

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

Utility Reference Model

5.3.3.1b SGG-MDM. Upload Device Events
(Echelon)

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Oracle Utilities SGG V2.0.0 to MDM V2.0.1 Integration Utility Reference Model 5.3.3.1b

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Chapter 1

Overview

This chapter provides a brief description of the SGG-MDM. Upload Device Events (Echelon) business process and associated process diagrams. This includes:

- **Brief Description**

Brief Description

Business Process: 5.3.3.1b SGG-MDM.Upload Device Events

Process Type: Sub-Process

Parent Process: 5.3.3 SGG-MDM Manage Events

Sibling Processes: 5.3.3.2 SGG Manage Device Events

This process takes place when information about device events becomes available in NES system. SGG sends requests to retrieve device events information from NES system utilizing batch function available in NES for client applications. SGG downloads batches of events from the Echelon Head End System, transforms and processes them. Authorized Users can review and analyze payload statistics. SGG pre-processes the Events and validates them in preparation to be processed and sent to subscribers.

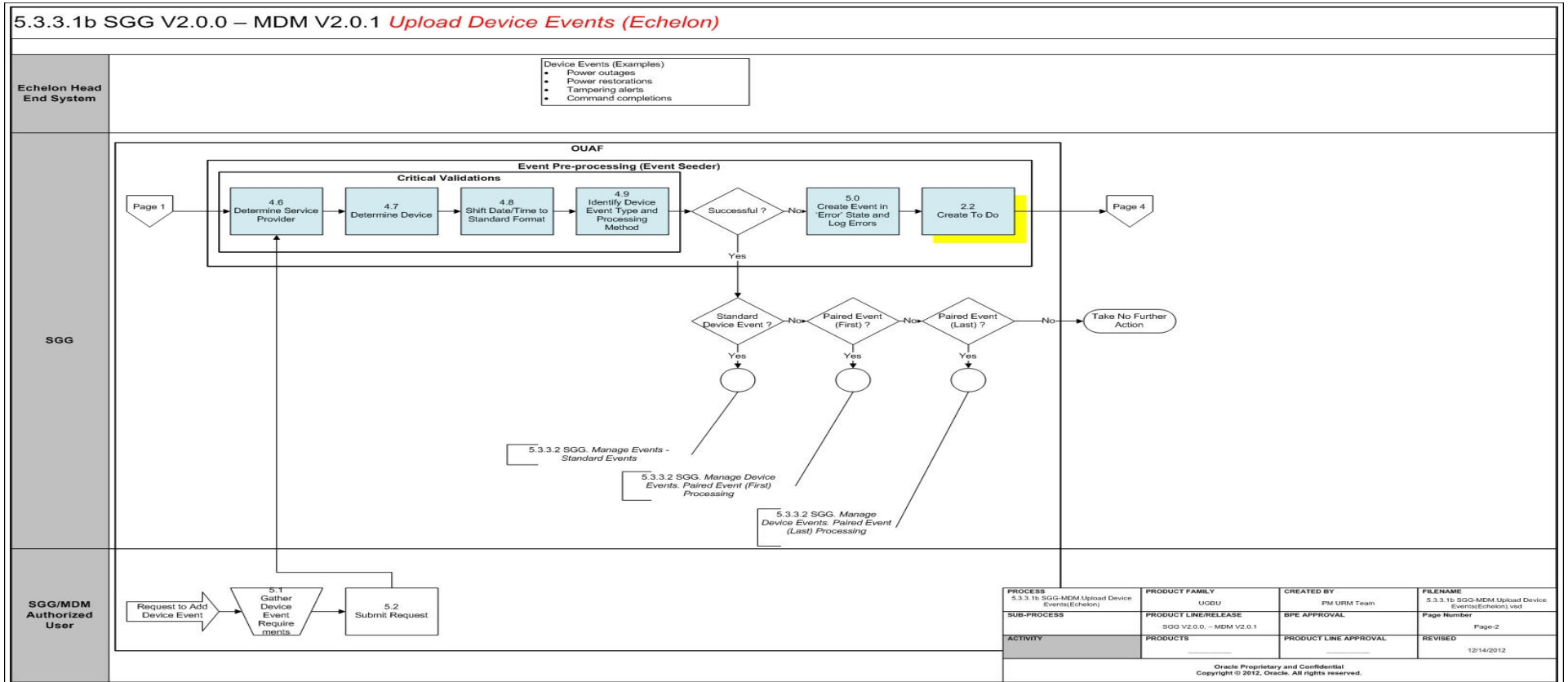
Chapter 2

Detailed Business Process Model Description

This chapter provides a detailed description of the SGG-MDM. Upload Device Events (Echelon) business process. This includes:

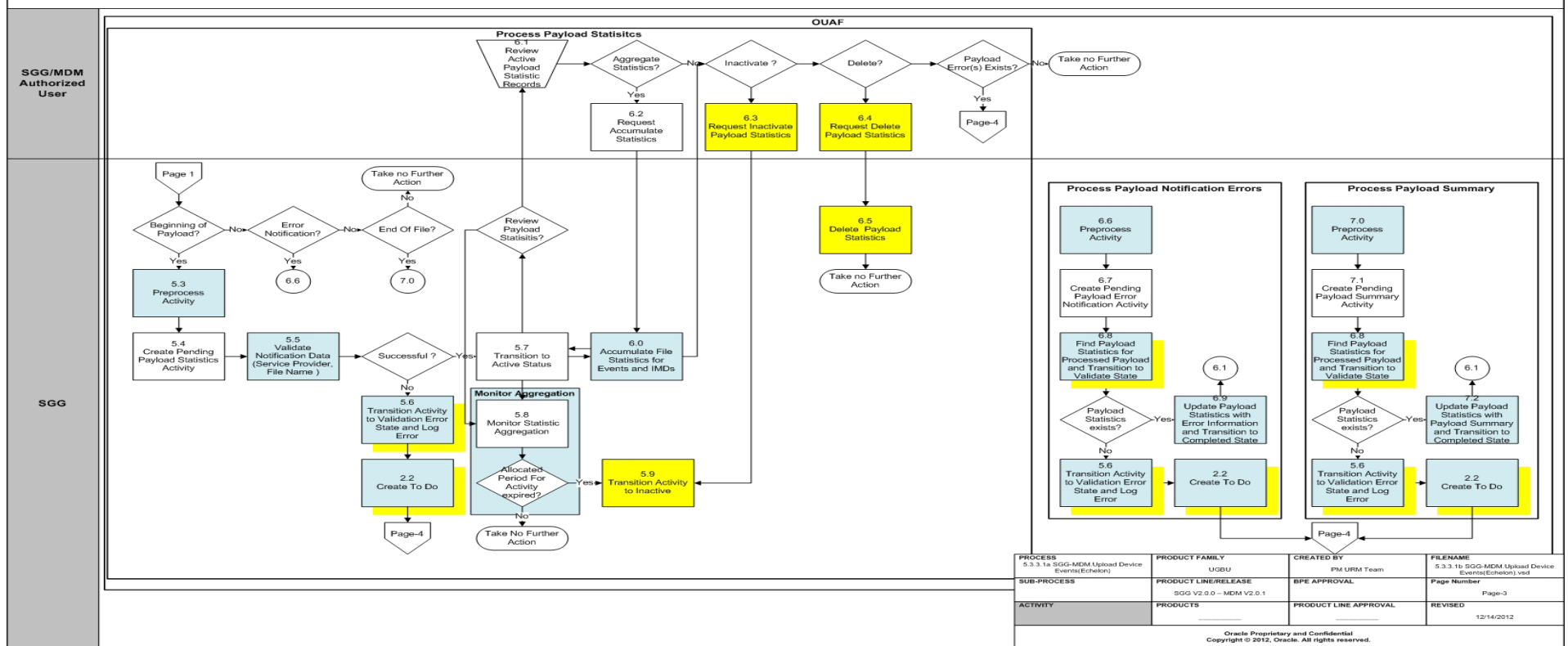
- **Business Process Diagrams**
 - **Business Process Model Page 1**
 - **Business Process Model Page 2**
 - **Business Process Model Page 3**
 - **Business Process Model Page 4**
- **SGG-MDM. Upload Device Events (Echelon) Description**
- **Business Objects Life Cycle**
 - **Event Seeder**
 - **Device Event Seeder**
- **Event Types Example**

Business Process Model Page 2

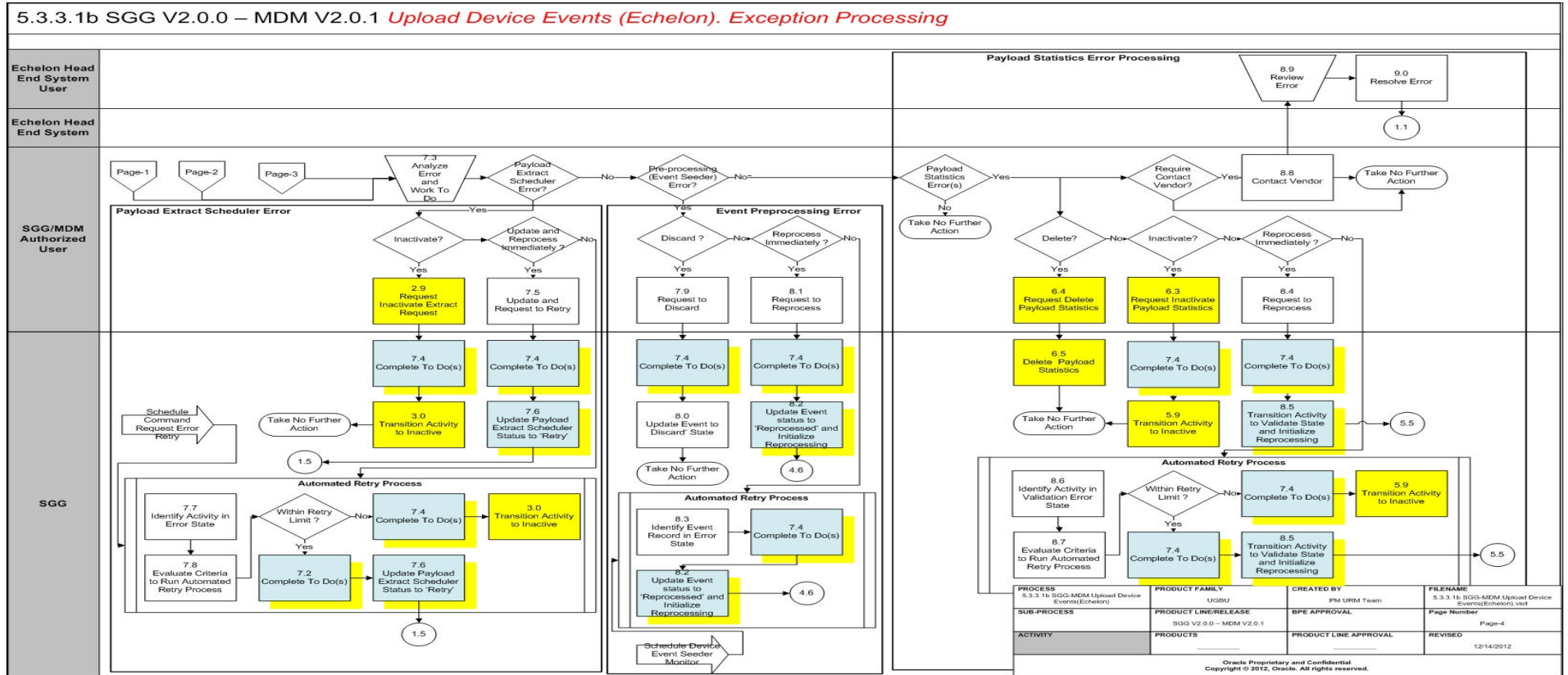


Business Process Model Page 3

5.3.3.1b SGG V2.0.0 – MDM V2.0.1 *Upload Device Events (Echelon). Process Payload Statistics*



Business Process Model Page 4



SGG-MDM. Upload Device Events (Echelon) Description

This section includes detailed descriptions of the steps involved in the SGG-MDM. Upload Device Events (Echelon) business process, including:

- **1.0 Analyze Requirements to Send Request**
- **1.1 Submit Request for Usage Extract Payload for Period**
- **1.2 Preprocess and Create Scheduler in Pending Status**
- **1.3 Transition to Active Status**
- **1.4 Monitor and Initiate Extract Request Processing**
- **1.5 Create and Send Extract Request, Transition to Send Request Status**
- **1.6 Communicate and Transform Extract Request to Echelon Format**
- **1.7 Process Request**
- **1.8 Send Positive or Negative Response**
- **1.9 Process Response**
- **2.0 Evaluate Response**
- **2.1 Transition Extract Scheduler to Request Error State and Log Error**
- **2.2 Create To Do**
- **2.3 Review Active Request**
- **2.4 Request to Send Extract Request**
- **2.5 Populate Required Changes**
- **2.6 Update Extract Request**
- **2.7 Request Delete Activity**
- **2.8 Delete Activity**
- **2.9 Request Inactivate Extract Request**
- **3.0 Transition Activity to Inactive**
- **3.1 Process Request and Create Meter Reads Payload**
- **3.2 Poll File Location**
- **3.3 Parse, Analyze File and Identify Records**
- **3.4 Transform Meter Read Record to 'Plain' XML**
- **3.5 Process Message Through Notifications Generator**
- **3.6 Create and Send Statistical Notification**
- **3.7 Route Notification Through JMS Queue to OUAF**
- **3.8 Create and Publish Additional Notification(s)**
- **3.9 Perform Custom Pre-Processing**
- **4.0 Validate Meter Read Record**
- **4.1 Transform "Plane" XML Meter Read Record to SGG IMD Standard Format**
- **4.2 Create and Send Error Notification**
- **4.3 Perform Custom Post-Processing**
- **4.4 Send Event Record**

- 4.5 Route IMD Record Through JMS Queue to OUAF
- 4.6 Determine Service Provider
- 4.7 Determine Device
- 4.8 Shift Date/Time to Standard Format
- 4.9 Identify Device Event Type and Processing Method
- 5.0 Create Event in Error State and Log Errors
- 5.1 Gather Device Event Requirements
- 5.2 Submit Request
- 5.3 Preprocess Activity
- 5.4 Create Pending Payload Statistics Activity
- 5.5 Validate Notification Data (Service Provider, File Name)
- 5.6 Transition Activity to Validation Error State and Log Error
- 5.7 Transition To Active State
- 5.8 Monitor Statistic Aggregation
- 5.9 Transition Activity to Inactive
- 6.0 Accumulate File Statistics for Events and IMDs
- 6.1 Review Active Payload Statistic Records
- 6.2 Request Accumulate Statistics
- 6.3 Request Inactivate Payload Statistics
- 6.4 Request Delete Payload Statistics
- 6.5 Delete Payload Statistics
- 6.6 Preprocess Activity
- 6.7 Create Pending Payload Error Notification Activity
- 6.8 Find Payload Statistics for Processed Payload and Transition to Validate State
- 6.9 Update Payload Statistics with Error Information and Transition to Completed State
- 7.0 Preprocess Activity
- 7.1 Create Pending Payload Summary Activity
- 7.2 Update Payload Statistics with Payload Summary and Transition to Complete State
- 7.3 Analyze, Work Errors and To Do
- 7.4 Complete To Dos
- 7.5 Update and Request to Retry
- 7.6 Update Payload Extract Scheduler status to Retry
- 7.7 Identify Activity in Error State
- 7.8 Evaluate Criteria to Run Automated Retry Process
- 7.9 Request to Discard
- 8.0 Update Event to Discard State
- 8.1 Request to Reprocess

- 8.2 Update Event status to Reprocessed and Initialize Reprocessing
- 8.3 Identify Event Record in Error State
- 8.4 Request to Reprocess
- 8.5 Transition Activity Status to Validate and Initialize Reprocessing
- 8.6 Identify Activity in Validation Error State
- 8.7 Evaluate Criteria to Run Automated Retry Process
- 8.8 Contact Vendor
- 8.9 Review Error
- 9.0 Resolve Error

1.0 Analyze Requirements to Send Request

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

Actor/Role: SGG/MDM Authorized User

Description: SGG/MDM Authorized User evaluates requirements to initiate Event Extract process in order to retrieve batch of Echelon events.

Entities to Configure

Echelon Event Extract Scheduler Type

Payload Extract Scheduler Type

1.1 Submit Request for Usage Extract Payload for Period

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

Actor/Role: SGG/MDM Authorized User

Description: SGG/MDM Authorized User submits request to extract events and specifies the period using Extract Request screen.

1.2 Preprocess and Create Scheduler in Pending Status

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

Actor/Role: SGG

Description: The application preprocesses request to initiate extract events process and creates Echelon Extract Scheduler Activity in Pending state.

Business Objects	Available Algorithms
D1-PayloadExtractScheduler D4-EventExtractScheduler	D1-DETACTION Determine Activity Type D1-CRAINFORM Command Request Activity Information

1.3 Transition to Active Status

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

Actor/Role: SGG

Description: SGG transitions Echelon Event Scheduler Activity to Active state.

Business Objects

D1-PayloadExtractScheduler

D4-EventExtractScheduler

1.4 Monitor and Initiate Extract Request Processing

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

Actor/Role: SGG

Description: SGG monitors Echelon Event Extract Activity to initiate sending request process.

Business Objects

D1-PayloadExtractScheduler

D4-EventExtractScheduler

Customizable Process

D1-EXTSC Usage / Event Extract Scheduler

Monitor

1.5 Create and Send Extract Request, Transition to Send Request Status

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

Actor/Role: SGG

Description: If it's a scheduled time or simply business requires to send request for event extract from Echelon, application creates Outbound Message with extract request and sends it to Echelon head end system.

Business Objects

D1-PayloadExtractScheduler

D4-EventExtractScheduler

Available Algorithms

D4-EVTSNDREQ Event Extract Scheduler Send Request

1.6 Communicate and Transform Extract Request to Echelon Format

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

Group: Integration Layer (OSB)

Actor/Role: SGG

Description: The Integration Layer (BPEL) processes outbound message that triggers extract process. BPEL also transforms Outbound message to Echelon format.

1.7 Process Request

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

Actor/Role: Echelon Head End System

Description: The Echelon head end system receives request from SGG and initiates request processing.

1.8 Send Positive or Negative Response

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

Actor/Role: Echelon Head End System

Description: The Echelon sends positive or negative response to SGG.

1.9 Process Response

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

Group: Integration Layer (OSB)

Actor/Role: SGG

Description: Integration layer (BPEL) receives and processes negative or positive response sent from NES (Echelon head end system).

2.0 Evaluate Response

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

Actor/Role: SGG

Description: The SGG analyses response received from Echelon.

2.1 Transition Extract Scheduler to Request Error State and Log Error

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

Actor/Role: SGG

Description: If negative response is received from Echelon, SGG transitions Event Extract Scheduler Activity to Error state and logs the error.

2.2 Create To Do

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

Group: Event Pre-Processing (Event Seeder)

Group: Process Payload Statistics

Group: Process Payload Notification Errors

Group: Process Payload Summary

Actor/Role: SGG

Description: Application creates a To Do entry for the Authorized User to analyze error.

Entities to Configure

To Do Type

To Do Role

Business Objects	Available Algorithms
D1-DeviceEventSeeder	D1-CREATTODO
D1-PayloadExtractScheduler	
D1-PayloadStatistics	
D1-PayloadErrorNotif	
D1-PayloadSummary	
D1-PayloadNotification	

2.3 Review Active Request

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

Actor/Role: SGG/MDM Authorized User

Description: The SGG/MDM Authorized User reviews event extract request activity in active status using Echelon Event Scheduler page.

2.4 Request to Send Extract Request

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

Actor/Role: SGG/MDM Authorized User

Description: The SGG/MDM Authorized User requests to send extract request if business process requires immediate processing.

2.5 Populate Required Changes

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

Actor/Role: SGG/MDM Authorized User

Description: The SGG/MDM Authorized User makes required changes in original event extract request.

2.6 Update Extract Request

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

Actor/Role: SGG

Description: SGG stores changes made by SGG/MDM Authorized User in event extract request.

Business Objects

D1-PayloadExtractScheduler

D4-EventExtractScheduler

2.7 Request Delete Activity

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

Actor/Role: SGG/MDM Authorized User

Description: SGG/MDM Authorized User deletes Echelon Event Extract Scheduler activity that has been created previously and is not required by any business process.

Note: The application allows to delete the request, however it's not recommended to use this action because application will not have history records associated with deleted activity.

2.8 Delete Activity

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

Actor/Role: SGG

Description: SGG deletes Echelon Event Extract activity.

Business Objects

D1-PayloadExtractScheduler

D4-EventExtractScheduler

2.9 Request Inactivate Extract Request

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

Actor/Role: SGG/MDM Authorized User

Description: SGG/MDM Authorized User requests inactivate Echelon Event Extract Scheduler activity.

3.0 Transition Activity to Inactive

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

Actor/Role: SGG

Description: SGG transitions Echelon Event Extract Scheduler activity to inactive state.

Business Objects

D1-PayloadExtractScheduler

D4-EventExtractScheduler

3.1 Process Request and Create Meter Reads Payload

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

Actor/Role: Echelon Head End System

Description: The Echelon head end system (NES system) supports batch event processing technique. It allows retrieve and store filtered events, mark the batch as completed, and make events available for further processing by SGG.

3.2 Poll File Location

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

Group: Integration Layer (OSB)

Group: JCA File Adapter

Actor/Role: SGG

Description: The JCA File Adapter service polls the designated directory based on the configured path and frequency.

Entities to Configure

Payload File Path

Polling Frequency

3.3 Parse, Analyze File and Identify Records

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

Group: Integration Layer (OSB)

Group: JCA File Adapter

Actor/Role: SGG

Description: JCA File Adapter parses the file and identifies records and determines types of records.

3.4 Transform Meter Read Record to 'Plain' XML

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

Group: Integration Layer (OSB)

Group: JCA File Adapter

Actor/Role: SGG

Description: JCA File Adapter transforms records from the L+G format to the 'Plain' XML structure.

3.5 Process Message Through Notifications Generator

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

Group: Integration Layer (OSB)

Actor/Role: SGG

Description: JSA file adapter identifies type of messages being processed (beginning of file, end of file, errors) and initiates Notification processing.

3.6 Create and Send Statistical Notification

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

Group: Integration Layer (OSB)

Actor/Role: SGG

Description: OSB creates and sends Statistical Notification when OSB starts and finishes processing payload.

Customizable Service

NotificationBusinessService

3.7 Route Notification Through JMS Queue to OUAF

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

Group: Integration Layer (OSB)

Actor/Role: SGG

Description: Notification message is sent through JMS Queue to OUAF.

3.8 Create and Publish Additional Notification(s)

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

Group: Integration Layer (OSB)

Actor/Role: SGG

Description: If business requires create additional notification, OSB creates and publish this notification.

Note: This is a custom process that allows implement additional functionality such as generating and sending e-mails to recipients etc.

Customizable Service

NotificationProxyService

3.9 Perform Custom Pre-Processing

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

Group: Integration Layer (OSB)

Actor/Role: SGG

Description: This task is being executed if additional preprocessing is required.

Customizable Service

PreProcessingProxyService

4.0 Validate Meter Read Record

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

Group: Integration Layer (OSB)

Actor/Role: SGG

Description: Processing Proxy Service validates the event record.

4.1 Transform "Plane" XML Meter Read Record to SGG IMD Standard Format

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

Group: Integration Layer (OSB)

Actor/Role: SGG

Description: Processing Proxy Service transforms "Plain "XML event record to SGG device event format.

4.2 Create and Send Error Notification

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

Group: Integration Layer (OSB)

Actor/Role: SGG

Description: If error(s) occur during preprocessing, validation or transformation steps, OSB generates and route error notification. OSB also generates and routes error notification if error takes place during post-processing.

Customizable Service

NotificationBusinessService

4.3 Perform Custom Post-Processing

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

Group: Integration Layer (OSB)

Actor/Role: SGG

Description: This task is being executed if additional post-processing is required.

Customizable Service

PostProcessingProxyService

4.4 Send Event Record

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

Group: Integration Layer (OSB)

Actor/Role: SGG

Description: OSB creates and sends Event result message to JMS Queue.

Customizable Service

DestinationBusinessService

4.5 Route IMD Record Through JMS Queue to OUAF

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

Group: Integration Layer (OSB)

Actor/Role: SGG

Description: JMS Queue routes record to OUAF.

4.6 Determine Service Provider

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

Group: Event Pre-Processing (Event Seeder)

Group: Critical Validations

Actor/Role: SGG

Description: SGG initiates pre-processing of the Event received from Head-End System or created manually by MDM Authorized User. The primary goal of preprocessing raw data is to perform number of critical validations. This task is the first critical validation Preprocessing. SGG validates the Service Provider (Head-End System) based on the supplied elements.

Business Objects	Available Algorithms
D1-DeviceEventSeeder	D1-SPRID

4.7 Determine Device

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

Group: Event Pre-Processing (Event Seeder)

Group: Critical Validations

Actor/Role: SGG

Description: SGG validates Device information.

Business Objects	Available Algorithms
D1-DeviceEventSeeder	D1-DEVICEID

4.8 Shift Date/Time to Standard Format

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

Group: Event Pre-Processing (Event Seeder)

Group: Critical Validations

Actor/Role: SGG

Description: SGG adjusts the Start Date/Time and End Date/Time, taking into consideration the Daylight Savings Time (DST).

Business Objects	Available Algorithms
D1-DeviceEventSeeder	D1-SHEVTDITM

4.9 Identify Device Event Type and Processing Method

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

Group: Event Pre-Processing (Event Seeder)

Group: Critical Validations

Actor/Role: SGG

Description: Application identifies the Device Event Type and determines processing method associated with identified event type.

Note: Examples of Event Types could be found in the list of **Event Types Example** located in the Attachments Section of current document.

Business Objects	Available Algorithms
D1-DeviceEventSeeder	D1-DETBOID

5.0 Create Event in Error State and Log Errors

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

Group: Event Pre-Processing (Event Seeder)

Group: Critical Validations

Actor/Role: SGG

Description: If any of the critical validations fail the application creates event in error state and adds record in the log.

Business Objects	Available Algorithms
D1-DeviceEventSeeder	D1-SETERRFLG

5.1 Gather Device Event Requirements

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

Actor/Role: SGG/MDM Authorized User

Description: SGG/MDM Authorized User gathers the Device Event information that required manual upload.

5.2 Submit Request

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

Actor/Role: SGG/MDM Authorized User

Description: SGG/MDM Authorized User populates required event data and submits request to create Device Event using the Device Event Seeder screen.

5.3 Preprocess Activity

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

Group: Process Payload Statistics

Actor/Role: SGG

Description: SGG preprocesses payload statistic that contains information from the file's header record.

Business Objects	Available Algorithms
D1-PayloadStatistics	D1-PLSTCRBO (Set Payload Statistics BO name) D1-DETECTTYP (Determine Activity Type)

5.4 Create Pending Payload Statistics Activity

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

Group: Process Payload Statistics

Actor/Role: SGG

Description: Application creates Payload Statistics Activity in Pending status.

Business Objects
D1-PayloadStatistics

5.5 Validate Notification Data (Service Provider, File Name)

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

Group: Process Payload Statistics

Actor/Role: SGG

Description: Application validates message received.

Business Objects	Available Algorithms
D1-PayloadStatistics	D1-VALACTTYP Validate Activity Type D1-VALACTFIL Validate Activity File Name D1-SPRIDAGG Service Provider Identification (for Aggregation)

5.6 Transition Activity 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: Process Payload Statistics

Group: Payload Notification Errors

Group: Process Payload Summary

Actor/Role: SGG

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

Business Objects	Available Algorithms
D1-PayloadStatistics D1-PayloadErrorNotif D1-PayloadSummary D1-PayloadNotification	See list of algorithms associated with validations

5.7 Transition To Active State

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

Group: Process Payload Statistics

Actor/Role: SGG

Description: If processing record successfully passed the validations, application transitions Payload Statistics activity to Active status.

Business Objects
D1-PayloadStatistics

5.8 Monitor Statistic Aggregation

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

Group: Process Payload Statistics

Actor/Role: SGG

Description: SGG monitors payload statistics in Active state, evaluates payload cut off day and controls transition to the next logical step of the process (state).

Business Objects	Available Algorithms
D1-PayloadStatistics	D1-PRFACTAGG (Perform Activity Aggregation)

5.9 Transition Activity to Inactive

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

Group: Process Payload Statistics

Group: Payload Statistics Error Processing

Actor/Role: SGG

Description: Application transitions payload statistics to Inactive state.

Automated Process: This step is performed if system detects that payload cut off date is in the past

Manual Process: System also performs this task after Authorized User requests to inactivate payload statistics

Business Objects

D1-PayloadStatistics

6.0 Accumulate File Statistics for Events and IMDs

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

Group: Process Payload Statistics

Actor/Role: SGG

Description: Application collects statistics about all the events and IMDs uploaded as a result of payload processing.

Business Objects	Available Algorithms
D1-PayloadStatistics	D1-ACCSTATS (Accumulate Statistics Algorithm)

6.1 Review Active Payload Statistic Records

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

Group: Process Payload Statistics

Actor/Role: SGG/MDM Authorized User

Description: Authorized User reviews and analyzes payload statistics using Payload Statistics screen.

6.2 Request Accumulate Statistics

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

Group: Process Payload Statistics

Actor/Role: SGG/MDM Authorized User

Description: If required, Authorized User requests accumulate payload statistics.

6.3 Request Inactivate Payload Statistics

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

Group: Process Payload Statistics

Group: Payload Statistics Error Processing

Actor/Role: SGG/MDM Authorized User

Description: Authorized User requests inactivate payload statistics.

6.4 Request Delete Payload Statistics

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

Group: Process Payload Statistics

Group: Payload Statistics Error Processing

Actor/Role: SGG/MDM Authorized User

Description: Authorized User requests delete payload statistics.

6.5 Delete Payload Statistics

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

Group: Process Payload Statistics

Group: Payload Statistics Error Processing

Actor/Role: SGG

Description: Application deletes payload statistics.

Business Objects

D1-PayloadStatistics

6.6 Preprocess Activity

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

Group: Process Payload Notification Errors

Actor/Role: SGG

Description: Application preprocesses error notifications received from integration layer.

Business Objects

D1-PayloadNotification
D1-PayloadErrorNotif

Available Algorithms

D1-DEFACTTYP Determine
Activity Type

6.7 Create Pending Payload Error Notification Activity

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

Group: Process Payload Notification Errors

Actor/Role: SGG

Description: Application creates pending error notification activity.

Business Objects

D1-PayloadNotification

D1-PayloadErrorNotif

6.8 Find Payload Statistics for Processed Payload 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: Process Payload Notification Errors

Group: Process Payload Summary

Actor/Role: SGG

Description: SGG validates error notification and identifies Payload Statistics Activity created for processing Payload and couples it with currently processing notification.

Business Objects	Available Algorithms
D1-PayloadNotification	D1-SPRIDAGG (Service
D1-PayloadErrorNotif	Provider Identification (for
D1-PayloadSummary	Aggregation))
	D1-CPLPLST (Couple with
	Payload Statistics)

6.9 Update Payload Statistics with Error Information and Transition to Completed State

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

Group: Process Payload Notification Errors

Actor/Role: SGG

Description: Application updates payload statistics with information from error notification.

Business Objects	Available Algorithms
D1-PayloadNotification	D1-UPERRINFO Update Error
D1-PayloadErrorNotif	Info onto Payload Statistics
	Algorithm Type

7.0 Preprocess Activity

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

Group: Process Payload Summary

Actor/Role: SGG

Description: Application preprocesses payload summary message (file trailer data) received from integration layer.

Business Objects	Available Algorithms
D1-PayloadSummary	D1-DETECTTYP (Determine Activity Type) D1-PLSUCRBO (Set Payload Summary BO name)

7.1 Create Pending Payload Summary Activity

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

Group: Process Payload Summary

Actor/Role: SGG

Description: Application creates pending payload summary activity.

Business Objects
D1-PayloadSummary

7.2 Update Payload Statistics with Payload Summary and Transition to Complete State

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

Group: Process Payload Summary

Actor/Role: SGG

Description: Application updates payload statistics with information from summary notification received from middleware (file trailer).

Business Objects	Available Algorithms
D1-PayloadSummary	D1-UMWSTAT (Update Middleware Statistics onto Payload Statistics)

7.3 Analyze, Work Errors and To Do

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

Actor/Role: SGG/MDM Authorized User

Description: SGG/MDM Authorized User analyzes the error and respective To Do to determine the corrective action.

7.4 Complete To Dos

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

Group: Payload Extract Scheduler

Group: Event Preprocessing Error (Seeder)

Group: Payload Statistics Error Processing

Actor/Role: SGG

Description: SGG automatically completes To Do entries.

Business Objects	Available Algorithms
D1-DeviceEventSeeder	D1-COMPDE-TD
D1-PayloadNotification	D1-GTDCBO Generic To Do
D1-PayloadExtractScheduler	completion for BO

7.5 Update and Request to Retry

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

Group: Payload Extract Scheduler Error Processing

Actor/Role: SGG/MDM Authorized User

Description: SGG/MDM Authorized User requests to retry send request to extract events.

Business Objects
D1-PayloadExtractScheduler

7.6 Update Payload Extract Scheduler status to Retry

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

Group: Payload Extract Scheduler Error Processing

Actor/Role: SGG

Description: SGG transitions event payload extract scheduler to retry status.

Business Objects	Available Algorithms
D1-PayloadExtractScheduler	D1-RBOE Retry BO in Error

7.7 Identify Activity in Error State

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

Group: Payload Extract Scheduler Error Processing

Actor/Role: SGG

Description: Application continuously monitors payload extract scheduler records to identify the requests in error state.

Business Objects	Available Algorithms
D1-PayloadExtractScheduler	D1-RBOE

Customizable process

D1-CRERR Command Request Error - Retry

7.8 Evaluate Criteria to Run Automated Retry Process

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

Group: Payload Extract Scheduler Error Processing

Actor/Role: SGG

Description: SGG evaluates criteria to run retry process. Application times out process if Activity stayed in error status too long (Waiting period is determined by business and configured in application).

Business Objects	Available Algorithms
D1-PayloadExtractScheduler	D1-WTTMOUT Wait Time Out - Transition to Rejection

7.9 Request to Discard

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

Group: Event Seeder Error Processing

Actor/Role: SGG/MDM Authorized User

Description: If SGG/MDM Authorized User decides that device event is not relevant, Authorized User requests to discard it.

8.0 Update Event to Discard State

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

Group: Event Seeder Error Processing

Actor/Role: SGG

Description: SGG transitions Event Seeder to Discard state indicating that it cannot be used further.

Business Objects
D1-DeviceEventSeeder

8.1 Request to Reprocess

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

Group: Event Seeder Error Processing

Actor/Role: SGG/MDM Authorized User

Description: SGG/MDM Authorized User requests to reprocess event after error is corrected.

Business Objects	Available Algorithms
D1-DeviceEventSeeder	D1-DVENS

8.2 Update Event status to Reprocessed and Initialize Reprocessing

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

Group: Event Seeder Error Processing

Actor/Role: SGG

Description: SGG transition the seeder to Reprocessed state and initializes reprocessing.

Business Objects	Available Algorithms
D1-DeviceEventSeeder	D1-REPRDVCET

8.3 Identify Event Record in Error State

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

Group: Event Seeder Error Processing

Actor/Role: MDM

Description: Application continuously monitors event seeder records to identify the event seeder in Error state.

Business Objects	Available Algorithms
D1-DeviceEventSeeder	D1-DVENS

8.4 Request to Reprocess

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

Group: Payload Statistics Error Processing

Actor/Role: SGG/MDM Authorized User

Description: SGG/MDM Authorized User requests to reprocess payload statistics.

8.5 Transition Activity Status to Validate and Initialize Reprocessing

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

Group: Payload Statistics Error Processing

Actor/Role: SGG

Description: SGG transition the seeder to Reprocessed state and initializes reprocessing.

Business Objects	Available Algorithms
D1-PayloadStatistics	D1-RBOE

8.6 Identify Activity in Validation Error State

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

Group: Payload Statistics Error Processing

Actor/Role: SGG

Description: Application continuously monitors payload statistics records to identify the records in validation error state.

Business Objects	Available Algorithms
D1-PayloadStatistics	D1-RBOE

8.7 Evaluate Criteria to Run Automated Retry Process

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

Group: Payload Statistics Error Processing

Actor/Role: SGG

Description: SGG evaluates criteria to run retry process (e.g. number of retries).

Business Objects
D1-PayloadStatistics

8.8 Contact Vendor

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

Group: Payload Statistics Error Processing

Actor/Role: SGG/MDM Authorized User

Description: SGG/MDM Authorized User contacts L+G Head End Head System User to report error.

8.9 Review Error

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

Group: Payload Statistics Error Processing

Actor/Role: Echelon Head End Head System User

Description: Echelon Head End Head System User reviews and analyzes error.

9.0 Resolve Error

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

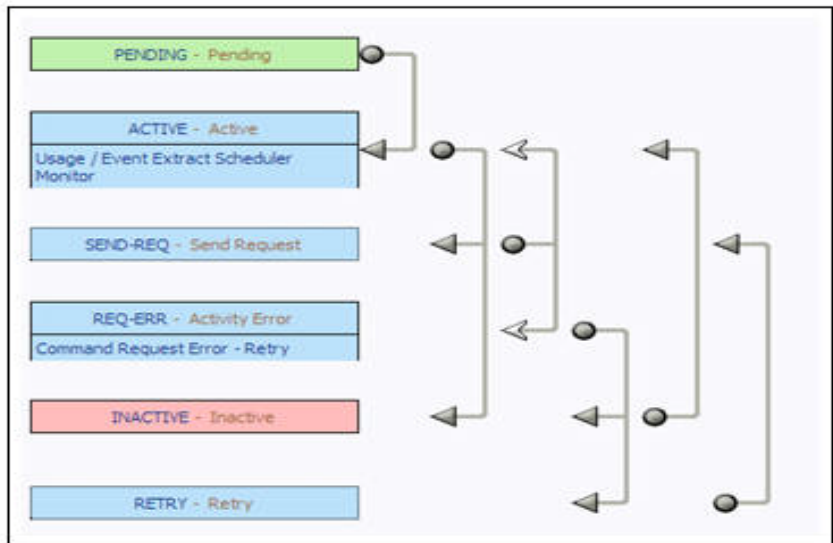
Group: Payload Statistics Error Processing

Actor/Role: Echelon Head End Head System User

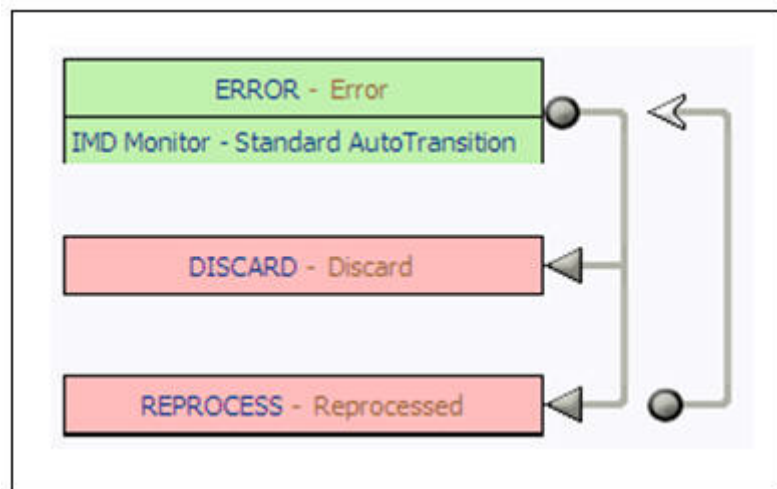
Description: Echelon Head End Head System User works on extract event error resolution.

Business Objects Life Cycle

Event Seeder



Device Event Seeder



Event Types Example

Device Event Type	Description	Device Event Category
DEVICELOWBATTERY	Low Battery Detected - Device	Diagnostics
DEVICELOWVOLTAGE	Low Voltage - Device	Diagnostics
DEVICEMAGNETICTAMPER	Magnetic Tampering	Tampering
DEVICEPOWEROUTAGE	Power Outage - Device (Last Gasp)	Outage
DEVICEPOWERQUALITY	Poor Power Quality	Diagnostics
DEVICEPOWERRESTORATION	Power Restoration - Device	Outage
DEVICEREVERSEROTATION	Reverse Rotation	Tampering
DEVICESUSTAINEDOUTAGE	Sustained Outage - Device	Outage
DEVICETAMPERALERT	Tamper Alert	Tampering