DS.140 Integration Design Specification



Emergency GRN Integration

SCM\_RICE\_353

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**Approvals:**

| <Approver 1> | <Rakesh Khanna / Naushad / Amit> |
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# Document Control

## Change Record

| **Date** | **Author** | **Version** | **Change Reference** |
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## Reviewers

| **Name** | **Position** |
| --- | --- |
| FHL Business | Business User |
| FHL IT Group | Fortis IT Team |
|  |  |
|  |  |

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# Introduction

### Scope for this Document

This analysis specification document is prepared to layout the Emergency GRN integration.

### Intended Audience

This document is intended for the following groups to provide the action items and consideration that are required to complete the implementation of the various Supply Chain and Finance related functionalities from Oracle Fusion.

#### Fortis Business Users

This document will be helpful for Fortis Business users to understand the technical design and process change with the new structure implemented in Oracle. The business user will validate this document after the verification of the requirement.

#### PwC Technical Team

The PwC technical team will use this document as a source technical design document to develop the technical solution to implement / deploy in Oracle Fusion.

#### Fortis IT Team

The Fortis IT Team must facilitate the PwC technical team for requisite details and other elements required from Business. The Fortis IT team is also responsible to arrange and provide required technical information wherever is required.

# Overview

Fortis Healthcare Limited (FHL) is a chain of hospitals, headquartered in India. Fortis started its health care operations from Mohali where first Fortis hospital was started. Later, the hospital chain purchased the healthcare branch of the Escorts group and increased its strength in various parts of the country. The Fortis health care also operates its hospital in Vasant Kunj, Faridabad, Gurgaon. The FMRI hospital at Gurgaon is the headquarter of Fortis healthcare with all the major facilities at the hospital.

This specification document is prepared to layout the design of the custom integration to create the emergency GRN for emergency PR/PO. Oracle PaaS DBCS has been used to process the same along with OIC.

## Business Objectives

The following are the business objectives.

1. To have a secure, reliable, and scalable design flow to validate and create the Emergency GRN for emergency PR.
2. To have a solution providing the monitoring capabilities.

## Major Features

The proposed solution will have the following features involved:

1. OIC integration invokes PLSQL package from Oracle DBCS to create emergency GRN.
2. The OIC integrations also make an entry in a table in a PaaS DBCS for monitoring purpose.

## Glossary

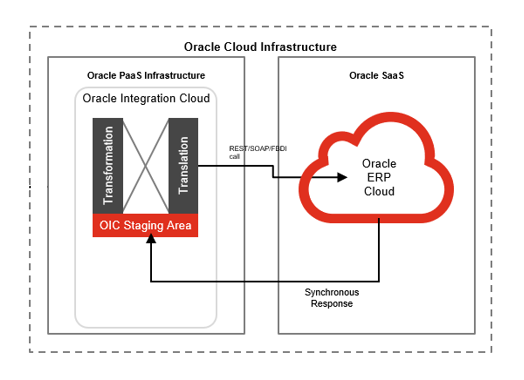
**REST**

Representational State Transfer.

**OIC**

Oracle Integration Cloud

# High-Level Fusion Integration flow



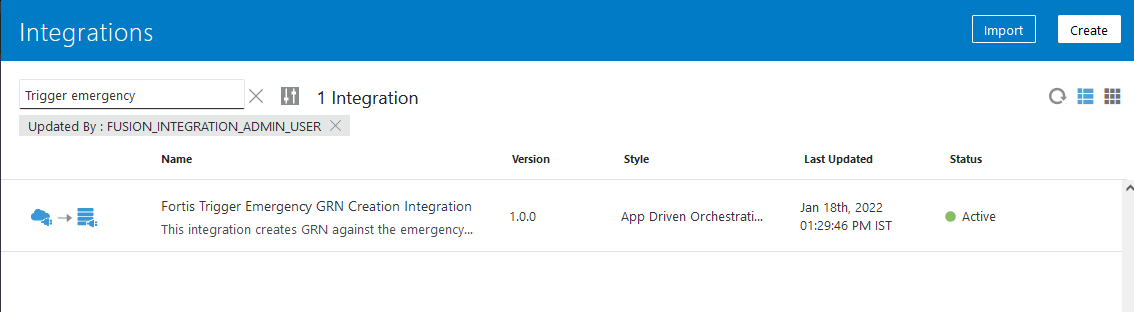
# Technical Design Details

This section describes the technical details of all the components involved in the design of emergency GRN integration.

## OIC Services

An App driven orchestration has been designed in OIC to build a REST Endpoint URL:

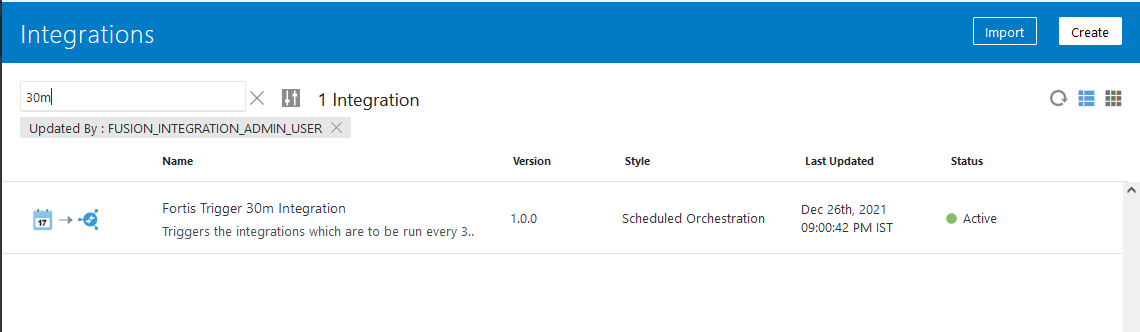
| **OIC Integration Name** | Fortis Trigger Emergency GRN Creation Integration |
| --- | --- |
| **OIC REST Endpoint URL** | <https://oic-prod-nr5lr39yailj-bo.integration.ocp.oraclecloud.com:443/ic/api/integration/v1/flows/rest/FORTI_TRIGG_EMER_GRN_CREAT_INTG/1.0/emergencyGRN/> |
| **Method** | POST |



This is an app driven integration which is invoked via a following common scheduled OIC integration:

| **OIC Integration Name** | Fortis Trigger 30m Integration |
| --- | --- |
| **OIC REST Endpoint URL** | [NA](https://oic-prod-nr5lr39yailj-bo.integration.ocp.oraclecloud.com:443/ic/api/integration/v1/flows/rest/FORTIS_TRIG_GRN_PUT_AWAY_TXN_INT/1.0/grnPutAway/) |
| **Method** | NA |
| **Frequency** | Scheduled every 30 minutes |

This wrapper scheduled integration has been configured due to the limit of scheduled integrations within OIC. Hence all the required scheduled integrations have been clubbed together as per their required frequency.



## Oracle PaaS DBCS components

This integration design uses the following components from Oracle PaaS DBCS:

| **DB Component** | **Component name** | **Details** |
| --- | --- | --- |
| **Tables** | XXFH\_EMERGENCY\_GRN\_TBL | This table stores all the GRN entries which are processed by this integration. |
| **Package** | XXFH\_EMERGENCY\_GRN\_PKG | This package is used to create the emergency GRN |

## Technical flow

Following is the complete technical flow for this integration design:

1. A common scheduled OIC integration (Fortis Trigger 30m Integration) invokes this Emergency GRN integration at every 30 minutes.
2. The OIC integration invokes procedure: XXFH\_EMERGENCY\_GRN\_PKG.XXFH\_CREATE\_GRN\_PRC by passing the OIC Flow id as an input parameter.
3. This procedure from DBCS fetches eligible emergency PR & PO for which GRN is not yet created in the system using the following query:

SELECT hru.name BU\_Name,

pha.segment1 PO\_NUMBER,

-- psv.vendor\_name,

pha.vendor\_id,

(SELECT pssv.vendor\_site\_code

FROM XXFH\_POZ\_SUPPLIER\_SITES\_V pssv

WHERE pssv.vendor\_id = pha.vendor\_id

AND pssv.vendor\_site\_id = pha.vendor\_site\_id)

vendor\_site\_code,

(SELECT item\_number

FROM xxfh\_egp\_system\_items\_b esib

WHERE esib.inventory\_item\_id = pla.item\_id AND ROWNUM = 1)

item\_number,

oot.organization\_code,

pla.line\_num,

plla.shipment\_num,

pha.po\_header\_id,

(plla.quantity - plla.quantity\_received) quantity,

pla.uom\_code,

--iild.subinventory\_code,

(SELECT eieb.ATTRIBUTE\_CHAR3 subinventory\_code

FROM xxfh\_ego\_item\_eff\_b eieb

WHERE eieb.context\_code LIKE 'Unit%Param%'

AND eieb.acd\_type = 'PROD'

AND pla.item\_id = eieb.inventory\_item\_id

AND oot.organization\_id = eieb.organization\_id

AND eieb.object\_version\_number =

(SELECT MAX (eieb1.object\_version\_number)

FROM xxfh\_ego\_item\_eff\_b eieb1

WHERE eieb.inventory\_item\_id =

eieb1.inventory\_item\_id

AND eieb.organization\_id =

eieb1.organization\_id

AND eieb.context\_code =

eieb1.context\_code

AND eieb.acd\_type = eieb1.acd\_type

AND eieb.category\_code =

eieb1.category\_code))

subinventory\_code,

prla.attribute1 SUPPLIER\_BATCH,

prla.ATTRIBUTE\_DATE1 --TO\_CHAR (prla.ATTRIBUTE\_DATE1, 'YYYY-MM-DD')

SUPPLIER\_BATCH\_EXPIRY\_DATE,

-- pla.unit\_price,

prha.requisition\_number,

prha.requisition\_header\_id,

prla.attribute2 security\_gate\_number,

prla.ATTRIBUTE\_DATE2 security\_gate\_entry\_date,

prla.ATTRIBUTE3 tax\_invoice\_num,

prla.ATTRIBUTE\_DATE3 tax\_invoice\_date,

prla.ATTRIBUTE\_NUMBER1 unit\_price

FROM xxfh\_po\_headers\_all pha,

xxfh\_hr\_operating\_units hru,

xxfh\_por\_requisition\_headers\_all prha,

xxfh\_por\_requisition\_lines\_all prla,

-- xxfh\_poz\_suppliers\_v psv,

xxfh\_po\_lines\_all pla,

xxfh\_org\_organization\_tbl oot,

xxfh\_po\_line\_locations\_all plla

-- ,xxfh\_INV\_ITEM\_LOC\_DEFAULTS iild

WHERE pha.prc\_bu\_id = hru.organization\_id

AND prha.requisition\_header\_id = prla.requisition\_header\_id

AND prla.po\_header\_id = pha.po\_header\_id

AND prha.emergency\_po\_number = pha.segment1

AND NVL (prha.EMERGENCY\_REQ\_FLAG, 'N') = 'Y'

AND prla.attribute1 IS NOT NULL

AND pha.document\_status = 'OPEN'

-- AND pha.vendor\_id = psv.vendor\_id

AND pha.po\_header\_id = pla.po\_header\_id

AND prla.po\_line\_id = pla.po\_line\_id

AND prla.destination\_organization\_id = oot.organization\_id

AND pla.po\_line\_id = plla.po\_line\_id

AND plla.po\_header\_id = pha.po\_header\_id

AND plla.quantity - plla.quantity\_received > 0

ORDER BY pha.creation\_date;

1. Following REST API is used to create the emergency GRN:

| REST API URL | https://fa-ermg-saasfaprod1.fa.ocs.oraclecloud.com/fscmRestApi/resources/11.13.18.05/receivingReceiptRequests |
| --- | --- |
| Method | POST |
| Request Payload | {  "ReceiptSourceCode": "VENDOR",  "VendorName": "LOCAL EMERGENCY SUPPLIER",  "VendorSiteCode": "EMERGENCY",  "OrganizationCode": "GGD",  "BusinessUnit": "FHsL - Gurgaon (FMRI)",  "DFF": [  {  "securityInwardNumber": "132513",  "securityInwardDate": "2021-12-17"  }  ],  "lines": [  {  "ReceiptSourceCode": "VENDOR",  "SourceDocumentCode": "PO",  "TransactionType": "RECEIVE",  "AutoTransactCode": "DELIVER",  "DocumentNumber": "110022008464",  "OrganizationCode": "GGD",  "DocumentLineNumber": "1",  "DocumentShipmentLineNumber": "1",  "ItemNumber": "PH0148519",  "POHeaderId": "300000060146555",  "PrimaryQuantity": "1",  "Quantity": "1",  "UOMCode": "S15",  "Subinventory": "GGD057",  "TaxInvoiceNumber": "144211",  "TaxInvoiceDate": "2021-12-17",  "transactionDFF": [  {  "supplierLotNumber":"N2102718",  "lotExpirationDate":"2024-08-01",  "lotMrp":"428"  }  ],  "lotItemLots": [  {  "TransactionQuantity": "1",  "LotNumber": "N2102718#414",  "LotExpirationDate": "2024-08-01",  "lotNumbersDFF": [  {  "\_\_FLEX\_Context": null,  "\_\_FLEX\_Context\_DisplayValue": null,  "batchMrp": "428",  "supplierBatchNumber":"N2102718"  }  ]  }  ]  }  ]  } |
| Response Payload | {  "HeaderInterfaceId" : 300000178129560,  "ASNType" : "STD",  "CreatedBy" : "FUSION\_INTEGRATION\_ADMIN\_USER",  "CreationDate" : "2022-06-13T13:52:42.001+00:00",  "LastUpdateDate" : "2022-06-13T13:52:42.033+00:00",  "LastUpdatedBy" : "FUSION\_INTEGRATION\_ADMIN\_USER",  "ReceiptSourceCode" : "VENDOR",  "TransactionDate" : null,  "ShipmentNumber" : null,  "ReceiptNumber" : "10021019263",  "ReceiptHeaderId" : 994801,  "VendorName" : "LOCAL EMERGENCY SUPPLIER",  "VendorNumber" : "18940",  "VendorId" : 300000015677516,  "VendorSiteCode" : "EMERGENCY",  "VendorSiteId" : 300000028890304,  "BusinessUnitId" : 300000002889556,  "BusinessUnit" : "FHL - Mohali",  "OrganizationCode" : "MOD",  "OrganizationId" : 300000004056594,  "ShippedDate" : null,  "ExpectedReceiptDate" : "2022-06-13T13:52:42+00:00",  "FreightTerms" : null,  "FreightCarrierId" : null,  "FreightCarrierName" : null,  "NumberOfPackingUnits" : null,  "BillOfLading" : null,  "WaybillAirbillNumber" : null,  "PackingSlip" : null,  "PackagingCode" : null,  "SpecialHandlingCode" : null,  "TarWeight" : null,  "TarWeightUOMCode" : null,  "TarWeightUnitOfMeasure" : null,  "NetWeight" : null,  "NetWeightUOMCode" : null,  "NetWeightUnitOfMeasure" : null,  "Comments" : null,  "CustomerPartyName" : null,  "CustomerPartyNumber" : null,  "CustomerId" : null,  "EmployeeName" : "User, Integration",  "EmployeeId" : 300000016319474,  "FromOrganizationCode" : null,  "FromOrganizationId" : null,  "RMASourceSystemId" : null,  "RMASourceSystemName" : null,  "GroupId" : 2233910,  "ProcessingStatusCode" : "SUCCESS",  "GLDate" : "2022-06-13",  "InvoiceDate" : null,  "InvoiceNumber" : null,  "TotalInvoiceAmount" : null,  "FreightAmount" : null,  "TaxAmount" : null,  "PaymentTermsId" : null,  "PaymentTermsName" : null,  "CurrencyCode" : null,  "InsertAndProcessFlag" : "true",  "ReturnStatus" : "SUCCESS",  "SaveAndSubmitFlag" : "false",  "ExternalSystemTransactionReference" : null,  "lines" : [ { } ],  "DFF" : [ {  "HeaderInterfaceId" : 300000178129560,  "securityInwardNumber" : "7786",  "securityInwardDate" : "2022-06-13",  "\_\_FLEX\_Context" : null,  "\_\_FLEX\_Context\_DisplayValue" : null,  "links" : [ {  "rel" : "self",  "href" : "https://fa-ermg-saasfaprod1.fa.ocs.oraclecloud.com:443/fscmRestApi/resources/11.13.18.05/receivingReceiptRequests/300000178129560/child/DFF/300000178129560",  "name" : "DFF",  "kind" : "item",  "properties" : {  "changeIndicator" : "ACED0005737200136A6176612E7574696C2E41727261794C6973747881D21D99C7619D03000149000473697A65787000000001770400000001737200116A6176612E6C616E672E496E746567657212E2A0A4F781873802000149000576616C7565787200106A6176612E6C616E672E4E756D62657286AC951D0B94E08B02000078700000000178"  }  }, {  "rel" : "canonical",  "href" : "https://fa-ermg-saasfaprod1.fa.ocs.oraclecloud.com:443/fscmRestApi/resources/11.13.18.05/receivingReceiptRequests/300000178129560/child/DFF/300000178129560",  "name" : "DFF",  "kind" : "item"  }, {  "rel" : "parent",  "href" : "https://fa-ermg-saasfaprod1.fa.ocs.oraclecloud.com:443/fscmRestApi/resources/11.13.18.05/receivingReceiptRequests/300000178129560",  "name" : "receivingReceiptRequests",  "kind" : "item"  }, {  "rel" : "lov",  "href" : "https://fa-ermg-saasfaprod1.fa.ocs.oraclecloud.com:443/fscmRestApi/resources/11.13.18.05/receivingReceiptRequests/300000178129560/child/DFF/300000178129560/lov/LVVO\_\_\_FLEX\_Context",  "name" : "LVVO\_\_\_FLEX\_Context",  "kind" : "collection"  } ]  } ],  "links" : [ {  "rel" : "self",  "href" : "https://fa-ermg-saasfaprod1.fa.ocs.oraclecloud.com:443/fscmRestApi/resources/11.13.18.05/receivingReceiptRequests/300000178129560",  "name" : "receivingReceiptRequests",  "kind" : "item",  "properties" : {  "changeIndicator" : "ACED0005737200136A6176612E7574696C2E41727261794C6973747881D21D99C7619D03000149000473697A65787000000001770400000001737200116A6176612E6C616E672E496E746567657212E2A0A4F781873802000149000576616C7565787200106A6176612E6C616E672E4E756D62657286AC951D0B94E08B02000078700000000178"  }  }, {  "rel" : "canonical",  "href" : "https://fa-ermg-saasfaprod1.fa.ocs.oraclecloud.com:443/fscmRestApi/resources/11.13.18.05/receivingReceiptRequests/300000178129560",  "name" : "receivingReceiptRequests",  "kind" : "item"  }, {  "rel" : "child",  "href" : "https://fa-ermg-saasfaprod1.fa.ocs.oraclecloud.com:443/fscmRestApi/resources/11.13.18.05/receivingReceiptRequests/300000178129560/child/DFF",  "name" : "DFF",  "kind" : "collection"  }, {  "rel" : "child",  "href" : "https://fa-ermg-saasfaprod1.fa.ocs.oraclecloud.com:443/fscmRestApi/resources/11.13.18.05/receivingReceiptRequests/300000178129560/child/attachments",  "name" : "attachments",  "kind" : "collection"  }, {  "rel" : "child",  "href" : "https://fa-ermg-saasfaprod1.fa.ocs.oraclecloud.com:443/fscmRestApi/resources/11.13.18.05/receivingReceiptRequests/300000178129560/child/lines",  "name" : "lines",  "kind" : "collection"  } ]  } |

1. In case, a GRN could not be created, then it is tried to be created only 2 times.
2. If Supplier batch expiry date (entered on the emergency PR DFF) is within the next 6 months, then it’s GRN is not created as store manager must manually create such GRNs.
3. This GRN creation is a single step process as the shipping routing method has been set as “Direct” at the supplier site level.

**Server details:**

| **Server** | **Host name** | **Port** | **Service Name** | **Username** |
| --- | --- | --- | --- | --- |
| Oracle PaaS DB | 140.238.225.129 | 1521 | PRODPDB1.fhpubsn.fhvcn.oraclevcn.com | XXFH & XXFH\_RO |

**Oracle PaaS Table design:**

* + - 1. Table: XXFH\_EMERGENCY\_GRN \_TBL

| **S.No.** | **Table Column** | **Data type** | **Length** | **Remarks** |
| --- | --- | --- | --- | --- |
| 1 | OIC\_FLOW\_ID | NUMBER | 22 |  |
| 2 | GRN\_TXN\_ID | NUMBER | 22 |  |
| 3 | REQUISITION\_NUM | VARCHAR2 | 50 |  |
| 4 | REQ\_HEADER\_ID | NUMBER | 22 |  |
| 5 | PO\_NUMBER | VARCHAR2 | 50 |  |
| 6 | PO\_HEADER\_ID | NUMBER | 22 |  |
| 7 | BU\_NAME | VARCHAR2 | 100 |  |
| 8 | DESTINATION\_ORG\_CODE | VARCHAR2 | 30 |  |
| 9 | LINE\_NUM | NUMBER | 22 |  |
| 10 | QUANTITY | NUMBER | 22 |  |
| 11 | UOM\_CODE | VARCHAR2 | 20 |  |
| 12 | SUBINVENTORY\_CODE | VARCHAR2 | 50 |  |
| 13 | SUPPLIER\_BATCH | VARCHAR2 | 50 |  |
| 14 | SUPPLIER\_BATCH\_EXPIRY\_DATE | DATE | 7 |  |
| 15 | UNIT\_PRICE | NUMBER | 22 |  |
| 16 | LOT\_NUMBER | VARCHAR2 | 100 |  |
| 17 | STORE\_MANAGER\_EMAIL | VARCHAR2 | 50 |  |
| 18 | PROCESS\_FLAG | VARCHAR2 | 1 |  |
| 19 | ERROR\_MESSAGE | VARCHAR2 | 4000 |  |
| 20 | REQUEST\_PAYLOAD | CLOB | 4000 |  |
| 21 | API\_STATUS\_CODE | VARCHAR2 | 30 |  |
| 22 | API\_RESPONSE | CLOB | 4000 |  |
| 23 | CREATION\_DATE | DATE | 7 |  |
| 24 | CREATED\_BY | VARCHAR2 | 20 |  |
| 25 | LAST\_UPDATE\_DATE | DATE | 7 |  |
| 26 | LAST\_UPDATED\_BY | VARCHAR2 | 20 |  |



# Data FIELD Mapping

NA

## File format

NA

## Frequency

The GRN Put away integration is scheduled to run every 30 minutes.

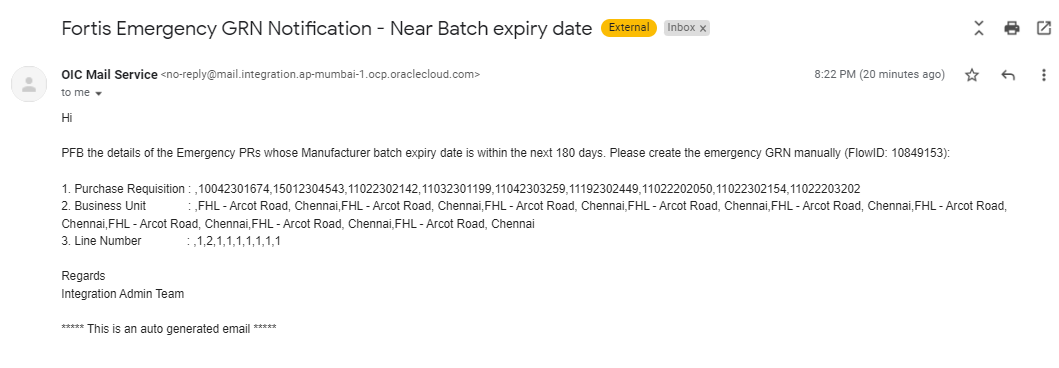
# Exception handling

There can be various scenarios for an error to occur. This section defines those error scenarios, and the exception handling has been done to notify and act accordingly.

## Scenarios

In a tabular format give list of scenarios and exception handling

* If any of the step or node fails within the OIC integration, Global Fault section is configured within this OIC integration to send an OIC error notification with relevant details.
* The email id has been stored in OIC Lookup: Fortis\_FaultNotification\_EmailAddress\_Lookup against the given OIC integration name.
* It also sends a notification every 10 minutes with the details of the GRN which have been processed in the given run. This notification also acts as a confirmation that the integration has been running fine.



# Assumptions / Considerations

The Proposed Solution will have the following technical considerations.

In the future, if any product bug arises in functionality then this process needs to be revisited after the bug is fixed.

# Open and Closed Issues

## Open Issues

| **ID** | **Issue** | **Resolution** | **Responsibility** | **Target Date** | **Impact Date** |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

## Closed Issues

| **ID** | **Issue** | **Resolution** | **Responsibility** | **Target Date** | **Impact Date** |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
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