability to Process Outbound Communication

Actor/Role: SGG

Description: SGG validates ability to process Outbound Communication. Typically, system checks for communication type.

Entities to Configure

Communication Type for D4-ReadBillingData

Communication Type for D4-ReadLoadProfile

Business Objects	Available Algorithms
D4-ReadBillingData D4-ReadLoadProfile	D1-VALCOMTP (Validate Communication Type)

5.0 Transition Outbound Communication to Validation Error State and Log Error

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Group: Validate Ability to Process Outbound Communication

Actor/Role: SGG

Description: If any error occurs during validations, SGG transitions the Outbound Communication to 'Validation Error' state and logs an error.

Business Objects

D4-ReadBillingData
D4-ReadLoadProfile

5.1 Create and Send Message and Transition to Awaiting Response State

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Actor/Role: SGG

Description: SGG transitions Outbound Communication to 'Awaiting Response' state, Creates, and Sends On-demand Read Outbound Communication to Head-End System.

Entities to Configure

Processing Method for D4-ReadBillingDataNtf
Processing Method for D4-ReadLoadProfileNtf

Business Objects	Available Algorithms
D4-ReadBillingData D4-ReadLoadProfile	D4-PRBDODSD (Populate Read Billing Data On-Demand Send Detail) D4-COUTMSGBD (Create outbound message for Billing Data) D4-PRLPODSDD (Populate Read Load Profile On-Demand Send Detail) D4-COUTMSGLP (Create outbound message for Load Profile)

5.2 Evaluate Wait Period for Response

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Actor/Role: SGG

Description: SGG periodically checks if the Outbound Communication expiration wait time configured for monitoring the response has expired or not.

Entities to Configure

Communication Type for D4-ReadBillingDataNtf

Communication Type for D4-ReadLoadProfileNtf

Business Objects	Available Algorithms
D4-ReadBillingData D4-ReadLoadProfile	D1-TIMEOUT (Time Out)

Customizable Processes

D1-COMM (Batch Control for Communications)

5.3 Log Error and Transition to Response Error State

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Actor/Role: SGG

Description: If the wait time for Outbound Communication response has expired, SGG transitions the Outbound Communication to 'Response Error' state and logs an error.

Business Objects

D4-ReadBillingData

D4-ReadLoadProfile

5.4 Review Outbound Communication

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Actor/Role: MDM or SGG Authorized User

Description: MDM or SGG Authorized User reviews and analyzes the Outbound Communication.

Business Objects

D4-ReadBillingData
D4-ReadLoadProfile

5.5 Request to Discard

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Actor/Role: MDM or SGG Authorized User

Description: MDM or SGG Authorized User if determines that the Outbound Communication is not required, Authorized User requests to discard it.

Business Objects

D4-ReadBillingData
D4-ReadLoadProfile

5.6 Transition Outbound Communication to Discard State

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Actor/Role: SGG

Description: SGG transitions Outbound Communication to 'Discard' state.

Note: When an Outbound Communication is 'Discarded' it still remains in the system database and is not removed, hence, this is the preferred business practice to perform.

Business Objects

D4-ReadBillingData
D4-ReadLoadProfile

5.7 Populate Changes and Request to Update

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Actor/Role: MDM or SGG Authorized User

Description: MDM or SGG Authorized User modifies Outbound Communication data and requests to perform appropriate updates.

Business Objects

D4-ReadBillingData
D4-ReadLoadProfile

5.8 Update Outbound Communication

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Actor/Role: SGG

Description: SGG updates the Outbound Communication with data populated by Authorized User.

Business Objects

D4-ReadBillingData
D4-ReadLoadProfile

5.9 Request to Retry

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Actor/Role: MDM or SGG Authorized User

Description: MDM or SGG Authorized User requests to recreate the Outbound Communication.

Business Objects

D4-ReadBillingData
D4-ReadLoadProfile

6.0 Transition Outbound Communication to Retry State

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Actor/Role: SGG

Description: SGG transitions Outbound Communication to 'Retry' state. The other possible option for retry processing, is when the outbound is in error state, and retry is processed.

Business Objects	Available Algorithms
D4-ReadBillingData D4-ReadLoadProfile	D1-RBOE (Retry BO in Error)

6.1 Communicate and Transform Message to Head-End Format

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Group: Integration Layer (SGG BPEL)

Actor/Role: SGG

Description: Integration Layer of SGG facilitates the communication between the SGG and Head-End System. It receives the Outbound Communication request, transforms, and converts the request into format compatible with Head-End System.

6.2 Receive and Process Request Message

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Actor/Role: Echelon Head-End System

Description: Head-End System receives the On-demand Read request from SGG and processes it.

6.3 Receive and Process Meter Read Request

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Actor/Role: Smart Meter

Description: Smart Meter Device receives request from Head-End System for On-demand meter read and processes it.

6.4 Analyze Message and Send Acknowledgement

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Echelon Head-End System

Actor/Role: SGG

Description: Head-End System on receipt of On-demand Read request from SGG, analyzes and sends a real-time acknowledgement back to SGG.

6.5 Communicate and Transform Acknowledgement to SGG Format

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Group: Integration Layer (SGG BPEL)

Actor/Role: SGG

Description: Integration Layer of SGG facilitates the communication between the Head-End System and SGG. It receives the synchronous acknowledge, transforms, and converts the acknowledgement into format compatible with SGG.

6.6 Evaluate Acknowledgement

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Group: Evaluate Response

Actor/Role: SGG

Description: SGG evaluates acknowledgement and checks the success of sending Outbound Communication.

Business Objects	Available Algorithms
D4-ReadBillingData	D4-EVALRESP (Evaluate Response)
D4-ReadLoadProfile	

6.7 Send Meter Read Response to Head-End System

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Group: Inbound Communication Process

Actor/Role: Smart Meter

Description: Smart Meter Device sends a response for the On-demand Read request received.

Note: This is external and outside the Oracle SGG environment.

6.8 Receive and Process Meter Read Response to SGG

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Group: Inbound Communication Process

Actor/Role: Echelon Head-End System

Description: Head-End System receives the response from Smart Meter and processes a response for SGG.

Note: This is external and outside the Oracle SGG environment.

6.9 Communicate and Transform On-Demand Read Message to SGG Format

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Group: Inbound Communication Process

Group: Integration Layer (SGG BPEL)

Actor/Role: SGG

Description: Integration Layer of SGG facilitates the communication between the Head-End System and SGG. It receives the response, transforms, and converts the response into format compatible with SGG.

6.9.1 Identify Response Message and Processing Method

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Group: Inbound Communication Process

Actor/Role: SGG

Description: SGG identifies the inbound command completion event message and determines appropriate processing method.

Note: The SGG uses device event seeder to perform this action.

Business Objects	Available Algorithms
D1-DeviceEventSeeder	D1-DVEVTINFO (Device Event Info) D1-SETERRFLG (Set Error Flag) D1-SPRID (Service Provider Identification) D1-DEVICEID (Device Identification) D1-SHEVTDTTM (Shift Event Date/Times to Standard) D1-DETBOID (Device Event Type and Business Object Identification) D1-SETBO (Set BO)

7.0 Process Inbound Message and Send Acknowledgement to Head-End

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Group: Inbound Communication Process

Actor/Role: SGG

Description: SGG preprocesses response and initiates creation of Inbound Communication. Further, it sends an acknowledgement to Head-End System.

Note: The SGG uses device event seeder to perform this action.

Business Objects	Available Algorithms
D4-ReadBillingDataNtf D4-ReadLoadProfileNtf	D1-COMMINFO (Communication Information) D1-GDRFFPA (Default required fields from Parent Activity) D4-SETDFBOEL (Set default BO elements)

7.0.1 Send Positive or Negative Acknowledgement

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Group: Inbound Communication Process

Group: Integration Layer (SGG BPEL)

Actor/Role: SGG

Description: Integration Layer of SGG sends acknowledgement to Head-End System.

7.0.2 Receive and Process Acknowledgement

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Group: Inbound Communication Process

Actor/Role: Echelon Head-End System

Description: Head-End System receives acknowledgement and processes it.

7.1 Create Inbound Communication in Pending State

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Group: Inbound Communication Process

Actor/Role: SGG

Description: SGG creates Inbound Communication in 'Pending' state.

Business Objects
D4-ReadBillingDataNtf D4-ReadLoadProfileNtf

7.2 Validate for Required Data, Link and Transition to Validate State

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Group: Inbound Communication Process

Group: Validate Ability to Process Inbound Communication

Actor/Role: SGG

Description: SGG validates ability to process Inbound Communication. Typically, it checks for Communication Type and status of the response. It also determines the Outbound Communication that initiated it and links to it.

Entities to Configure

Communication Type for D4-ReadBillingDataNtf

Communication Type for D4-ReadLoadProfileNtf

Business Objects	Available Algorithms
D4-ReadBillingDataNtf D4-ReadLoadProfileNtf	D4-FPCOMMBO (Find Initiating Outbound Communication) D1-VALCOMTP (Validate Communication Type) D4-EVNSTAT (Evaluate Notification Status)

7.3 Transition Inbound Communication to Validation Error State and Log Error

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Group: Inbound Communication Process

Group: Validate Ability to Process Inbound Communication

Actor/Role: SGG

Description: If any error occurs during validations, SGG transitions the Inbound Communication to 'Validation Error' state and logs an error.

Business Objects

D4-ReadBillingDataNtf

D4-ReadLoadProfileNtf

7.4 Transition to Create Completion Event State

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Group: Inbound Communication Process

Actor/Role: SGG

Description: SGG transitions Inbound Communication to 'Create Completion Event' state. In this state, SGG maps meter read data from Inbound Communication in to IMD format.

Business Objects	Available Algorithms
D4-ReadBillingDataNtf	F1-AT-RQJ (Transition to
D4-ReadLoadProfileNtf	Default Next Status (Java))

7.5 Validate and Create IMD Completion Event with IMD Data

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Group: Inbound Communication Process

Group: Create Completion Events

Actor/Role: SGG

Description: SGG creates Create IMD Completion Event in 'Pending' state and stores meter read data retrieved from Inbound Message into it in IMD format. Prior to this, SGG validates ability to process Create IMD Completion Event. Typically, it checks for Completion Event and its related Activity Type, Sequence number for Completion Events, etc.

Business Objects	Available Algorithms
D4-ReadBillingDataNtf	D4-CRBDCOMPE (Create Read
D4-ReadLoadProfileNtf	Billing Data On-Demand
D1-CompletionEvent	Completion Event)
D1-Create IMD Event	D4-CRLPCOMPE (Create Read
	Load Profile On-Demand
	Completion Event)
	D1-CEVTINFO (Completion
	Event - Information)
	D1-VALCEVT (Validate
	Completion Event)
	D1-VALOUTCOM (Validate
	Outbound Communication)
	D1-VALCRIMD (Validate Create
	IMD)
	D1-CREIMD (Create IMD)

7.6 Transition Inbound to Completed State

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Group: Inbound Communication Process

Actor/Role: SGG

Description: SGG transitions Inbound Communication to 'Completed' state.

Business Objects	Available Algorithms
D4-ReadBillingDataNtf D4-ReadLoadProfileNtf	F1-AT-RQJ (Transition to Default Next Status (Java))

7.7 Transition Outbound Communication to Completed State

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Group: Inbound Communication Process

Actor/Role: SGG

Description: SGG transitions Outbound Communication to 'Completed' state and updates Event Date/Time on Outbound Communication.

Business Objects	Available Algorithms
D4-ReadBillingData D4-ReadLoadProfile D4-ReadBillingDataNtf D4-ReadLoadProfileNtf	D4-UPCEVDTBD (Update Parent Communication's Event Date Time On Demand Read) D1-TRANPRBO (Transition Parent Outbound Communication BO) D4-UPCEVDTLP (Update Parent Communication's Event Date Time On Demand Read)

7.8 Transition Activity to Execution Completion Event State

See **Business Process Model Page 3** on page 2-4 for the business process diagram associated with this activity.

Group: Outbound Communication Process

Actor/Role: SGG

Description: SGG, when receives successful response for Outbound Communication, transitions Activity to 'Execution Completion Event' state. SGG, in this state, transitions its Completion Events to 'Executed' state. If the initiating command is Remote Connect request, then the transition will take place in Remote Connect activity.

Business Objects	Available Algorithms
D4-ReadBillingData	D1-UCFLAGTPA (Update On-Demand Read Completion Flag And Transition Parent Activity)
D4-ReadLoadProfile	
D4-ReadBillingDataNtf	D1-EXCMPEVTS (Execute Completion Events)
D4-ReadLoadProfileNtf	

7.9 Preprocess IMD

See **Business Process Model Page 4** on page 2-5 for the business process diagram associated with this activity.

Group: Identify and Execute IMD Completion Event

Actor/Role: SGG

Description: SGG invokes to preprocess the IMD by invoking seeder preprocessing. Please refer to process 4.2.1.1 MDM.Upload Device Measurements for further details.

Business Objects	Available Algorithms
D1-OnDemandReadAbstract	D1-CREIMD (Create IMD)
D1-OnDemandReadScalar	
D1-OnDemandReadInterval	
D1-CompletionEvent	
D1-Create IMD Event	

8.0 Transition Activity to Completion Event Error State and Log Error

See **Business Process Model Page 4** on page 2-5 for the business process diagram associated with this activity.

Group: Identify and Execute IMD Completion Event

Actor/Role: SGG

Description: If any errors are encountered while transitioning Completion Event to 'Executed' state, SGG transitions Activity to 'Completion Event Error' state and logs an error.

Business Objects

D1-OnDemandReadAbstract
D1-OnDemandReadScalar
D1-OnDemandReadInterval
D1-CompletionEvent
D1-Create IMD Event

8.1 Transition Activity to Waiting for Measurement State

See **Business Process Model Page 4** on page 2-5 for the business process diagram associated with this activity.

Actor/Role: SGG

Description: SGG transitions Activity to 'Waiting for Measurement' state.

Business Objects	Available Algorithms
D1-OnDemandReadAbstract D1-OnDemandReadScalar D1-OnDemandReadInterval	F1-AT-RQJ (Transition to Default Next Status (Java))

8.2 Retrieve Initial Measurements

See **Business Process Model Page 4** on page 2-5 for the business process diagram associated with this activity.

Actor/Role: SGG

Description: SGG retrieves IMD measurement and stores as On-demand Read on Activity. Depending on the state of IMD measurement availability in the system, SGG has various options of retrieving IMD.

Business Objects	Available Algorithms
D1-OnDemandReadAbstract D1-OnDemandReadInterval D1-OnDemandReadInterval	D1-RMVCE (Retrieve Measurements via Completion Events) D1-RSINIMS (Retrieve Scalar Initial Measurements) D1-RIINTM (Retrieve Interval Initial Measurements)

Customizable Process

D1-CRWT (Command Request Wait - Monitor)

8.4 4.2.1.2 MDM.Manage VEE and VEE Exceptions

See **Business Process Model Page 4** on page 2-5 for the business process diagram associated with this activity.

Actor/Role: MDM

Description: MDM performs the VEE processing of IMD created. Please refer to process 4.2.1.2 MDM.Manage VEE and VEE Exceptions for further details.

8.5 Retrieve Final Measurements

See **Business Process Model Page 4** on page 2-5 for the business process diagram associated with this activity.

Actor/Role: SGG

Description: SGG retrieves final measurement and stores as On-demand Read on Activity.

Business Objects	Available Algorithms
D1-OnDemandReadAbstract	D1-RMVCE (Retrieve Measurements via Completion Events)
D1-OnDemandReadScalar	
D1-OnDemandReadInterval	
	D1-RFINS (Retrieve Scalar Final Measurements)
	D1-RFINTM (Retrieve Interval Final Measurements)

Customizable Process
D1-CRWT (Command Request Wait - Monitor)

8.6 Monitor IMD Availability within Allowable Period

See **Business Process Model Page 4** on page 2-5 for the business process diagram associated with this activity.

Actor/Role: SGG

Description: SGG monitors if the IMD measurement becomes available in allowable window period.

Entities to Configure
On-demand Read Scalar Activity Type
On-demand Read Interval Activity Type

Business Objects	Available Algorithms
D1-OnDemandReadAbstract	D1-WFMT (Wait for Measurement Time Out)
D1-OnDemandReadScalar	
D1-OnDemandReadInterval	

Customizable Process
D1-CRWT (Command Request Wait - Monitor)

8.7 Transition Activity to Wait Expired Error State and Log Error

See **Business Process Model Page 4** on page 2-5 for the business process diagram associated with this activity.

Actor/Role: SGG

Description: If IMD is not available within the Wait time and it expires, SGG transitions Activity to 'Wait Expired' state and logs an error.

Business Objects

D1-OnDemandReadAbstract
 D1-OnDemandReadScalar
 D1-OnDemandReadInterval

8.8 Review Activity Waiting for Measurement

See **Business Process Model Page 4** on page 2-5 for the business process diagram associated with this activity.

Actor/Role: MDM or SGG Authorized User

Description: MDM or SGG Authorized User can review and analyze the Activity.

Business Objects

D1-OnDemandReadAbstract
 D1-OnDemandReadScalar
 D1-OnDemandReadInterval

8.9 Request to Complete

See **Business Process Model Page 4** on page 2-5 for the business process diagram associated with this activity.

Actor/Role: MDM or SGG Authorized User

Description: While the Activity is in 'Waiting for Measurement' state, MDM or SGG Authorized User can process the Activity immediately by making a manual 'Request to Complete' to SGG.

Business Objects

D1-OnDemandReadAbstract
 D1-OnDemandReadScalar
 D1-OnDemandReadInterval

9.0 Transition Activity to Completion State

See **Business Process Model Page 4** on page 2-5 for the business process diagram associated with this activity.

Actor/Role: SGG

Description: SGG transitions Activity to 'Completed' state.

Business Objects	Available Algorithms
D1-OnDemandReadAbstract D1-OnDemandReadScalar D1-OnDemandReadInterval	F1-AT-RQJ (Transition to Default Next Status (Java))

9.1 Create and Send On-Demand Read to Requester

See **Business Process Model Page 4** on page 2-5 for the business process diagram associated with this activity.

Actor/Role: SGG

Description: SGG creates the message and sends Read to Requester based on the processing method.

Business Objects	Available Algorithms
D1-OnDemandReadAbstract	D1-SNDRDTEA (Send On
D1-OnDemandReadScalar	Demand Read to Edge
D1-OnDemandReadInterval	Application)

9.2 Gather Requirements to Cancel Command

See **Business Process Model Page 5** on page 2-6 for the business process diagram associated with this activity.

Actor/Role: MDM or SGG Authorized User

Description: MDM or SGG Authorized User analyzes requirements and gathers information required to cancel On-Demand Read command.

9.3 Select Cancel Command Activity Type

See **Business Process Model Page 5** on page 2-6 for the business process diagram associated with this activity.

Actor/Role: MDM or SGG Authorized User

Description: MDM or SGG Authorized User selects Activity Type as 'Cancel Command' to cancel command request.

9.4 Populate Command Execution Data

See **Business Process Model Page 5** on page 2-6 for the business process diagram associated with this activity.

Actor/Role: MDM or SGG Authorized User

Description: MDM or SGG Authorized User populates the required data such as request expiration date, recipient information, etc.

9.5 Communicate and Transform On-Demand Read Cancel Command to SGG Format

See **Business Process Model Page 5** on page 2-6 for the business process diagram associated with this activity.

Actor/Role: Integration Layer

Description: Integration Layer facilitates the communication between the 3rd Party Application and the SGG Application. It receives the Cancel Command request, transforms, and converts the request into format compatible with SGG Application.

9.6 Identify On-Demand Read Activity based on Transaction ID

See **Business Process Model Page 5** on page 2-6 for the business process diagram associated with this activity.

Actor/Role: SGG

Description: SGG identifies the On-demand Read Activity to cancel based on the transaction ID, which was created in SGG when the request originally came from 3rd Party Application and sent later to 3rd Party Application. However, in case of manual request from Authorized User, the On-demand Read Activity is identified based on manual selection while populating the required data for cancel command request.

9.7 Analyze Requirements to Create Event

See **Business Process Model Page 6** on page 2-7 for the business process diagram associated with this activity.

Group: Manual IMD Completion Event Process

Actor/Role: MDM or SGG Authorized User

Description: MDM or SGG Authorized User analyzes requirements and gathers information required to create 'Create IMD Completion Event'.

Note: In general, creating Completion Event manually is not the practical business practice.

9.8 Select Completion Event Type and Populate Event, IMD Creation Data

See **Business Process Model Page 6** on page 2-7 for the business process diagram associated with this activity.

Group: Manual IMD Completion Event Process

Actor/Role: MDM or SGG Authorized User

Description: MDM or SGG Authorized User selects the Event type as Create IMD Completion Event and populates the required Event and IMD data.

9.9 Request to Create Completion Event

See **Business Process Model Page 6** on page 2-7 for the business process diagram associated with this activity.

Group: Manual IMD Completion Event Process

Actor/Role: MDM or SGG Authorized User

Description: MDM or SGG Authorized User makes a request to SGG to create a Create IMD Completion Event.

10.0 Validate Event Data

See **Business Process Model Page 6** on page 2-7 for the business process diagram associated with this activity.

Group: Manual IMD Completion Event Process

Actor/Role: SGG

Description: SGG validates ability to process Create IMD Completion Event. Typically, it checks for Completion Event and its related Activity Type, Sequence number for Completion Events, etc.

Business Objects	Available Algorithms
D1-CompletionEvent D1-Create IMD Event	D1-CEVTINFO (Completion Event - Information) D1-VALCEVT (Validate Completion Event) D1-VALOUTCOM (Validate Outbound Communication) D1-VALCRIMD (Validate Create IMD)

10.1 Create IMD Completion Event in Pending State

See **Business Process Model Page 6** on page 2-7 for the business process diagram associated with this activity.

Group: Manual IMD Completion Event Process

Actor/Role: SGG

Description: SGG creates IMD Completion Event in 'Pending' state.

Business Objects

D1-CompletionEvent
D1-Create IMD Event

10.2 Review Event

See **Business Process Model Page 6** on page 2-7 for the business process diagram associated with this activity.

Group: Manual IMD Completion Event Process

Actor/Role: MDM or SGG Authorized User

Description: MDM or SGG Authorized User can review and analyze the Create IMD Completion Event created.

Business Objects

D1-CompletionEvent
D1-Create IMD Event

10.3 Request to Delete Event

See **Business Process Model Page 6** on page 2-7 for the business process diagram associated with this activity.

Group: Manual IMD Completion Event Process

Actor/Role: MDM or SGG Authorized User

Description: If MDM or SGG Authorized User determines that the Create IMD Completion Event is not required, Authorized User requests to delete it.

Business Objects

D1-CompletionEvent
D1-Create IMD Event

10.4 Delete Completion Event

See **Business Process Model Page 6** on page 2-7 for the business process diagram associated with this activity..

Group: Manual IMD Completion Event Process

Actor/Role: SGG

Description: SGG deletes the Create IMD Completion Event.

Business Objects

D1-CompletionEvent
D1-Create IMD Event

10.5 Request to Discard Event

See **Business Process Model Page 6** on page 2-7 for the business process diagram associated with this activity.

Group: Manual IMD Completion Event Process

Actor/Role: MDM or SGG Authorized User

Description: MDM or SGG Authorized User if determines that the Create IMD Completion Event is not required, Authorized User requests to discard it.

Business Objects

D1-CompletionEvent
D1-Create IMD Event

10.6 Transition to Discard State and Discard Completion Event

See **Business Process Model Page 6** on page 2-7 for the business process diagram associated with this activity.

Group: Manual IMD Completion Event Process

Actor/Role: SGG

Description: SGG transitions Create IMD Completion Event to 'Discard' state.

Business Objects

D1-CompletionEvent
D1-Create IMD Event

10.7 Request to Update Event

See **Business Process Model Page 6** on page 2-7 for the business process diagram associated with this activity.

Group: Manual IMD Completion Event Process

Actor/Role: MDM or SGG Authorized User

Description: MDM or SGG Authorized User modifies Create IMD Completion Event data and requests to perform appropriate updates.

Business Objects

D1-CompletionEvent

D1-Create IMD Event

10.8 Update Completion Event

See **Business Process Model Page 6** on page 2-7 for the business process diagram associated with this activity.

Group: Manual IMD Completion Event Process

Actor/Role: SGG

Description: SGG updates the Create IMD Completion Event with data populated by Authorized User.

Business Objects

D1-CompletionEvent

D1-Create IMD Event

10.9 Request to Execute

See **Business Process Model Page 6** on page 2-7 for the business process diagram associated with this activity.

Group: Manual IMD Completion Event Process

Actor/Role: MDM or SGG Authorized User

Description: MDM or SGG Authorized User requests to transition Create IMD Completion Event to 'Executed' state.

Business Objects

D1-CompletionEvent

D1-Create IMD Event

11.0 Transition Completion Event to Executed State

See **Business Process Model Page 6** on page 2-7 for the business process diagram associated with this activity.

Group: Manual IMD Completion Event Process

Actor/Role: SGG

Description: SGG transitions Completion Event to 'Executed' state.

Business Objects

D1-CompletionEvent

D1-Create IMD Event

11.1 Analyze Error and Work To Do

See **Business Process Model Page 7** on page 2-7 for the business process diagram associated with this activity.

Actor/Role: MDM or SGG Authorized User

Description: MDM or SGG Authorized User analyzes the error logged and respective To Do created to determine the corrective action and perform work.

Business Objects

D1-OnDemandReadAbstract

D1-OnDemandReadScalar

D1-OnDemandReadInterval

D4-ReadBillingData

D4-ReadLoadProfile

D4-ReadBillingDataNtf

D4-ReadLoadProfileNtf

11.2 Request to Delete

See **Business Process Model Page 7** on page 2-7 for the business process diagram associated with this activity.

Group: Inbound Exception Process

Actor/Role: MDM or SGG Authorized User

Description: If MDM or SGG Authorized User determines that the Inbound Communication is not required, Authorized User can request to delete it.

Business Objects

D4-ReadBillingDataNtf

D4-ReadLoadProfileNtf

11.3 Delete Inbound Communication

See **Business Process Model Page 7** on page 2-7 for the business process diagram associated with this activity.

Group: Inbound Exception Process

Actor/Role: SGG

Description: SGG deletes Inbound Communication.

Business Objects

D4-ReadBillingDataNtf

D4-ReadLoadProfileNtf

11.4 Request to Discard

See **Business Process Model Page 7** on page 2-7 for the business process diagram associated with this activity.

Group: Inbound Exception Process

Actor/Role: MDM or SGG Authorized User

Description: MDM or SGG Authorized User, if determines that the Inbound Communication is not required, Authorized User can request to discard it.

Business Objects

D4-ReadBillingDataNtf

D4-ReadLoadProfileNtf

11.5 Complete To Do(s)

See **Business Process Model Page 7** on page 2-7 for the business process diagram associated with this activity.

Actor/Role: SGG

Description: SGG finds all non-completed To Do entries and completes them.

Business Objects	Available Algorithms
D1-OnDemandReadAbstract	D1-GTDCBO (Generic To Do Completion for BOs)
D1-OnDemandReadScalar	
D1-OnDemandReadInterval	
D4-ReadBillingData	
D4-ReadLoadProfile	
D4-ReadBillingDataNtf	
D4-ReadLoadProfileNtf	

11.6 Transition Inbound Communication to Discard State

See **Business Process Model Page 7** on page 2-7 for the business process diagram associated with this activity.

Group: Inbound Exception Process

Actor/Role: SGG

Description: SGG transitions Inbound Communication to 'Discard' state.

Business Objects

D4-ReadBillingDataNtf

D4-ReadLoadProfileNtf

11.7 Request to Validate

See **Business Process Model Page 7** on page 2-7 for the business process diagram associated with this activity.

Group: Inbound Exception Process

Actor/Role: MDM or SGG Authorized User

Description: If Authorized User wants to reprocess the Inbound Communication, can request to validate it.

Business Objects

D4-ReadBillingDataNtf

D4-ReadLoadProfileNtf

11.8 Transition to Validate State and Initialize Reprocessing

See **Business Process Model Page 7** on page 2-7 for the business process diagram associated with this activity.

Group: Inbound Exception Process

Actor/Role: SGG

Description: SGG transitions Inbound Communication to 'Validate' state and initializes reprocessing.

Business Objects

Available Algorithms

D4-ReadBillingDataNtf

D1-RBOE (Retry BO in Error)

D4-ReadLoadProfileNtf

11.9 Identify Inbound Communication in Validation Error State

See **Business Process Model Page 7** on page 2-7 for the business process diagram associated with this activity.

Group: Inbound Exception Process

Actor/Role: SGG

Description: SGG identifies Inbound Communication in 'Validation Error' state.

Business Objects

D4-ReadBillingDataNtf

D4-ReadLoadProfileNtf

Customizable process

D1-ICERR (Inbound Communication Error - Retry)

12.0 Evaluate Criteria to Run Automated Retry Process

See **Business Process Model Page 7** on page 2-7 for the business process diagram associated with this activity.

Actor/Role: SGG

Description: SGG evaluates criteria to run automated retry process. A Batch process is configured for this.

Note: If Business requires different criteria to retry the process, those criteria could be configured in parameter section of batch process.

Business Objects

D4-ReadBillingDataNtf

D4-ReadLoadProfileNtf

D4-ReadBillingData

D4-ReadLoadProfile

D1-OnDemandReadAbstract

D1-OnDemandReadScalar

D1-OnDemandReadInterval

Customizable process

D1-ICERR (Inbound Communication Error - Retry)

D1-OCERR (Outbound Communication Error - Retry)

D1-CRERR (Command Request Error - Retry)

12.1 Request to Delete

See **Business Process Model Page 7** on page 2-7 for the business process diagram associated with this activity.

Group: Outbound Exception Process

Actor/Role: MDM or SGG Authorized User

Description: If MDM or SGG Authorized User determines that the Outbound Communication is not required, Authorized User can request to delete it.

Business Objects

D4-ReadBillingData

D4-ReadLoadProfile

12.2 Delete Outbound Communication

See **Business Process Model Page 7** on page 2-7 for the business process diagram associated with this activity.

Group: Outbound Exception Process

Actor/Role: SGG

Description: SGG deletes Outbound Communication from the system.

Business Objects

D4-ReadBillingData

D4-ReadLoadProfile

12.3 Request to Validate

See **Business Process Model Page 7** on page 2-7 for the business process diagram associated with this activity.

Group: Outbound Exception Process

Actor/Role: MDM or SGG Authorized User

Description: If Authorized User wants to reprocess the Outbound Communication, can request to validate it.

Business Objects

D4-ReadBillingData

D4-ReadLoadProfile

12.4 Transition to Validate State and Initialize Reprocessing

See **Business Process Model Page 7** on page 2-7 for the business process diagram associated with this activity.

Group: Outbound Exception Process

Actor/Role: SGG

Description: SGG transitions Outbound Communication to 'Validate' state and initializes reprocessing.

Business Objects

D4-ReadBillingData

D4-ReadLoadProfile

12.5 Identify Outbound Communication in Validation Error State

See **Business Process Model Page 8** on page 2-9 for the business process diagram associated with this activity.

Group: Outbound Exception Process

Actor/Role: SGG

Description: SGG identifies Outbound Communication in 'Validation Error' state.

Business Objects

D4-ReadBillingData

D4-ReadLoadProfile

Available Algorithms

D1-RBOE (Retry BO in Error)

Customizable process

D1-OCERR (Outbound Communication Error - Retry)

12.5.1 Identify Outbound Communication in Response Error State

See **Business Process Model Page 8** on page 2-9 for the business process diagram associated with this activity.

Group: Outbound Exception Process

Actor/Role: SGG

Description: SGG identifies Outbound Communication in 'Response Error' state.

Business Objects

D4-ReadBillingData

D4-ReadLoadProfile

Available Algorithms

D1-RBOE (Retry BO in Error)

Customizable process

D1-OCERR (Outbound Communication Error - Retry)

12.6 Request to Revalidate

See **Business Process Model Page 8** on page 2-9 for the business process diagram associated with this activity.

Group: 'Validation Error' Exception Process

Actor/Role: MDM or SGG Authorized User

Description: If Authorized User wants to reprocess the Activity, can request to validate it.

Business Objects

D1-OnDemandReadAbstract

D1-OnDemandReadScalar

D1-OnDemandReadInterval

12.7 Transition Activity to Validate State and Initialize Reprocessing

See **Business Process Model Page 8** on page 2-9 for the business process diagram associated with this activity.

Group: 'Validation Error' Exception Process

Actor/Role: SGG

Description: SGG transitions Activity to 'Validate' state and initializes reprocessing.

Business Objects	Available Algorithms
D1-OnDemandReadAbstract	D1-RBOE (Retry BO in Error)
D1-OnDemandReadScalar	
D1-OnDemandReadInterval	

12.8 Identify Activity in Validation Error State

See **Business Process Model Page 9** on page 2-10 for the business process diagram associated with this activity.

Group: 'Validation Error' Exception Process

Actor/Role: SGG

Description: SGG identifies Activity in 'Validation Error' state.

Business Objects

D1-OnDemandReadAbstract

D1-OnDemandReadScalar

D1-OnDemandReadInterval

Customizable process

D1-OCERR (Outbound Communication Error - Retry)

12.9 Identify Activity in Communication Error State

See **Business Process Model Page 9** on page 2-10 for the business process diagram associated with this activity.

Group: 'Communication Error' Exception Process

Actor/Role: SGG

Description: SGG identifies Activity in 'Communication Error' state.

Business Objects

D1-OnDemandReadAbstract

D1-OnDemandReadScalar

D1-OnDemandReadInterval

Customizable process

D1-CRERR (Command Request Error - Retry)

13.0 Request to Execute Completion Event

See **Business Process Model Page 9** on page 2-10 for the business process diagram associated with this activity.

Group: 'Completion Event Error' Exception Process

Actor/Role: MDM or SGG Authorized User

Description: If Authorized User wants to reprocess the Activity, can request to execute Completion Event.

Business Objects

D1-OnDemandReadAbstract

D1-OnDemandReadScalar

D1-OnDemandReadInterval

13.1 Transition Activity to Execution Completion Event State and Initialize Reprocessing

See **Business Process Model Page 9** on page 2-10 for the business process diagram associated with this activity.

Group: 'Completion Event Error' Exception Process

Actor/Role: SGG

Description: SGG transitions Activity to 'Execution Completion Event' state and initializes reprocessing.

Business Objects

Available Algorithms

D1-OnDemandReadAbstract

D1-RBOE (Retry BO in Error)

D1-OnDemandReadScalar

D1-OnDemandReadInterval

13.2 Identify Activity in Completion Event Error State

See **Business Process Model Page 9** on page 2-10 for the business process diagram associated with this activity.

Group: 'Completion Event Error' Exception Process

Actor/Role: SGG

Description: SGG identifies Activity in 'Completion Event Error' state.

Business Objects

D1-OnDemandReadAbstract

D1-OnDemandReadScalar

D1-OnDemandReadInterval

Customizable process

D1-CRERR (Command Request Error - Retry)

13.3 Request to Continue Waiting

See **Business Process Model Page 9** on page 2-10 for the business process diagram associated with this activity.

Group: 'Wait Expired Error' Exception Process

Actor/Role: MDM or SGG Authorized User

Description: If Authorized User wants to reprocess the Activity, can request to continue waiting.

Business Objects

D1-OnDemandReadAbstract

D1-OnDemandReadScalar

D1-OnDemandReadInterval

13.4 Transition Activity to Waiting for Measurement State and Initialize Reprocessing

See **Business Process Model Page 9** on page 2-10 for the business process diagram associated with this activity.

Group: 'Wait Expired Error' Exception Process

Actor/Role: SGG

Description: SGG transitions Activity to 'Waiting for Measurement' state and initializes reprocessing.

Business Objects

Available Algorithms

D1-OnDemandReadAbstract

D1-RBOE (Retry BO in Error)

D1-OnDemandReadScalar

D1-OnDemandReadInterval

13.5 Identify Activity in Wait Expired Error State

See **Business Process Model Page 9** on page 2-10 for the business process diagram associated with this activity.

Group: 'Wait Expired Error' Exception Process

Actor/Role: SGG

Description: SGG identifies Activity in 'Wait Expired Error' state.

Business Objects

Available Algorithms

D1-OnDemandReadAbstract

D1-RBOE (Retry BO in Error)

D1-OnDemandReadScalar

D1-OnDemandReadInterval

Customizable process

D1-CRERR (Command Request Error - Retry)

13.6 Transition Activity to Discard State

See **Business Process Model Page 10** on page 2-11 for the business process diagram associated with this activity.

Actor/Role: SGG

Description: SGG transitions Activity to 'Discard' state indicating that it cannot be further used. However, it remains in the system.

Business Objects	Available Algorithms
D1-OnDemandReadAbstract	D1-TPATOF (Transition Parent Activity To Failed)
D1-OnDemandReadScalar	
D1-OnDemandReadInterval	

13.7 Cancel Outstanding Completion Events

See **Business Process Model Page 10** on page 2-11 for the business process diagram associated with this activity.

Actor/Role: SGG

Description: When Activity is discarded, SGG cancels any existing outstanding Completion Events.

Business Objects	Available Algorithms
D1-OnDemandReadAbstract	D1-COCE (Cancel Outstanding Completion Events)
D1-OnDemandReadScalar	
D1-OnDemandReadInterval	

13.8 Send Response "Command Failed" to Requester

See **Business Process Model Page 10** on page 2-11 for the business process diagram associated with this activity.

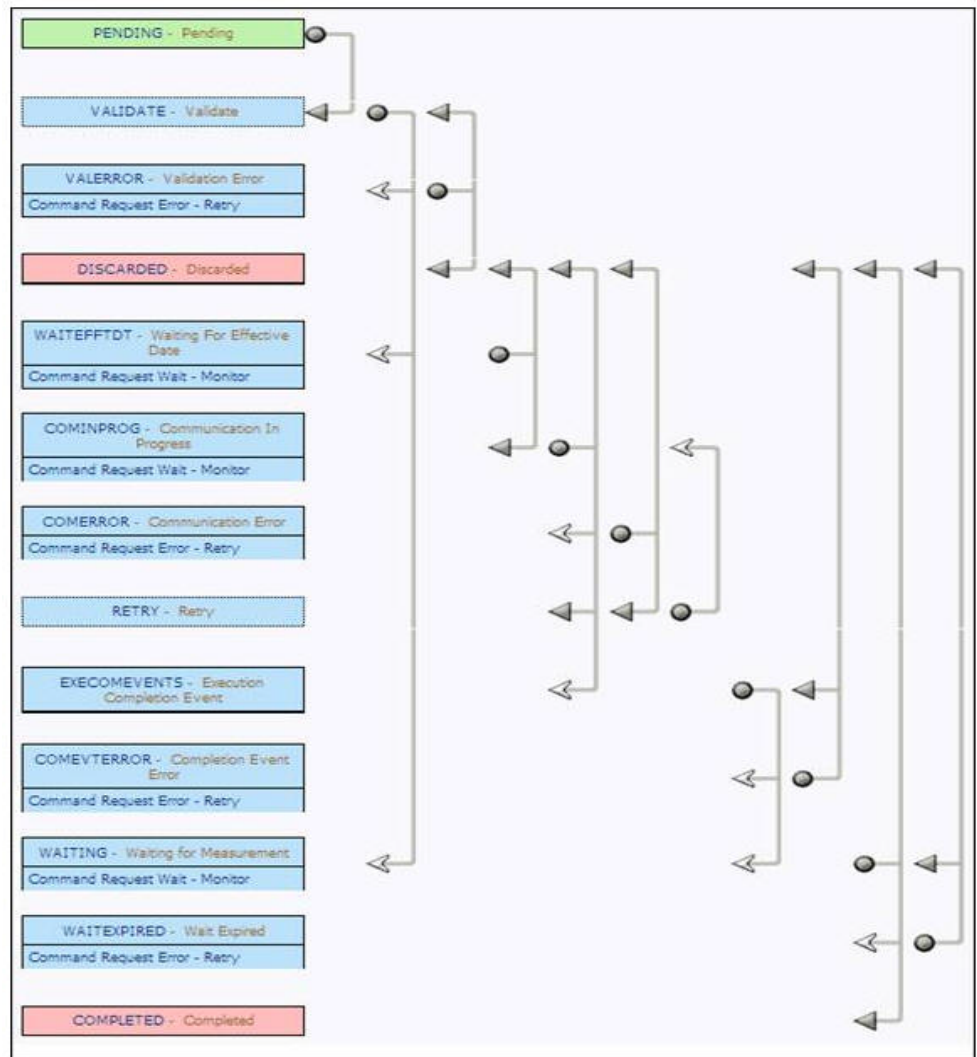
Actor/Role: SGG

Description: SGG creates the message and sends Command Fail response to Requester based on the identified method.

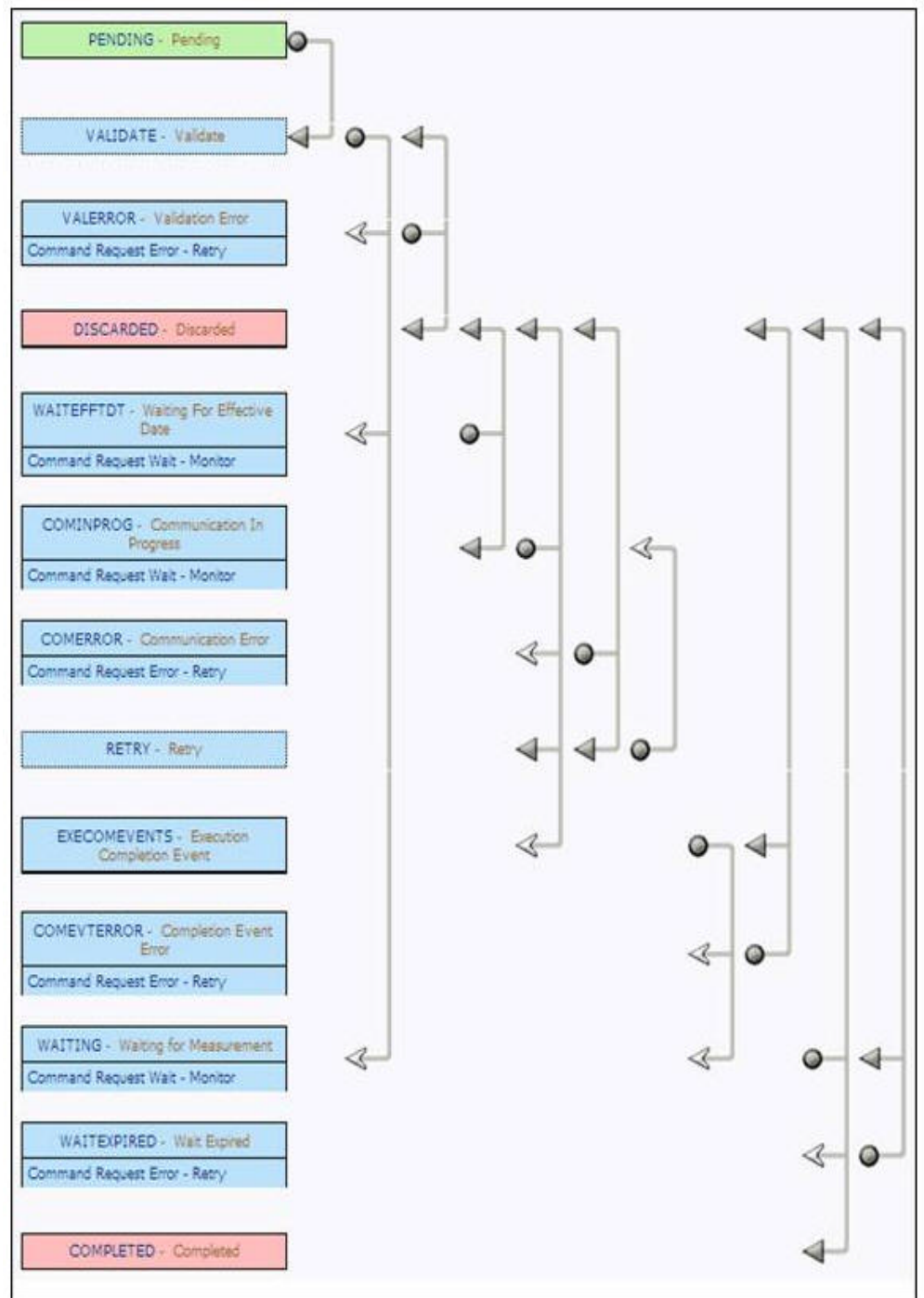
Business Objects	Available Algorithms
D1-OnDemandReadAbstract	D1-FRER (Send Fail Response to External Requester)
D1-OnDemandReadScalar	
D1-OnDemandReadInterval	

Business Objects Life Cycle

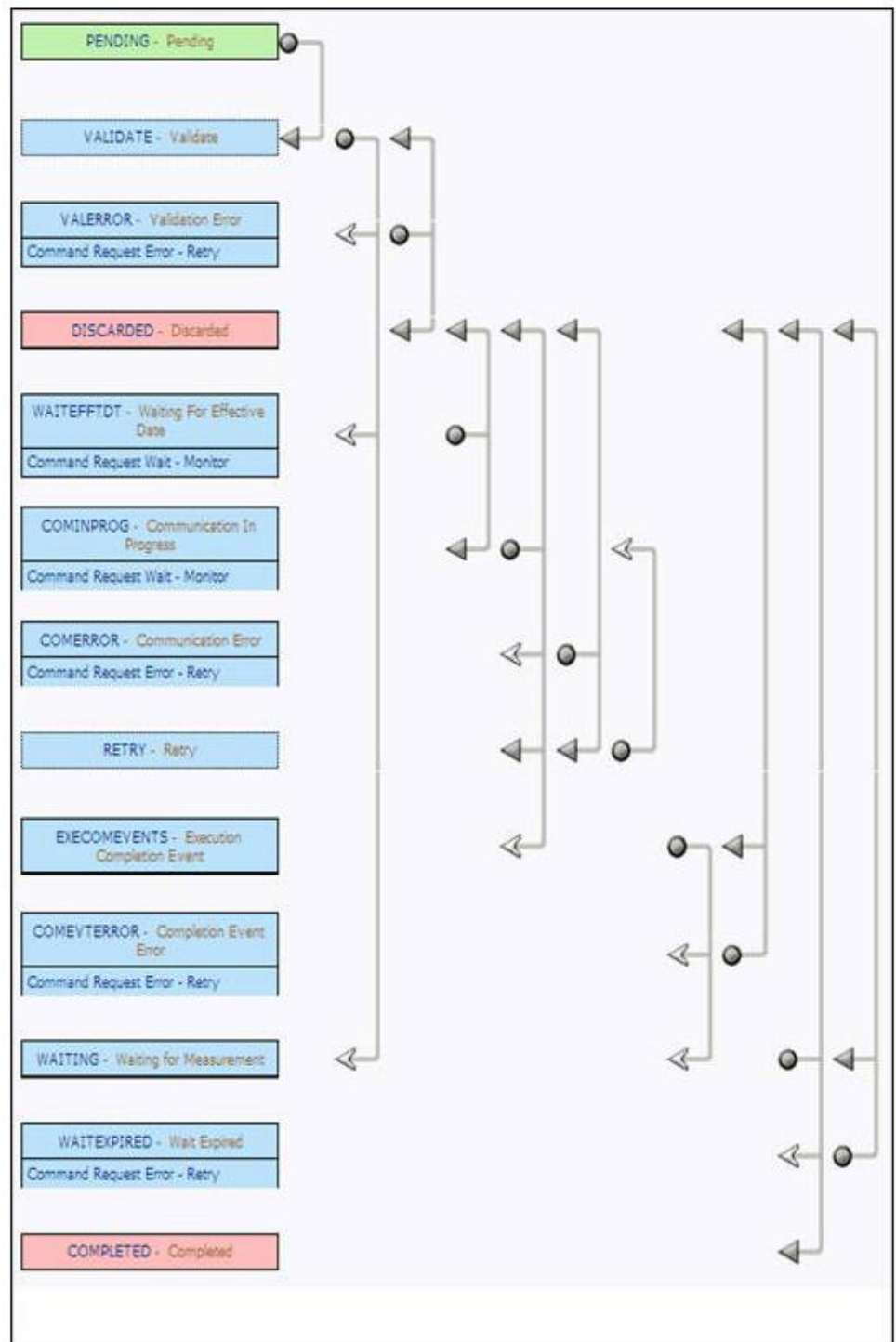
D1-OnDemandReadAbstract



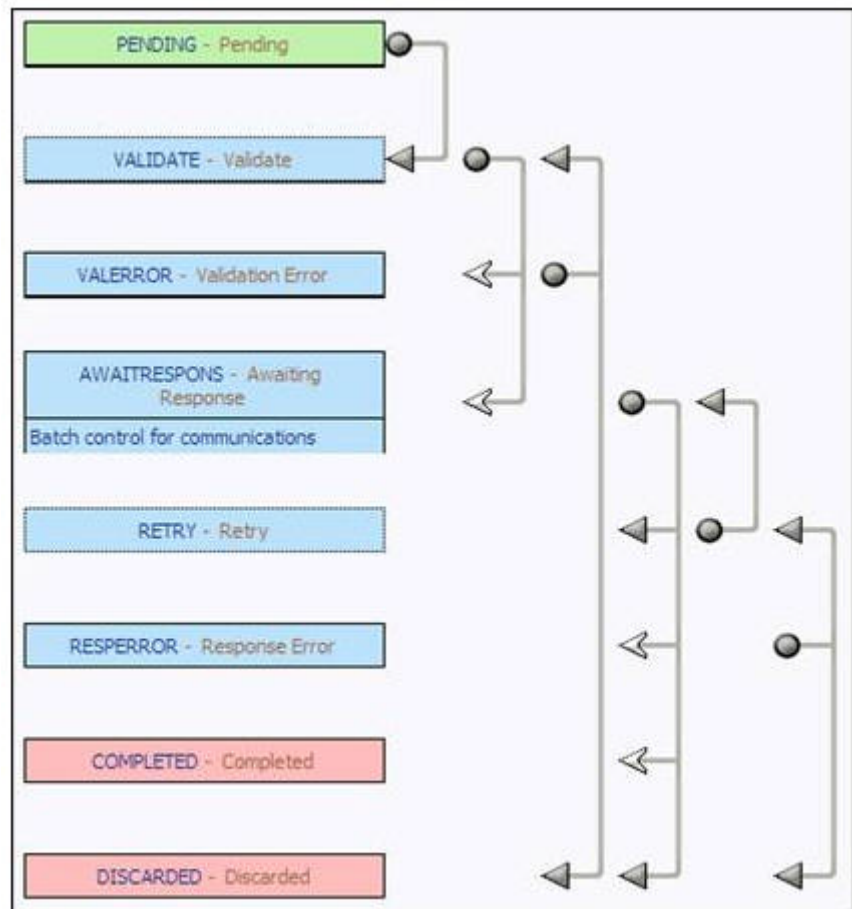
D1-OnDemandReadScalar



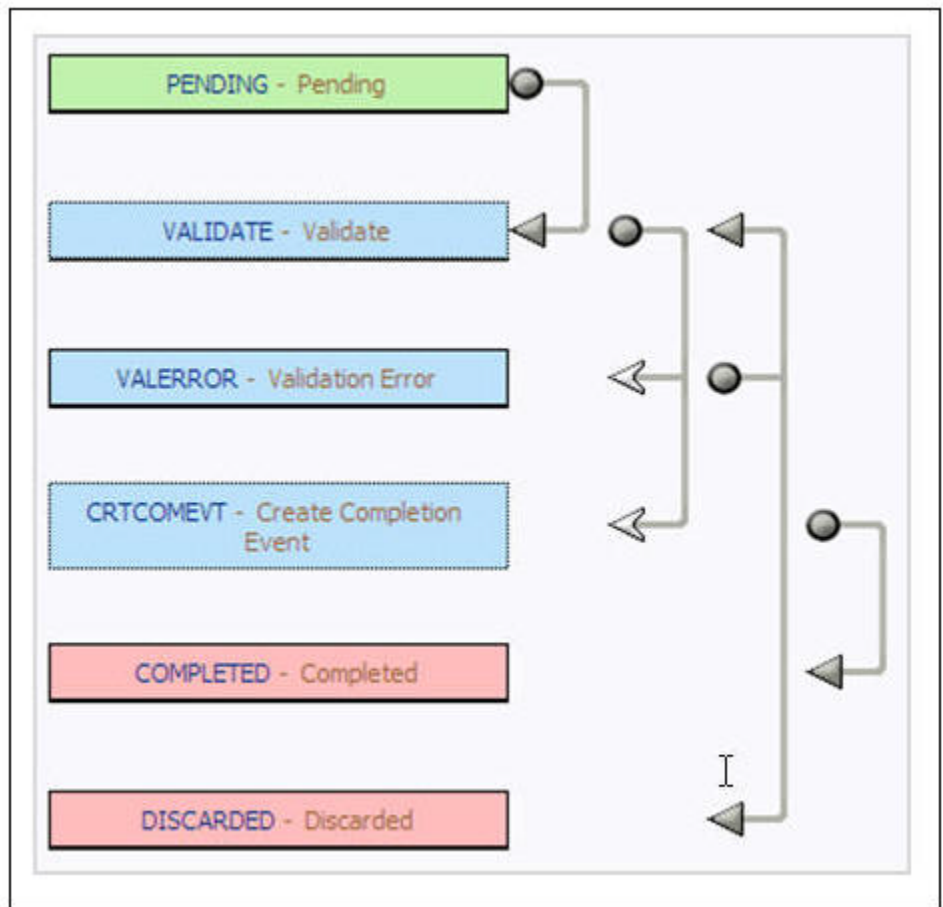
D1-OnDemandReadInterval



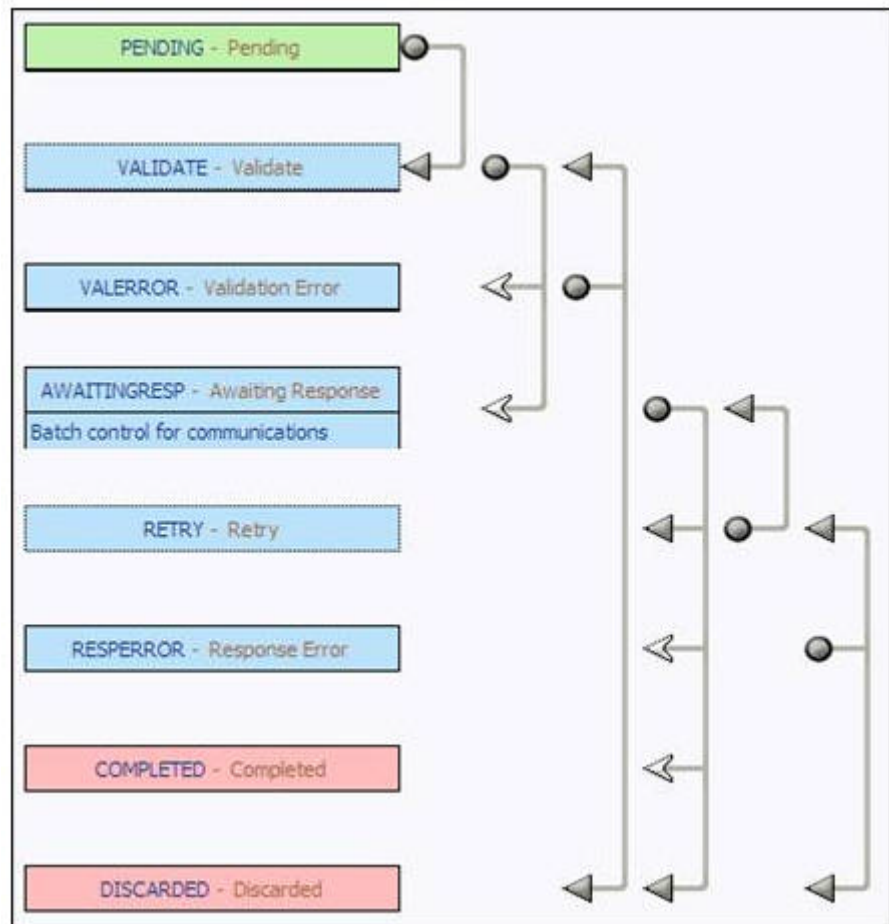
D4-ReadBillingData



D4-ReadBillingDataNtf



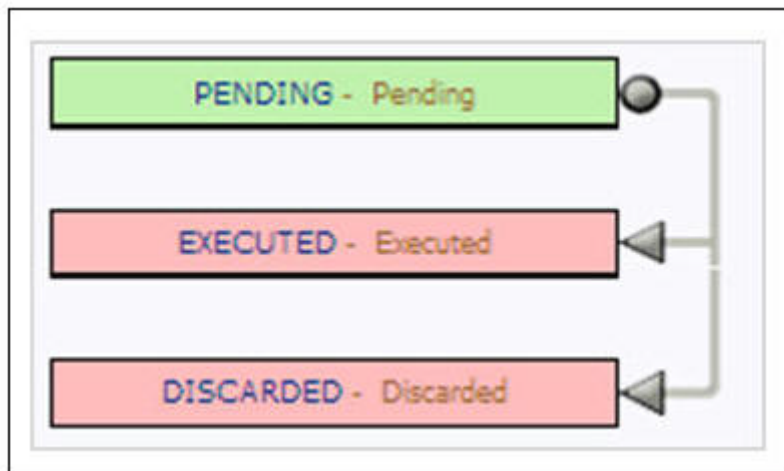
D4-ReadLoadProfile



D4-ReadLoadProfileNtf



D1-CompletionEvent



D1-Create IMD Event

