

Enterprise IT

EIP Technical Specification

**NFS Migration (New Finance System)**

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Document Purpose and History

This technical specification is a living document and is not frozen before implementation. Instead it is updated any time useful design information is discovered that is relevant to the project.

For significant changes, such as changes to services interfaces or the database schema, dependent teams/vendors will be notified.

|  |  |  |  |
| --- | --- | --- | --- |
| Version | Date of Change | Person | Notes, Comments, Description |
| 0.1 | 12/8/2016 | Lakshmi Kannan | Initial version |
| 0.2 | 12/14/2016 | Lakshmi Kannan | 1. Payload field name changes 2. DB table column name changes 3. Added more design details 4. Addressed few action items 5. Cleaned up open issues |
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Approved by:

|  |  |
| --- | --- |
| System Project Delivery | Date |

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# Project Overview

The main goal of the project is for EIP to support a phased migration of EIP loans to a new finance system (NFS) powered by Oracle’s OFSLL product. Migration period begins after NFS go-live and ends in 6 months or possibly sooner after all EIP loans have been migrated.

## Teams Involved

EIP would be interfacing with the following teams/systems for application and data integration.

|  |  |
| --- | --- |
| **Team** | **Description** |
| EMMT | Extract team that will work on selecting the LOANs to be migrated from EIP and apply LOCK/UNLOCK and CLOSE EIP events for the LOANs that are migrating. |
| Oracle | Target system for the migration. |
| Loan Micro service | System of Record for LOAN data with bridging location information. This micro service is being added as part of NFS API project. |

## New Functionality

* **Provide ability to lock, unlock and close EIP loans that are being migrated to Oracle.**

## In Scope

* Active EIP Loans and POIP loans on Individual accounts.

## Out of Scope

* Leases
* B2B loans

## Assumptions

* EMMT process is responsible for updating LOAN Micro service *status* value for lock and unlock flows.
* EMMT process is responsible for updating LOAN Micro service *bridging location* value for close flows.
* In the unlock flow, EIP should be unlocked first and only if the unlock is successful in EIP, LOAN Micro service *status* should be updated.

## Traceability Matrix

The table in the Traceability Matrix section traces the technical design described in this document to the functional requirements in the FSD and the original requirements in the RP and PRD.

|  |  |  |  |
| --- | --- | --- | --- |
| **FSD #** | **FSD High Level Description** | **BRD #** | **Technical Specification Section#** |
| 1 |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

# Project Design

## Design Objectives

Provide scalable, high performing solution to handle LOCK, UNLOCK and CLOSE events during NFS migration.

## Risks

|  |  |
| --- | --- |
| 1 |  |
| 2 |  |

## Dependencies

|  |  |
| --- | --- |
| 1 | EMMT to insert LOCK, UNLOCK and CLOSE events to EIP Tibco EMS queue for processing. |
| *2* |  |
| *3* |  |
| *4* |  |
|  |  |
|  |  |

## System Design Changes





# Service Changes

## EIPBatchProcess

2 new operations will be added to EIPBatchProcess service to enable archiving and retrying of NFS migration events.

#### API changes

Archive Operation name: *archiveMigrationEvents*

No inputs.

Output: int – returns 0 for Success

Failures/Exceptions: throws BatchProcessException

Retry Operation name: *retryMigrationEvents*

No inputs.

Output: int – returns 0 for Success

Failures/Exceptions: throws BatchProcessException

#### Design Details

###### Archive Migration Events

This process will select the records to be archived from EIP\_MIGRATION\_TRACKING table based on the following logic -

* Select the EXTERNAL\_GUID that have been processed in the past weeks based on timestamp. If none found, return success.
* Check if all the records for the selected EXTERNAL\_GUID have a processed indicator of either Y or N.
* If yes, move them to the EIP\_ MIGRATION\_TRACKING\_ARCH table.
* Else, leave the records in the main table for later archival. (this is considered success as well)
* Commit the transaction.
* Return success code of 0.
* In case of any run time exceptions, throw BatchProcessException with the error message.

###### Retry Migration Events

This process will select the records that need to be retried from EIP\_ MIGRATION\_TRACKING table based on PROCESSED\_INDICATOR = N AND NUMBER\_OF\_ ATTEMPTS < 4 (configured value)

* 1. EIP property to be added: *max\_migration\_process\_attempts = 4*

1. If the retry event processing is successful, processed\_indicator in EIP\_ MIGRATION\_TRACKING table will be set to Y.
2. If the retry attempt is unsuccessful due to genuine EIP errors (say if the device moved to inactive state by the time the event was received from EMMT), processed\_indicator will be set to ‘N’ with the appropriate error message in EIP\_ERROR\_MESSAGE column. These are the cases that cannot succeed with retry attempts. These genuine errors will not be treated as failures hence success code 0 will be returned in the response.
3. If the retry attempt is unsuccessful due to system issues and if the total number of attempts is within the max, processed\_indicator will be left as ‘R’ to enable more retry attempts. If the max number of attempts (configured value for property *max\_migration\_process\_ attempts)* is reached, processed\_indicator will be set to “N” and the error message will be logged in EIP\_ERROR\_MESSAGE column in EIP\_ MIGRATION\_TRACKING table. If there are one or more errors of this type, BatchProcessException will be thrown in the response.
4. EIP\_MIGRATION\_TRACKING with rows as PROCESSED\_INDICATOR = ‘N’ and NUMBER\_OF\_ ATTEMPTS >= 4 will be monitored and handled manually by DevOps team.

# Other EIP impacts

## NFS events

#### Solution:

EIP will handle lock, unlock and close of an EIP device/plan using events

#### Design details:

1. A new Tibco EMS queue will be configured to process NFS events.
2. A new spring profile will be added to represent *migration-event-consumer* instances.
3. We will set up all instances in Silo A only to act as a consumer for this queue. Based on PLAB mock run results, if needed we can add more instances from Silo B and Silo C as needed.
4. We will handle these events in bulk. One message payload can contain information up to a max of 1000 devices.
5. Payload format:

{   
   "eventType":"LOCK",  
   "eventTimeStamp":"systimestampfromEMMT",  
   "externalGuid":"guidFromEMMT",  
   "devices":[   
      {   
         "equipmentId":"1",  
         "installmentPlanId":"2016112235",  
         "billingAccountNumber":"000000016"  
      },  
      {   
         "equipmentId":"2",  
         "installmentPlanId":"2016112235",  
         "billingAccountNumber":"000000016"  
      },  
      {   
         "equipmentId":"3",  
         "installmentPlanId":"2016112236",  
         "billingAccountNumber":"000000017"  
      }  
   ]  
}

## Lock loans that need to be migrated

#### Solution:

EMMT will insert bulk events to an EIP – TIBCO EMS queue to lock the devices that are identified for migration.

EIP will process the event and update the Equipment level status to Locked-Migrating.

#### Design details:

1. Every message will have information about 1000 devices.
   1. Refer to section 4.1.1.2 for the payload structure.
2. For every event that is processed –
   * 1. Open a new transaction
     2. Bulk insert up to a max of 1000 devices/1000 rows to EIP\_ MIGRATION\_TRACKING table with processed\_indicator of ‘R’ (ready state)
     3. Commit the transaction
     4. We have to ensure that EMMT events are captured in the tracking table for reconciliation purposes. So we are looking for 100% success rate at this point. Hence we will log even the duplicate entries without fail.
     5. Bulk update of up to a maximum of 1000 devices with a new status value in EIP\_EQUIPMENT table.
        1. Set PRE\_MIGRATION\_STATUS = status (prior active status of the device)
        2. Set Status = “*Locked-Migrating*” (new status value)
        3. Set updated\_at = systimestamp
        4. Set updated\_by = “*NFS\_MIGRATION*”
        5. Where clause: status and finance type check
           1. Finance type =’LOAN’ and ‘POIP’
           2. Equipment status:

Active

Active-Shipped

Active-Additional-Payment-Applied

Active-Shipped-Additional-Payment-Applied

* + - * 1. Fallouts due to this filtering will be handled in the retry attempts. For instance, if a device has moved to an inactive status by the time the event is processed in EIP, EIP will log the error message in the EIP\_ MIGRATION\_TRACKING table during the retry attempt and set the processed\_indicator to ‘N’
    1. Bulk update for successful records in EIP\_ MIGRATION\_TRACKING table with a processed\_indicator value of ‘Y’
    2. Commit the transaction

#### Locked device behavior

###### EIP services

* 1. TODO: Find out the error messages that will be thrown in all EIP service flows when the equipment is in this status.
  2. DevicePromotionService: TODO
* will not allow IMEI/MSISDN updates on the LOANs that are in “*Locked-Migrating*” status.

###### EIP UI

* Summary screen: Locked devices will be displayed with the new status value of “*Locked-Migrating*”.
* JUMP management tool will not allow updates on the LOANs that are in “*Locked-Migrating*” status.
* TODO: Document the behavior for other UI flows.

###### EIP batch jobs

* Send charges batch job will not send charges or credits for the locked devices.
* SCMS, AAL and Unlock events will not be sent.
* UpdateIMEIBatchJob will not allow updates on the LOANs that are in “*Locked-Migrating*” status.
* TODO: Document the behavior for other batch job flows.

#### Processing time estimates:

Load: 1 million

1. 1000 bulk events with info about 1000 devices/plans in one event.
2. SILO A – consumer instances will act as message processors for this type of message.
   * + - 1. ~ 15 instances will pick these and process
         2. ~ 67 events to be processed per instance
         3. ~ 1 sec for every message processing TODO: assess this time in PLAB.
         4. ~ 67 secs for 1 million

Retry every 2 minutes for 3 times – this adds 6 minutes + 67 secs

Wait time – 2 minutes – expectation 1 million rows with R/Y/N

10 minutes – expectation 1 million with Y/N

## Unlock loans that failed to be migrated

#### Solution:

EMMT will insert bulk events to an EIP – TIBCO EMS queue to unlock the devices that are identified for migration.

EIP will process the event and rollback the locked Equipment level status to the prior active status.

#### Design details:

1. Every message will have information about 1000 devices.
2. JSON Payload structure: Refer to section 4.1.1.2.
3. For every event that is processed –
4. Open a new transaction.
5. Bulk insert of a maximum of 1000 devices/1000 rows to EIP\_ MIGRATION\_TRACKING table with processed\_indicator of ‘R’ (ready state).
6. Commit the transaction.
7. Bulk update of a maximum of 1000 devices to the prior active status value in EIP\_EQUIPMENT table
   * + 1. Set Status = PRE\_MIGRATION\_ STATUS
       2. Set updated\_at = systimestamp
       3. Set updated\_by = “NFS\_MIGRATION”
       4. Where clause: status = ‘Locked-Migrating’
8. Bulk update of (a maximum of 1000 devices/1000 rows) successful records in EIP\_ MIGRATION\_TRACKING table with a processed\_indicator value of ‘Y’.
9. Commit the transaction.

#### Processing time estimates:

Load: 1 million – 10% failures

* + - 1. Say 10% failed which is 100K devices i.e. 100 bulk events with info about 1000 devices/plans in one event.
      2. SILO A – consumer instances will act as message processors for this type of message.
         1. ~ 15 instances will pick these and process
         2. ~ 7 events to be processed per instance
         3. ~ 1 sec for every message processing
         4. 7 secs for 100K failures

Retry every 2 minutes for 3 times – this adds 6 minutes + 7 secs

Wait time – 1 minute – expectation 1 million rows with R/Y/N

7 minutes – expectation 1 million with Y/N

## Close loans that have migrated successfully

#### Solution:

EMMT will insert bulk events to an EIP – TIBCO EMS queue to close the devices that have been successfully migrated.

EIP will process the event to close the device and adjust charge/FAT tables.

#### Design details:

1. Every message will have information up to a maximum of 1000 devices.
2. JSON Payload structure: Refer to section 4.1.1.2
3. For every event that is processed –
4. Open a new transaction
5. Bulk insert of a maximum of 1000 devices/1000 rows to EIP\_ MIGRATION\_TRACKING table with processed\_indicator of ‘R’ (ready state).
6. Commit the transaction.
7. Bulk update for the following.
   1. Set status = ‘Closed-Migration’, eclb = 0, balance\_owed = 0, remaining\_payments = 0, percent\_total =0, closed\_at = systimestamp, updated\_at = systimestamp, updated\_by = ‘NFS\_MIGRATION’ in EIP\_EQUIPMENT table. TODO: interest columns check with accounting (email in progress)
   2. Set status = ‘Closed-Migration’, eclb = 0, rfa = 0, balance\_owed = 0, remaining\_payments = 0, updated\_at = systimestamp, updated\_by = ‘NFS\_MIGRATION’ in INSTALLMENT\_PLAN table. TODO: interest columns check with accounting (email in progress)
   3. Insert a new FAT record with activity description = ‘Migration Complete’. Adjustments will be similar to pay off flow. Please refer to sample in Appendix B.
   4. Set processed\_indicator = ‘C’, updated\_at = systimestamp, updated\_by=‘NFS\_MIGRATION’, charge\_amount = 0, equipment\_revenue = 0, interest\_revenue = 0 in EIP\_CHARGE table.
   5. Installment Account table Samson Indicator value will not be changed as the LOAN is still going to be active and operating in OFSLL.
8. Bulk update of a maximum of 1000 devices/1000 rows to EIP\_ MIGRATION\_TRACKING table to processed\_indicator of ‘Y’.
9. Commit the transaction.

* No events will be sent to SCMS/SAP OER
* No CFAM event will be triggered as there is no change in the LOAN balance as such.
* EIP will not trigger any event to update the LOAN Micro service. EMMT will be doing this.

#### Processing time estimates:

Load: 1 million – 90% success

1. Say 90% passed which is 900K devices i.e. 900 bulk events with info about 1000 devices/plans in one event.
2. SILO A – consumer instances will act as message processors for this type of message.
   * + - 1. ~ 15 instances will pick these and process
         2. ~ 60 events to be processed per instance
         3. ~ 2 sec for every message processing
         4. 120 secs for 900K records

Retry every 2 minutes for 3 times – this adds 6 minutes of retry time + 2 minutes of original processing time

Wait time – 2 minutes – expectation 900K rows with R/Y/N

10 minutes – expectation 900K rows with Y/N

# New Batch Jobs

## Event Retry Processor

#### Solution:

EIP will add a new Tidal job to monitor the status of the events and retry if needed.

A maximum of 3 systematic retry attempts will be provided. Events that are failing after 3 systematic attempts will be monitored and handled by EIP dev ops team based on Tidal alerts.

#### Design details:

A new operation will be added to EIPBatchProcess web service to handle this.

##### **Job Name**

RETRY\_MIGRATION\_EVENTS\_JOB

##### **Business Logic:**

Retry processing the migration events based on design captured in section 3.1.1.2.1.2.

##### **Schedule:**

Runs every 2 minutes TODO: can we restrict this only to run on weekends as the migration is happening only during weekends?

##### **Dependency:**

Only one of these job instances can be run at a time.

This job will not depend on any other job.

##### **Monitoring:**

An alert email will be triggered from Tidal

* + When the processing time exceeds the max time set for the job. TODO: Identify the max processing time based on PLAB testing.
  + If the BatchProcessException is thrown by the BatchProcess API.

TODO: Ensure that this is following the general retry design for EIP.

## Event Archive Processor

#### Solution:

EIP will add a new TIDAL job to archive all the processed records per batch/GUID. This process will be scheduled to run once a week on Wednesdays at 8 PM PST.

#### Design details:

A new operation will be added to EIPBatchProcess web service to handle this.

##### **Job Name**

ARCHIVE\_ MIGRATION\_EVENTS\_JOB

##### **Business Logic:**

Archiving the migration events to EIP\_ MIGRATION\_TRACKING\_ARCH table.

##### **Schedule:**

Runs once a week on Wednesdays at 8 PM PST.

##### **Dependency:**

Only one of these job instances can be run at a time.

##### **Monitoring:**

An alert email will be triggered from Tidal

* + When the processing time exceeds the max time set for the job. TODO: Identify the max processing time based on PLAB testing.
  + If the BatchProcessException is thrown by the BatchProcess API.

# Modified Batch Jobs

None



























# User Interface Changes

None

# Data Model Changes

## New Users

## New Tables

### EIP\_ MIGRATION\_TRACKING (Production: EIP\_ADM schema)

**Usage**: Table to hold the Migration batch process data with status

Add constraints for data type and values as needed for data input quality control.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Column Name | Datatype | Nullable | Comments | Column Order |
| ID | NUMBER(38) | N | PK | 1 |
| EVENT\_TYPE | VARCHAR2(50) | N | LOCK, UNLOCK, CLOSE | 2 |
| EXTERNAL\_GUID | VARCHAR2(25) | N | Batch Correlation ID/GUID from EMMT | 3 |
| BAN | VARCHAR2(9) | N | BAN | 4 |
| INSTALLMENT\_PLAN\_ID | VARCHAR2(46) | N | INSTALLMENT\_PLAN\_ID from plan table | 5 |
| EIP\_EQUIPMENT\_ID | NUMBER(38) | N | EIP EQUIPMENT Identifier | 6 |
| PROCESSED\_INDICATOR | CHAR1(BYTE) | N | New records will be logged as R  Successfully processed records will be set to Y  Un processed records after max retry attempts will be set to N  R- ready/retry  Y-success  N-failure | 7 |
| NUMBER\_OF\_ ATTEMPTS | NUMBER(3) | Y | Could be 1, 2, 3 or 4. – 3 retry attempts based on configuration  1 – for the initial attempt  2,3,4 – based on retry attempts | 8 |
| EIP\_ERROR\_MESSAGE | VARCHAR2(2000) | Y | EIP Error message for failures | 9 |
| UPDATED\_AT | TIMESTAMP | Y | Timestamp in which this row as updated | 10 |
| UPDATED\_BY | VARCHAR2(50) | Y | User ID performing activity | 11 |

### EIP\_ MIGRATION\_TRACKING\_ARCH (Production: EIP\_ADM schema)

**Usage**: Table to hold the Migration batch process archived data

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Column Name | Datatype | Nullable | Comments | Column Order |
| ID | NUMBER(38) | N | PK | 1 |
| EVENT\_TYPE | VARCHAR2(50) | N | LOCK, UNLOCK, CLOSE | 2 |
| EXTERNAL\_GUID | VARCHAR2(25) | N | Batch Correlation ID/GUID from EMMT | 3 |
| BAN | VARCHAR2(9) | N | BAN | 4 |
| INSTALLMENT\_PLAN\_ID | VARCHAR2(46) | N | INSTALLMENT\_PLAN\_ID from plan table | 5 |
| EIP\_EQUIPMENT\_ID | NUMBER(38) | N | EIP EQUIPMENT Identifier | 6 |
| PROCESSED\_INDICATOR | CHAR1(BYTE) | N | New records will be logged as R  Successfully processed records will be set to Y  Un processed records after max retry attempts will be set to N  R- ready/retry  Y-success  N-failure | 7 |
| NUMBER\_OF\_ ATTEMPTS | NUMBER(3) | Y | Could be 1, 2, 3 or 4. – 3 retry attempts based on configuration  1 – for the initial attempt  2,3,4 – based on retry attempts | 8 |
| EIP\_ERROR\_MESSAGE | VARCHAR2(2000) | Y | EIP Error message for failures | 9 |
| UPDATED\_AT | TIMESTAMP | Y | Timestamp in which this row as updated | 10 |
| UPDATED\_BY | VARCHAR2(50) | Y | User ID performing activity | 11 |

## Modified Tables



### EIP\_EQUIPMENT

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column Name** | **Datatype** | **Nullable** | **Comments** | **Column Order** |
| PRE\_MIGRATION\_STATUS | VARCHAR2(50) | Y | Will hold the old status value for the loans that are going through migration | TBD |



### EIP\_EQUIPMENT\_HIST

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column Name** | **Datatype** | **Nullable** | **Comments** | **Column Order** |
| PRE\_MIGRATION\_STATUS | VARCHAR2(50) | Y | Will hold the old status value for the loans that are going through migration | TBD |

### EIP\_EQUIPMENT\_ARCH

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column Name** | **Datatype** | **Nullable** | **Comments** | **Column Order** |
| PRE\_MIGRATION\_STATUS | VARCHAR2(50) | Y | Will hold the old status value for the loans that are going through migration | TBD |

### EIP\_EQUIPMENT\_EXCH

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column Name** | **Datatype** | **Nullable** | **Comments** | **Column Order** |
| PRE\_MIGRATION\_STATUS | VARCHAR2(50) | Y | Will hold the old status value for the loans that are going through migration | TBD |

## DML Changes

## Updated Procedures/Triggers

### Trigger - EIP\_EQUIPMENT\_AIU\_TRG

EIP\_EQUIPMENT\_AIU\_TRG trigger will be altered to propagate the PRE\_MIGRATION\_STATUS changes from EIP\_EQUIPMENT to EIP\_EQUIPMENT\_HIST table.

## New View

### TBD (EIPBI\_ADM schema)

## Modified Views

### TBD (EIP\_ADM schema)

## One time NOD Extract

1. TBD

# Properties Changes

New property to be added to eip.properties file –

max\_migration\_process\_attempts = 4

# NOD Sys Considerations

# Glossary

**ADP** – Actual Down Payment

**CDP** – Configured Down Payment

**First Installment Payment** –The initial EIP down payment

**BAN –** Billing Account Number

**BAU** – Business as Usual

**CECL**- Current Equipment Credit Limit

**CIG** – Charge Injection Gateway – used to send charges from EIP into Samson.

**COOP** – Customer Out of Pocket: The total cumulative charge that a customer must pay out of pocket at point of sale (includes EIP Down Payment, taxes and other charges and fees as applicable).

**CPNI –** Customer Proprietary Network Information

**CRP-** Customer Risk Profile- Based on customer’s credit class, behavior score and/or BAN tenure.

**CSR –** Customer Service Representative

**DP** – Down Payment

**DPA**- Down Payment Adjustment

**DPD** – Down Payment Discount

**DRP** – Device Recovery Program. Supports EIP with Trade-In.

**ECA –** Equipment Credit Available

**ECB –** Equipment Credit Balance

**EIP –** Equipment Installment Plan

**FA –** Financed Amount

**GSA** – General Services Administration, which applies to individual and government account types

*Note: Individual-GSA account types are eligible for EIP, while Government-GSA accounts are EIP ineligible.*

**IDP –** Initial Down Payment: Installment Down Payment. The total initial EIP down payment and amount that is put on customer’s disclosure; comprised of CDP minus any reduction by DPA, increase due to insufficient

ECA, as well as any additional amount the customer chooses to pay down (Pay Extra Amount).

**IHAP –** Internally Developed In House Application

**IMEI –**International Mobile Equipment Identity. A unique number used by the GSM network to identify valid devices. The IMEI is only used for identifying the device and has no permanent or semi-permanent relation to the subscriber. Instead, the subscriber is identified by transmission of an IMSI number, which is stored on a SIM card that can (in theory) be transferred to any handset. However, many network and security features are enabled by knowing the current device being used by a subscriber.

**IMSI –** International Mobile Subscriber Identity. A 15 digit unique identifier associated with all GSM network mobile phone users. It is stored as a 64 bit field in the SIM inside the phone and is sent by the phone to the network. This number is provisioned in the phone directly or in the SIM card.

**LCA**- Line Contribution Amount

**MDP-** Minimum Down Payment- The EIP down payment a customer must pay for selected device(s) based on the Customer Risk Profile.  The MDP may be greater than, equal to, or less than the CDP configured for the device.

(MDP=CDP+TDPA TOOP Down Payment Adjustment)

**MFA – Maximum Financed Amount**

**MFT-** Migration Fee Tenure: Number of months since customer last took advantage of device subsidy. Migration fees are billed to customers that choose to migrate lines or entire BAN to Value or BTV plan before reaching 18+ mo.

Migration Fee tenure.

**MPEC**- Maximum Potential Equipment Credit

**MRC –** Monthly Recurring Charge – includes rate plan and data plan

**MSISDN –** Mobile Subscriber Integrated Services Digital Network Number. The telephone number associated to the SIM

**NAT – National Retailer (Apple, Costco, Car Toys)**

**Organic Channel – T-Mobile Retail Stores**

**RFA –** Remaining Financed Amount

**RMA** – Return Merchandise Authorization

**SIM –** Subscriber Identification Module. An integrated circuit that securely stores the service-subscriber key (IMSI) used to identify a subscriber on mobile telephony devices (such as mobile phones and computers).

**SKU –** Stock Keeping Unit. Can apply to handsets or accessories or anything sold in the store.

**SMS –** Short Messaging Service, aka Text Message

**SOC –** Service Order Code. A SOC is a short description of a service, or a package of services, offered by T-Mobile to its subscribers. An example of a price plan SOC is FPACFAFTK (FlexPay AC FAV FT 1000). An example of a Regular, or add-on, SOC is FPFTMSGN (FP Family Msg UNL MC).

**SOS –** Supply Chain Operations

**SRP – Suggested Retail Price**

**TBC –** T-Mobile Business Center

**TFA –** Total Financed Amount = equals the down payment plus the financed amount.

**TOOP**- Tailored Out-of-Pocket

**VDP-** Variable Down Payment: Variable Down Payment; the VDP includes credit adjustments due to a customer’s CRP, Sales Channel being transacted in, and device selected.

# Open Issues

## External Design Issues

None

## Internal Design Issues

1. Infrastructure changes – TODO: Lakshmi/EIPDevOps

* TIBCO EMS queue/connection details
* EIP connectivity to EMS queue
* EMMT connectivity to EMS queue

1. Tidal team conversations for the new batch jobs. TODO: Ethie/Lakshmi
2. Decide on the mock run environment – PLAB/QLAB TODO: Ethie/Lakshmi

Jan 16 mock run for 1 million

When can we get the environment for NFS migration run? Pre or post Jan release.

1. EMMT will query the EIP\_ MIGRATION\_TRACKING table frequently after the events are submitted – say once in 5 minutes and continue until all the events are submitted. Assess performance based on SQL used.

TODO: Lakshmi/Nasir/Chetan

1. Scheduled run time –
   1. Lock events can be inserted and processed only when no other EIP batch job is running
      1. Off hours to not impact the prod transactions/performance
      2. TODO: Lakshmi/Ethie
      3. 10.30 PM to 12 PM blocked for locking on migration days
   2. Unlock and Close events can be inserted and processed any time.
      1. Off hours to not impact the prod performance
2. TBC/B2B/ Web platforms uses history service - check if the new status values that are being added for this project is going to cause any issues during the migration window. TODO: Ethie

I. This will happen for individual loans that are being migrated.

1. UpdateEquipment service: TODO: Lakshmi

* If we block the IMEI/MSISDN updates during the migration window, who will retry this at a later time? TODO: Check with Peter on this.
* Check UpdateEquipment service flow where we are allowing updates on inactive devices.

# Appendix A – NFS Data Conversion Process



# Appendix B – FAT Sample for Closed LOANs

