METER DATA MANAGEMENT V 2.2.0

5.5.5.1 Service Investigative Orders

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ORACLE

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Contents

BRIEF DESCRIPTION 4
BUSINESS PROCESS MODEL PAGE 1 5
BUSINESS PROCESS MODEL PAGE 2 6
BUSINESS PROCESS MODEL PAGE 3 7
DETAIL BUSINESS PROCESS MODEL DESCRIPTION 8
TEST DOCUMENTATION RELATED TO THE CURRENT PROCESS 22
DOCUMENT CONTROL 23
ATTACHMENTS 24
Service Issue Monitor BO Lifecycle *24*
Service Investigative Order BO Lifecycle *24*
SIM Type Reference *24*
Service Task Type *24*
SIO Activity Type *24*

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Brief Description

Business Process: **5.5.5.1 MDM.Manage Service Investigative Orders**
Process Type: **Sub-Process**
Parent Process: **5.5.5 MDM. Monitor and Manage Service Faults**
Sibling Processes: **5.3.3.2 MDM.Manage Device Events, 4.2.1.2 MDM.Manage VEE and VEE Exceptions**

This process gets initiated by a Device Event or a Meter Reader Remark or a VEE Exception or a Failed Command that refers to a Service Issue Monitor (SIM) to analyze the service point. The Service Issue Monitor initiates a Service Investigative Order (SIO) process based on eligibility criteria to initiate a field action by crew. At times a user approval is required to create this SIO depending on field action.

A Service Investigative Order is sent to a Third Party Workforce Management Application which in turns communicates to the field crew. Field crew performs the action and status is reflected back in Third Party Workforce Management Application and MDM accordingly.

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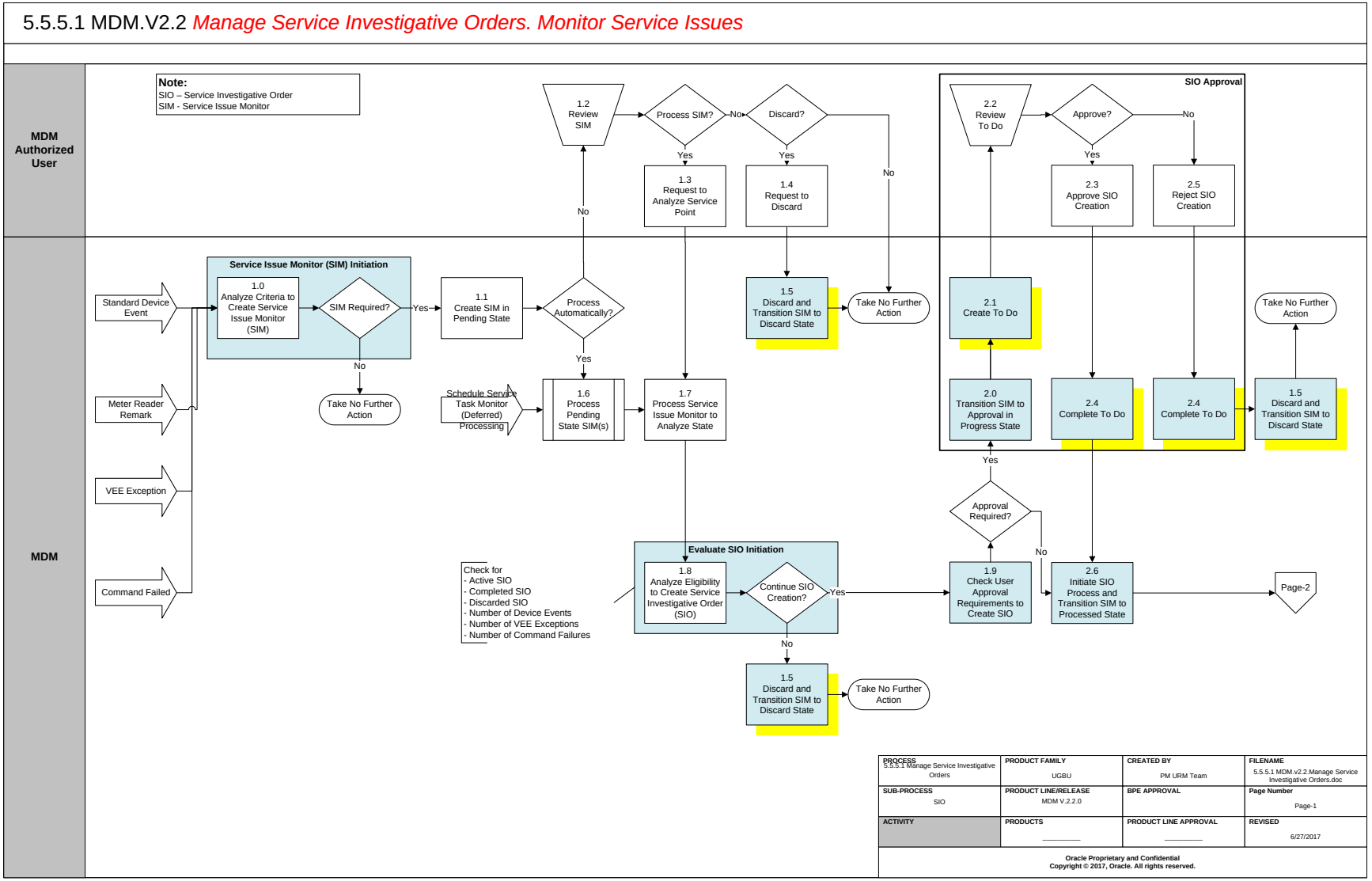
Business Process Model Page 1



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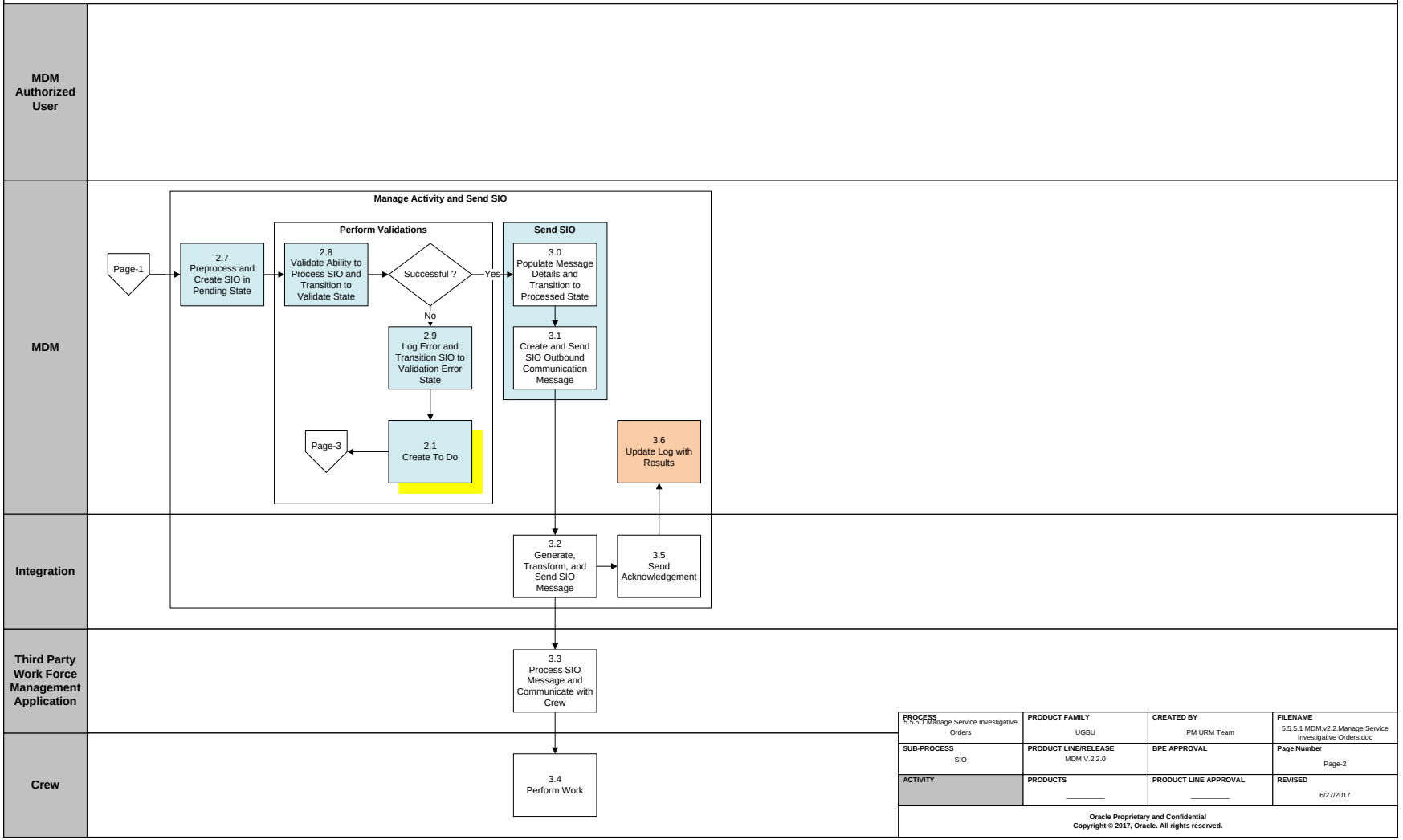
Business Process Model Page 2

5.5.5.1 MDM.V2.2 *Manage Service Investigative Orders. Process Investigative Order*



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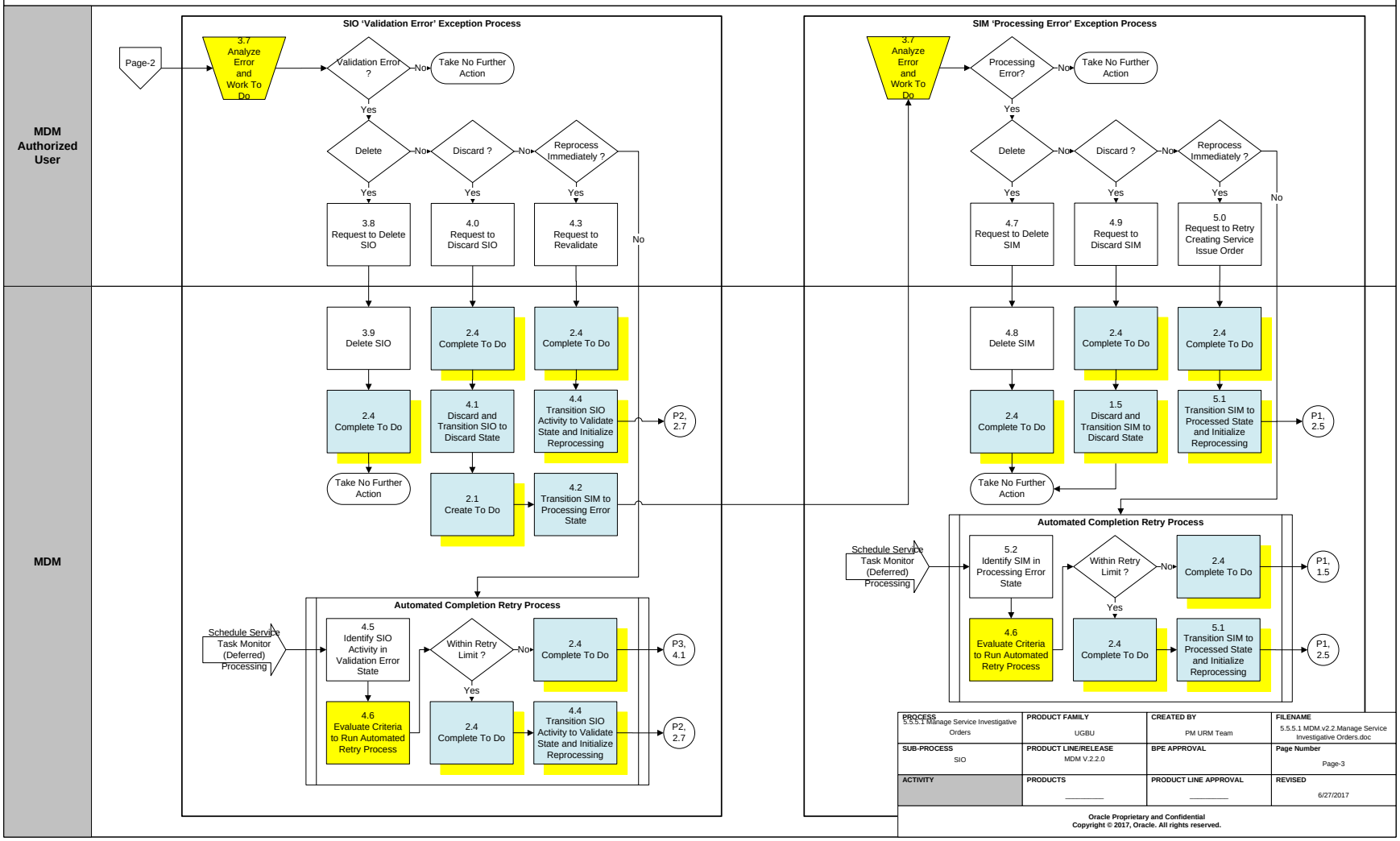
Business Process Model Page 3

5.5.5.1 MDM.V2.2 *Manage Service Investigative Orders. Exception Process*



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Detail Business Process Model Description

1.0 Analyze Criteria to Create Service Issue Monitor (SIM)

Actor/Role: MDM
Description: MDM analyzes if the device event/activity type defined for Device Event, Meter Reader Remark, VEE Exception, and Command has a reference to Service Issue Monitor(SIM) type. If it is not defined, no Service Issue Monitor creation process is triggered.

Process Plug-in enabled (Y/N)	Available Algorithm(s):
	D1-DVCEVTSIM (Create Service Issue Monitor from Device Event)
	D2-VEEEXCSIM (Create Service Issue Monitor from VEE Exception)
	D1-CFCMDSIM (Create Service Issue Monitor from Failed Command)

Business Object (Y/N)	Business Object
	D1-DeviceEvent
	D1-ReaderRemark
	D2-VEEExceptionServiceMonitor
	Various Commands

Configuration required (Y/N)	Entities to Configure:
	Service Issue Monitor Type

1.1 Create SIM in Pending State

Actor/Role: MDM
Description: MDM creates SIM in pending state.

Process Plug-in enabled (Y/N)	Available Algorithm(s):
	D1-SIM-INFO (Service Issue Monitor Information)

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

1.2 Review SIM

Actor/Role: MDM Authorized User
Description: MDM Authorized User reviews SIM created in the system.

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

1.3 Request to Analyze Service Point

Actor/Role: MDM Authorized User
Description: MDM Authorized User if wishes to process SIM immediately can make a request to analyze service point.

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

1.4 Request to Discard

Actor/Role: MDM Authorized User
Description: MDM Authorized User if wishes to discard the SIM, User can make a request to discard it.

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

1.5 Discard and Transition SIM to Discard State

Actor/Role: MDM
Description: MDM transitions SIM to discard state. When a SIM is discarded it still remains in the system.

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Business Object (Y/N)	**Business Object**	D1-ServiceIssueMonitor

1.6 Process Pending State SIM(s)

Actor/Role: MDM
Description: The volume of SIMs created can be significant and may not be possible for review and initiate manual creation process by User every time. Therefore in most of the cases SIMs in 'Pending' status is being processed by a batch process. Business determines how often this batch process should run to process Pending SIMs.

Business Object (Y/N)	**Business Object**	D1-ServiceIssueMonitor
Customizable process (N)	**Process Name**	Service Task Monitor(Deferred)

1.7 Process Service Issue Monitor to Analyze State

Actor/Role: MDM
Description: MDM transitions SIM to analyze state to initiate evaluation of criteria for SIO creation.

Business Object (Y/N)	**Business Object**	D1-ServiceIssueMonitor

1.8 Analyze Eligibility to Create Service Investigative Order (SIO)

Actor/Role: MDM
Description: MDM analyzes eligibility criteria to initiate Service Investigative Order process. It analyzes for various SIM discard rules related to active SIO, completed SIO, and discarded SIO, within a time period. It also analyzes for number of times the device event, VEE Exceptions, command failures, etc has taken place within a time period.

Process Plug-in enabled (Y/N)	**Available Algorithm(s):**	D1-SIM-ANZ (Analyze Service Point For Service Issues)

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Business Object (Y/N)	**Business Object**	D1-ServiceIssueMonitor
Configuration required (Y/N)	**Entities to Configure:**	Service Task Type

1.9 Check User Approval Requirements to Create SIO

Actor/Role: MDM
Description: MDM determines if a User approval is required to create a SIO and accordingly transitions SIM to respective state.

Process Plug-in enabled (Y/N)	**Available Algorithm(s):**	D1-CK-SI-AP (Transition Service Issue Monitor Based on Approval Settings)
Business Object (Y/N)	**Business Object**	D1-ServiceIssueMonitor
Configuration required (Y/N)	**Entities to Configure:**	Approval Required field in Service Task Type

Group: SIO Approval
2.0 Transition SIM to Approval in Progress State

Actor/Role: MDM
Description: Application transitions SIM to Approval In Progress Status if User Authorized User approval is required to initiate Service Investigative Order

Business Object (Y/N)	**Business Object**	D1-ServiceIssueMonitor

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Group: SIO Approval
Group: Manage Activity and Send SIO
Group: SIO 'Validation Error' Exception Process

2.1 Create To Do

Actor/Role: MDM
Description: MDM creates a To Do to alert user that:
- an approval is required to process SIM and initiate SIO creation process,
- error occurred while processing Service Investigative Order
-Service Investigative Order has been discarded and Parent Activity (SIM) transitioned to error state

Process Plug-in enabled (Y/N)	**Available Algorithm(s):**	D1-SIM-APTD (Service Issue Monitor - Create Approval Required To Do Entry)
		D1-CTDEBOE (Create To Do Entry for BO in Error)
		D1-FAILPA (Fail Parent Activity)

Business Object (Y/N)	**Business Object**	D1-ServiceIssueMonitor
		DM_SIOActivity

Configuration required (Y/N)	**Entities to Configure:**	To Do Type, To Do Role

Group: SIO Approval
2.2 Review To Do

Actor/Role: MDM Authorized User
Description: MDM Authorized User reviews SIM to approve or reject SIO creation process.

Business Object (Y/N)	**Business Object**	D1-ServiceIssueMonitor

Group: SIO Approval
2.3 Approve SIO Creation

Actor/Role: MDM Authorized User
Description: MDM Authorized User approves SIO creation process.

Business Object (Y/N)	**Business Object**	D1-ServiceIssueMonitor

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Group: SIO Approval
Group: SIO 'Validation Error' Exception Process
Group: SIM 'Processing Error' Exception Process
2.4 Complete To Do

Actor/Role: MDM
Description: MDM finds non-completed To Do entries and completes them before reprocessing.

Process Plug-in enabled (Y/N)	**Available Algorithm(s):**	F1-TODOCOMPL (Generic To Do Completion)

Business Object (Y/N)	**Business Object**	D1-ServiceIssueMonitor
		DM_SIOActivity

Group: SIO Approval
2.5 Reject SIO Creation

Actor/Role: MDM Authorized User
Description: MDM Authorized User makes a request to reject SIO creation process.

Business Object (Y/N)	**Business Object**	D1-ServiceIssueMonitor

2.6 Initiate SIO Process and Transition SIM to Processed State

Actor/Role: MDM
Description: MDM initiates process to create SIO and transitions SIM to processed state.

Process Plug-in enabled (Y/N)	**Available Algorithm(s):**	D1-CRE-SIO (Create Service Investigative Order)

Business Object (Y/N)	**Business Object**	D1-ServiceIssueMonitor

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Group: Manage Activity and Send SIO
2.7 Preprocess and Create SIO in Pending State

Actor/Role: MDM
Description: MDM performs pre-processing to determine activity type, related SIM, and determine required data to create SIO in pending state.

Process Plug-in enabled (Y/N)	**Available Algorithm(s):**	D1-CRAINFO (Command Request Activity Information)
		D1-DETACTTYP (Determine Activity Type)
		DM_RETRELSIM (Retrieve the related Service Issue Monitor)
		DM_DFLTEVTS (Default Events from Monitor)
		DM_DFLTDVC (Default the Device based upon the SP)
Business Object (Y/N)	**Business Object**	DM_SIOActivity
Configuration required (Y/N)	**Entities to Configure:**	SIO Activity Type

Group: Manage Activity and Send SIO
Group: Perform Validations
2.8 Validate Ability to Process SIO and Transition to Validate State

Actor/Role: MDM
Description: MDM performs validations to process SIO outbound communication and transitions it to validate state.

Process Plug-in enabled (Y/N)	**Available Algorithm(s):**	D1-VALACTTDI (Validate Activity Type and Transition to Error State If Invalid)
Business Object (Y/N)	**Business Object**	DM_SIOActivity
Configuration required (Y/N)	**Entities to Configure:**	SIO Activity Type

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Group: Manage Activity and Send SIO
Group: Perform Validations
2.9 Log Error and Transition SIO to Validation Error State

Actor/Role: MDM
Description: If any error occurs during validations, MDM logs error and transitions SIO to Validation Error state.

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

Group: Manage Activity and Send SIO
3.0 Populate Message Details and Transition to Processed State

Actor/Role: MDM
Description: MDM transitions SIO to 'Processed' state and populates message details to be sent to Third Party Workforce Management application.

Process Plug-in enabled (Y/N)	**Available Algorithm(s):**	DM_SENDSIO (Send Service Investigative Order to Subscribers)

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

Group: Manage Activity and Send SIO
3.1 Create and Send SIO Outbound Communication Message

Actor/Role: MDM
Description: MDM creates SIO outbound communication message and sends it to Third Party Workforce Management Application.

Process Plug-in enabled (Y/N)	**Available Algorithm(s):**	DM_SENDSIO (Send Service Investigative Order to Subscribers)

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

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Group: Manage Activity and Send SIO
3.2 Generate, Transform, and Send SIO Message

Actor/Role: Integration
Description: Integration Layer receives outbound communication message from MDM and generates, transforms, and sends the message to Third Party Workforce Management application in required format.

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

3.3 Process SIO Message and Communicate with Crew

Actor/Role: Third Party Work Force Management Application
Description: Third Party Work Force Management Applications receives communication from Integration layer, processes SIO message and sends SIO to crew in field to investigate Service Point.

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

3.4 Perform Work

Actor/Role: Crew
Description: Crew visits Service Point, investigates and initiates respective field work action.

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

Group: Manage Activity and Send SIO
3.5 Send Acknowledgement

Actor/Role: Integration
Description: Integration layer sends an acknowledgement to MDM on receipt of SIO outbound communication from MDM.

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

Group: Manage Activity and Send SIO
3.6 Update Log with Results

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Actor/Role: MDM
Description: MDM based on acknowledgement received from Integration layer updates its log with results.

3.7 Analyze Error and Work To Do

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

Business Object (Y/N)	Business Object
	DM_SIOActivity
	D1-ServiceIssueMonitor

Group: SIO 'Validation Error' Exception Process

3.8 Request to Delete SIO

Actor/Role: MDM Authorized User
Description: If MDM Authorized User determines that the SIO Outbound Communication is not required, Authorized User can request to delete it.

Group: SIO 'Validation Error' Exception Process

3.9 Delete SIO

Actor/Role: MDM
Description: MDM deletes SIO from the system.

Business Object (Y/N)	Business Object
	DM_SIOActivity

Group: SIO 'Validation Error' Exception Process

4.0 Request to Discard SIO

Actor/Role: MDM Authorized User

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

Note: When SIO is discarded, it is not removed from the system completely i.e. the record still exists in the database.

Group: SIO 'Validation Error' Exception Process
4.1 Discard and Transition SIO to Discard State

Actor/Role: MDM
Description: MDM discards SIO and transitions SIO to discard state.

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

Group: SIO 'Validation Error' Exception Process
4.2 Transition SIM to Processing Error State

Actor/Role: MDM
Description: MDM creates a To Do and transitions SIM i.e. parent activity of SIO to processing error state.

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

Group: SIO 'Validation Error' Exception Process
4.3 Request to Revalidate

Actor/Role: MDM Authorized User
Description: MDM Authorized User, if determines to reprocess SIO Outbound communication, requests to revalidate SIO.

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

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

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Group: SIO 'Validation Error' Exception Process
4.4 Transition SIO Activity to Validate State and Initialize Reprocessing

Actor/Role: MDM
Description: MDM transitions SIO activity to validate state and initiate to revalidate it.

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

Group: SIO 'Validation Error' Exception Process
4.5 Identify SIO Activity in Validation Error State

Actor/Role: MDM
Description: MDM identifies SIO activity in Validation Error state.

Business Object (Y)	**Business Object**	DM_SIOActivity
Customizable process (N)	**Process Name**	Service Task Monitor(Deferred)

4.6 Evaluate Criteria to Run Automated Retry Process

Actor/Role: MDM
Description: MDM evaluates criteria to run automated retry process. A Batch process is configured for this.

Business Object (Y)	**Business Object**	DM_SIOActivity
Configuration required (Y/N)	**Entities to Configure:**	Batch parameters

Group: SIM 'Processing Error' Exception Process
4.7 Request to Delete SIM

Actor/Role: MDM Authorized User

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Description: If MDM Authorized User determines that the SIM is not required, Authorized User can request to delete it.

Business Object (Y)	**Business Object**	D1-ServiceIssueMonitor

Group: SIM 'Processing Error' Exception Process
4.8 Delete SIM

Actor/Role: MDM
Description: MDM deletes SIM from the system.

Business Object (Y)	**Business Object**	D1-ServiceIssueMonitor

Group: SIM 'Processing Error' Exception Process
4.9 Request to Discard SIM

Actor/Role: MDM
Description: MDM Authorized User, if determines that the SIM is not required, Authorized User can request to discard it.

Note: When SIM is discarded, it is not removed from the system completely, i.e. the record still exists in the database.

Business Object (Y)	**Business Object**	D1-ServiceIssueMonitor

Group: SIM 'Processing Error' Exception Process
5.0 Request to Retry Creating Service Issue Order

Actor/Role: MDM
Description: MDM Authorized User, if determines to reprocess SIM to initiate SIO process, requests to retry SIM.

Process Plug-in enabled (Y/N)	**Available Algorithm(s):**	F1-AT-RQJ (Transition to Default Next Status (Java))

Business Object (Y)	**Business Object**	D1-ServiceIssueMonitor

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Group: SIM 'Processing Error' Exception Process
5.1 Transition SIM to Processed State and Initialize Reprocessing

Actor/Role: MDM
Description: MDM transitions SIM to processed state and initiates reprocess.

Business Object (Y)	**Business Object**	D1-ServiceIssueMonitor

Group: SIM 'Processing Error' Exception Process
5.2 Identify SIM in Processing Error State

Actor/Role: MDM
Description: MDM identifies SIM in Processing Error state.

Business Object (Y)	**Business Object**	D1-ServiceIssueMonitor
Customizable process (N)	**Process Name**	Service Task Monitor(Deferred)

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Test Documentation related to the Current Process

ID	Document Name	Test Type

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Document Control

Change Record

Date	Author	Version	Change Reference
6/8/2015	Srinivas Rao Kanteti	1	Initial Draft
11/17/2015	Walter Wolanski		Review
11/18/2015	Galina Polonsky		Review and Approve

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Attachments

Service Issue Monitor BO Lifecycle

Service Issue Monitor BO Lifecycle

Service Investigative Order BO Lifecycle

Service Investigative Order BO Lifecycle

SIM Type Reference

SIM Type Reference

Service Task Type

Service Task Type

SIO Activity Type

SIO Activity Type

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