Shaw Cloud ERP Program

Functional Specifications (Interface)

LOG-INT-18

Oracle Cloud ERP to Logfire to Interface: Point of Sales (POS)

Document Control Information

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**Note**: Reviewer and approver information will be stored within each functional spec folder on the SharePoint site.

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# Interface Overview

## Business Object Overview / Scope Definition

The POS interface will be used to increase or decrease inventory within Logfire from a transaction starting from CBS/Oracle. This interface will support multiple business scenarios:

1. CPE Fulfilment Major to Minor
2. CPE Fulfilment Major/Minor to Tech
3. CPE Return Tech/Minor to Minor/Major
4. Non-CPE Fulfilment Major to Minor/Tech
5. NPE Fulfilment Major to Tech
6. Expense Fulfilment Major to Tech
7. Kitting Backflush of Serialized Items
8. ~~Direct Fulfilment –~~ **~~ON HOLD~~**

The table below provides a high-level summary of the interfaces included in this integration, including the interfacing systems, interface patterns and frequency:

| Interfacing Systems | Frequency | Volume | Direction |
| --- | --- | --- | --- |
| Oracle ERP Cloud System  And Logfire | Real Time | High | Inbound |

Table 1: Interface Details

## Assumptions

1. POS interface will only decrease inventory from locations with unpacked LPN’s (active locations).
2. Logfire only handles four unit of measures. All items will come in with the base unit (EA) in Logfire regardless of the UOM in Oracle. Subsequent transactions that will be sent back to Oracle will be completed in the primary UOM.

Example:

|  |  |  |
| --- | --- | --- |
| **Oracle Item UOM** | **Logfire UOM** | **Transactions back to Oracle** |
| MM | EA | MM |

1. Currently, the POS interface only works for non-serialized items. Oracle will be providing a fix for serialized items early 2018. Development can be started for POS interfaces for both types of items but we can only test the interface for non-serialized items until the fix is provided.
2. Ability to increase and decrease quantities from Oracle to Logfire using the POS interface.

## Dependencies and Prerequisites

1. The required application configuration / setup for both the source and target systems will be completed prior to unit testing this integration
2. All data translations would be identified and mapped before Technical design
3. Kitting BOM will be maintained in Oracle. The BOM items must exist in all systems including ERP.

# Interface Process Description

## Business Process/Logic Flow Diagram

***CPE Fulfilment Major to Minor***

Movement of CPE inventory from Major to Minor. A Transfer Order (via an Internal Requisition, Min Max, etc.) will be generated in Oracle with the shipment occurring in Logfire. Upon Ship Confirmation the Transfer Order will be auto-received and the POS interface will deplete inventory in the Minor in Logfire. Details of these transactions will be interfaced to Oracle and then CBS appropriately.

***CPE Fulfilment Major/Minor to Tech***

Movement of CPE inventory from Major to Technician. When a Technician arrives at the Major for inventory, a transaction will be done in CBS which will result in a Direct Org Transfer in Oracle. This transaction in Oracle will then trigger the POS interface to decrease the inventory in the Major or Minor.

***CPE Return Tech to Minor/Major***

Return of inventory from Tech to Minor/Major. Physical receipt will occur in CBS with the item number and serial number combination validated in Oracle ultimately resulting in a Direct Org Transfer. Details of these transactions will be interfaced to Logfire. The POS interface will be used to increase inventory in the destination organization (Minor/Major)

***CPE Return Minor to Minor/Major***

Return of inventory from Minor to Minor/Major. Physical receipt will occur in CBS with the item number and serial number combination validated in Oracle ultimately resulting in a Direct Org Transfer. Details of these transactions will be interfaced to Logfire. The POS interface will be used to increase inventory in the destination organization (Minor/Major) and decrease inventory in the Minor within Logfire.

***Non-CPE Fulfilment Major to Minor/Tech***

Movement of non-CPE inventory from Major to Minor or Tech. When a Technician arrives at the Major for inventory, units will be moved from a stock locator to a project locator resulting in a project issue in Oracle. The POS interface will deplete the inventory in the project locator and the details of this transaction will be interfaced to CBS appropriately. Items are not tracked once they are issued to a project to a Minor or Tech.

***NPE Fulfilment Major to Tech***

NPE transaction will start from CBS but the transaction will not be interfaced to Oracle. The rest of the process follows the Non-CPE fulfilment flow.

***Expense Fulfilment Major to Tech***

Movement of inventory from Major to Tech. When a Technician arrives at the Major for inventory, units will be moved from a stock locator to an expense locator resulting in an expense issue in Oracle. The POS interface will deplete the inventory in the expense locator and the details of this transaction will be interfaced to CBS appropriately. Items are no longer tracked once issued to a project to a Minor or Tech.

***Kitting Serial Backflush***

A miscellaneous receipt of the kitted items will come from Logfire to Oracle. This will increase the inventory of the kit while decreasing the kit component using the serial number coming from Logfire. This process is handled in LOG-INT-11. This interface will generate a file to decrease the kit component in Logfire so that both systems are in sync.

***~~Direct Fulfilment (Process On Hold)~~***

~~The direct fulfilment process will start from CBS and will ship to the end customer. This will flow into Oracle as a miscellaneous issue to decrease inventory with reference to the item, quantity, serial number, CBS Agent and CBS Account Number. This interface will be triggered to adjust the inventory in Logfire accordingly.~~

## Sample Data File

Pending

## Data Mapping Layout

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Logfire Column** | **Oracle Column** | **Format** | **Max length** | **Req** | **Notes** |
| facility\_code | Hardcode to “SHAW” | Alphanumeric | 20 | Yes | DC Code |
| company\_code | Based on the Inventory Org of the transaction | Alphanumeric | 20 | Yes | WMS Company Code |
| transaction\_type | See Business Rule #1 | Alphanumeric | 20 | Yes | SALE (negative transaction)/RETURN (positive transaction). Should Pass SALE or RETURN. Added the Format and Maxlength |
| transaction\_id | TRANSACTION\_ID FROM INV\_MATERIAL\_TXNS | Alphanumeric | 30 | Yes | Transaction ID |
| seq\_nbr | See Business Rule #3 | Number | 9 | Yes | Sequence Number |
| ref\_transaction\_id |  | Alphanumeric | 30 |  | Reference Transaction ID of the original SALE (required for transaction type=return and item that track attributes such as expiry date, batch or serial # which do not come with these attributes in interface) |
| ref\_seq\_nbr |  | Number | 9 |  | Reference Sequence Number of the original SALE (required for transaction type=return and item tracks attributes such as expiry date, batch or serial # which do not come with these attributes in interface)) |
| location | See Business Rule #1 | Alphanumeric | 30 |  | Location barcode where inventory should be added/decremented |
| item\_alternate\_code | INVENTORY\_ITEM\_ID FROM INV\_MATERIAL\_TXNS | Alphanumeric | 130 |  | Item Alternate Code (Either Item Alternate Code or Parts should be provided) |
| item\_part\_a |  | Alphanumeric | 30 |  | SKU identification code first part |
| item\_part\_b |  | Alphanumeric | 30 |  | SKU identification code other parts |
| item\_part\_c |  | Alphanumeric | 20 |  | SKU identification code other parts |
| item\_part\_d |  | Alphanumeric | 20 |  | SKU identification code other parts |
| item\_part\_e |  | Alphanumeric | 10 |  | SKU identification code other parts |
| item\_part\_f |  | Alphanumeric | 10 |  | SKU identification code other parts |
| invn\_attr\_a |  | Alphanumeric | 75 |  | Attribute A |
| invn\_attr\_b |  | Alphanumeric | 75 |  | Attribute B |
| invn\_attr\_c |  | Alphanumeric | 75 |  | Attribute C |
| expiry\_date |  | Date | 14 |  | Expiration date of inventory. Optional. Format YYYYMMDD |
| batch\_nbr |  | Alphanumeric | 25 |  | Lot Number (Batch number) |
| serial\_nbr | SERIAL\_NUMBER FROM INV\_UNIT\_TRANSACTIONS VIA TRANSACTION\_ID FROM INV\_MATERIAL\_TXNS | Alphanumeric | 25 |  | Serial Number |
| quantity | PRIMARY\_QUANTITY FROM INV\_MATERIAL\_TXNS | Decimal | 10.3 | Yes | Quantity(10 Integer and 3 Decimal) (Earlier it was 12,3) |
| pos\_user |  | Alphanumeric | 30 |  | POS User which will be use to write INVENTORY HISTORY records or if not provided generic user which process interface will be use |
| invn\_attr\_d |  | Alphanumeric | 75 |  | Attribute D |
| invn\_attr\_e |  | Alphanumeric | 75 |  | Attribute E |
| invn\_attr\_f |  | Alphanumeric | 75 |  | Attribute F |
| invn\_attr\_g |  | Alphanumeric | 75 |  | Attribute G |

## Business Rules

1. The following table describes the transaction, Oracle Cloud ERP trigger points, whether the transaction will increase or decrease inventory and the location that will be affected:



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Process** | **Trigger Point** | **Oracle Transaction Type** | **POS Transaction Type** | **Logfire Location** |
| CPE Fulfilment Major to Minor | Auto Receipt of Transfer Order from Major to Minor Org | Transfer Order Interorganization Transfer (where Organization\_ID flexfield ATTRIBUTE3 is YES and transaction quantity is positive. | RETURN (Increase) | Minor > “S002” |
| CPE Fulfilment Major/Minor to Tech | Direct Org Transfer from Major/Minor Org to Tech | Whse to Float | SALE (Decrease) | Major/Minor > “S002” |
| CPE Return Tech to Minor/Major | Direct Org Transfer from Tech to Minor/Major | Float to Whse | RETURN (Increase) | Minor/Major > “RT002” |
| ~~CPE Return Minor to Minor/Major~~ | ~~Direct Org Transfer from Minor to Minor/Major~~ | ~~Float to Whse~~ | ~~SALE (Decrease)~~ | ~~Minor (Source Org) > “S002”~~ |
| ~~Float to Whse~~ | ~~RETURN (Increase)~~ | ~~Major > “S002”~~ |
| Non-CPE Fulfilment Major to Minor/Tech | Project Issue | Shaw Project Issue (when a Project Locator is present in ATTRIBUTE1) | SALE (Decrease) | Major > “PR” locations (ATTRIBUTE1) |
| NPE Fulfilment Major to Tech | Project Issue | Shaw Project Issue (when a Project Locator is present in ATTRIBUTE1) | SALE (Decrease) | Major > “PR” locations (ATTRIBUTE1) |
| Expense Fulfilment Major to Tech | Expense Issue | Account Alias Issue (when an Expense Locator is present in ATTRIBUTE1) | SALE (Decrease) | Major > “EX” locations  (ATTRIBUTE1) |
| Kitting Backflush of Serialized Items | Shaw WIP Assembly Completion | Shaw WIP Component Issue | SALE (Decrease) | DC > “WKITTING001” |

1. Locators will only be set-up in Logfire. If the inventory cannot be found in the location corresponding to the transaction above then the interface must determine where the item and serial number combination is within Logfire.
2. Generate Sequence Number starting at “1” with next number generation for each subsequent line with the same transaction ID.
   1. For example: Transaction A will have 1, 2, 3, 4, 5 as sequence numbers for each line (serial number), Transaction B will have 1, 2, 3, 4, 5 as well.
3. Location stemming from Shaw Project Issue and Shaw Expense Issue will either start with EX or PR as the area. The location should originate from the transaction in Oracle that first occurred in Logfire
   1. Example: 10 Item A is moved to PR-15122-1-TNO(PR is used to derive Project Issue, 15122 is the Project Number, 1 is the Task ID and TNO is the expenditure Org)
   2. This location is used to create Shaw Project Issue transaction in Oracle
   3. The resulting transaction should trigger the POS to deplete the 10 Item A in PR-15122-1-TNO within Logfire
4. Non-serialized item transactions should be grouped together into one POS transactions
   1. For example: Increase of 10 Item A should be 1 transaction
5. Serialized item transactions will be per serial number
   1. For example: Decrease of 5 Item B will be 5 separate transactions

## Cross Reference Lookups

N/A

## Expected Volume

Medium.

## Schedule

Real time based on the trigger points.

## Data Archival Requirements

None

# Application Setup Requirements

## Core Application Module Setup

Oracle ERP Cloud – Inventory Management

## Programs and Parameters

Pending <Technical team would be updating post functional team sign-off>

# Interface Reporting Requirements

## Data Validation

None

## Data Reconciliation

None

## Interface Controls Requirements

None

# Exception and Error Handling

Pending <To be added by Technical team>

| S.  No. | Error/Exception Code | | Error/Exception Type | Description | Handler |
| --- | --- | --- | --- | --- | --- |
|  |  |  | |  |  |
|  |  |  | |  |  |
|  |  |  | |  |  |
|  |  |  | |  |  |

## Reprocess Logic

If for some reason the outbound info fails, the error should be logged and appropriate notification should be sent to the Shaw team.

There should be a provision to reprocess the failed interface to have the appropriate inventory transaction in ERP cloud

## Notifications

Pending <Technical team>

# Functional Object Test Scenarios

|  |  |  |
| --- | --- | --- |
| Sr. No. | Condition to be Tested | Expected Result |
| 1 | CPE Fulfilment Major to Minor | Inventory increased in the Minor within Logfire. |
| 2 | CPE Fulfilment Major/Minor to Tech | Inventory decreased in the Major/Minor within Logfire. |
| 3 | CPE Return Tech to Minor/Major | Inventory increased in the Major/Minor within Logfire. |
| 4 | CPE Return Minor to Minor/Major | Inventory increased in the Major/Minor and decreased in the Minor (Source org) within Logfire. |
| 5 | Non-CPE Fulfilment Major to Minor/Tech | Inventory increased in the Minor within Logfire. |
| 6 | NPE Fulfilment Major to Tech | Inventory decreased in the Major within Logfire. |
| 7 | Expense Fulfilment Major to Tech | Inventory decreased in the Expense location within Logfire. |
| 8 | Kitting Backflush of Serialized Items | Inventory decreased in the WIP location within Logfire. |

# Open and Closed Issues

## Open Issues

<List open issues here>

| Issue ID | Description | Opened by | Responsible | Due Date |
| --- | --- | --- | --- | --- |
| 1 |  |  |  |  |
| 2 |  |  |  |  |
| 3 |  |  |  |  |

## Closed Issues

<List closed issues here>

| Issue ID | Description | Resolution | Signoff | Closed Date |
| --- | --- | --- | --- | --- |
| 1 |  |  |  |  |
| 2 |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |