

MTN Group BSS Provisioning

MTN Zambia

Integration Document

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Amendment History

Changes Made	Reviewed By	Changed By	Date	Version #
Initial Version				1.0
<ul style="list-style-type: none"> Added Error Response Sample for AAA use case. Refer 4.1.3 section 		TechM	17-Jun-22	1.1
<ul style="list-style-type: none"> Added Payment Manager API (Section 4.2) 		TechM	23-Jun-22	1.2
<ul style="list-style-type: none"> Modified name of the API in section 4.2 to Customer Bill management API. Also, the API URL Modified Error Details Table 		TechM	7-July-22	1.3
<ul style="list-style-type: none"> Added Prepay Balance Management API (Section 4.3) Added Customer Management AP I (Section 4.4)- Added Yaml File 		TechM	13-July-22	1.4

Document Reference

VERSION	DOCUMENT NAME	AUTHOR
A08	MTNZ_Mobile_Digital_BSS Transformation SRS_A08.docx MTNZ_Product Feature_Digital_BSS Transformation_SRS_A05.docx	Tecnotree

1. Introduction

This document is in response to BSS Provisioning, to list out the integration details in respect to ESF APIs developed and exposed to 3PP in terms of nature of services (REST or SOAP or both), functionalities of services and how these services/functionalities will be accessed by consumer channels.

Key objectives of this document, is to elaborate the below mentioned areas

- List of ESF APIs developed as part of the solution, in response to BSS Provisioning
- ESF API Endpoint and details
- Transport Mechanism
- Authentication details
- Request and Response Structure

2. Solution Overview

2.1. Solution Architecture

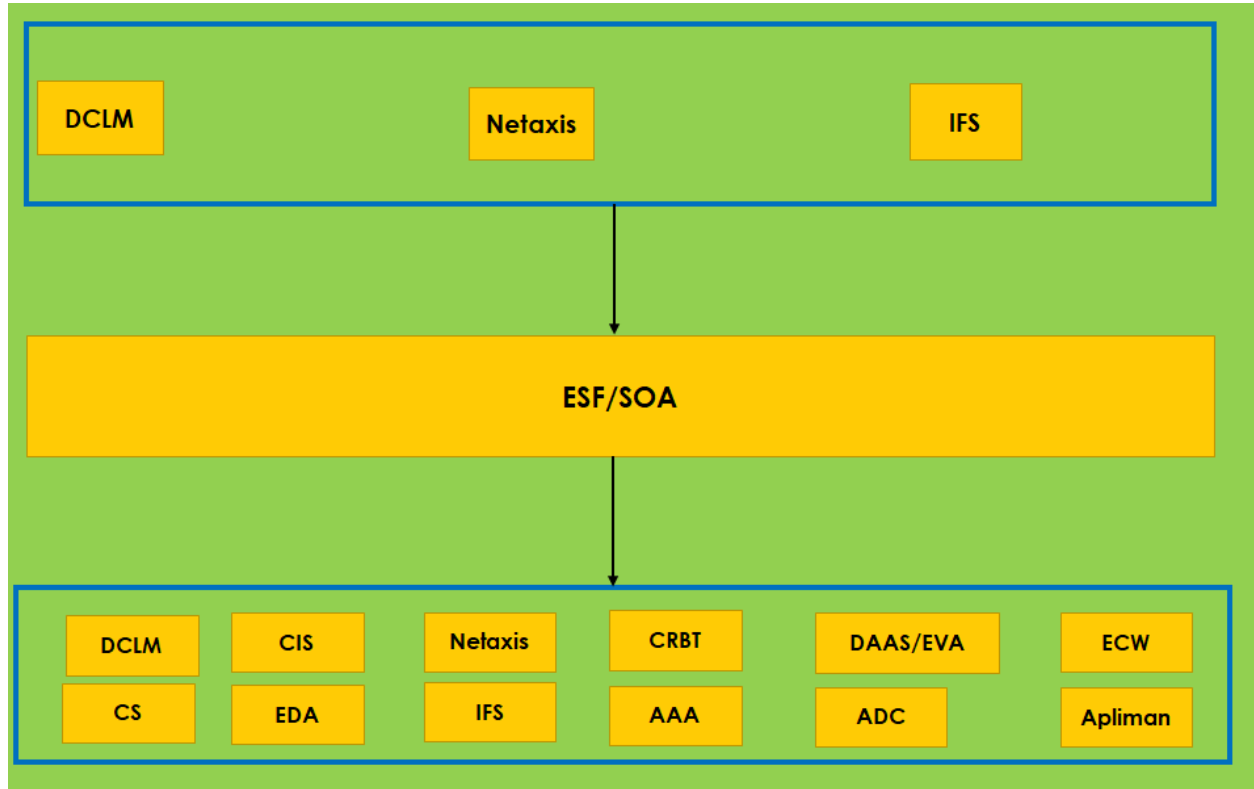


Figure 1: Solution Architecture BSS Provisioning

2.2. Proposal Scope

- Tech Mahindra ESF to expose middleware services for BSS Provisioning and these services/functionalities will be accessed by consumer channels to enable MTN deliver rich digital experiences to its subscribers, with speed and agility, enhancing business growth, while simplifying operations.
- Use cases received from MTN to be classified according to functionalities and into multiple REST ESF Services over **HTTPS** Protocol and Media type: JSON
- Post receiving request from consumer for the ESF middleware to validate and transform the request to be sent to the provider systems where the response from provider will be returned to the consumer in designated time. Where the request is not completed in the designated time, the error management process will commence.

In Scope:

1. Requirement analysis and design finalization for the services having multiple use cases.
2. Interface/API development for the tabled use cases in 2.1. Functional Requirements.
3. Service deployment in UAT/SIT, Production and DR environments.
4. SIT/UAT support during end-to-end testing.
5. Bug fixes.

Out of Scope:

1. Performance testing
2. Load testing
3. End to end use case preparation
4. End to end service testing
5. Development of channel(s) for consumer system(s) having specific requirement.

2.3. Integration Overview

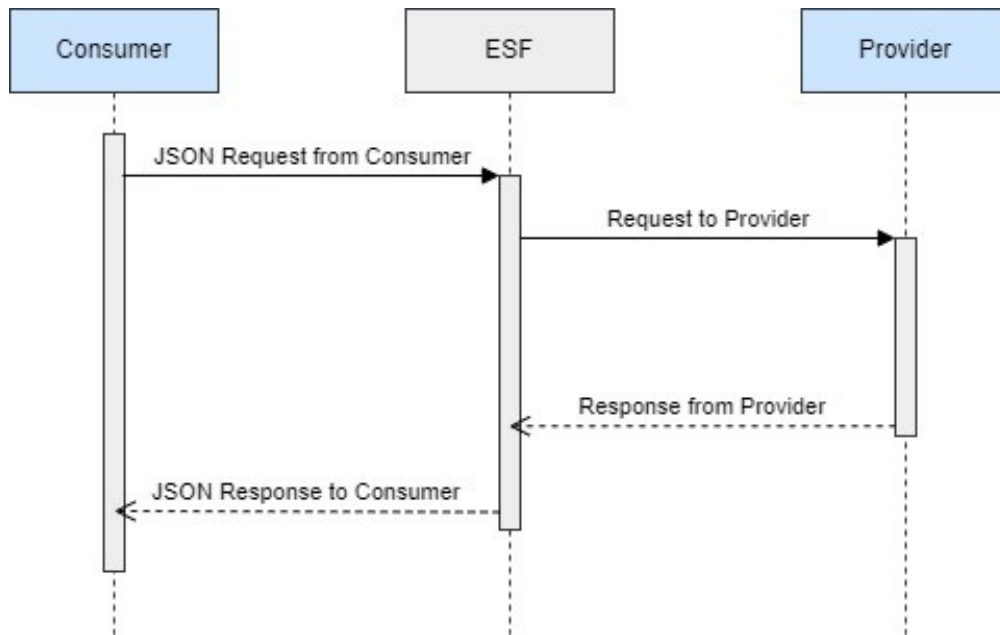
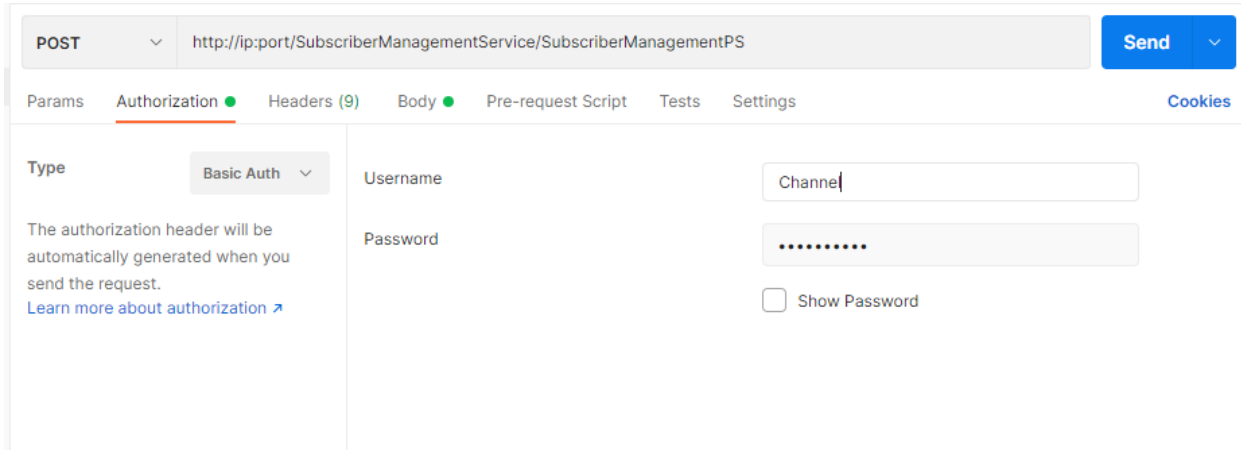


Figure 3: Generalized Sequence Diagram for BSS Provisioning

3. Validation

3.1. Authentication

Basic authentication is implemented at ESF level. Credentials will be shared separately.



The screenshot shows an API client interface with the following elements:

- Method: POST
- URL: http://ip:port/SubscriberManagementService/SubscriberManagementPS
- Buttons: Params, Authorization (selected), Headers (9), Body, Pre-request Script, Tests, Settings, Cookies, Send
- Authorization Type: Basic Auth
- Username: Channel
- Password: [Redacted]
- Show Password:
- Help text: The authorization header will be automatically generated when you send the request. [Learn more about authorization](#)

3.2. Schema Validation

It validates the data against the request schema. If the validation fails it will throw validation error with ESF-001 error code.











4. Integration Details



Below are the details of ESF API details as part of BSS Implementation

4.1. Subscriber Management API

4.1.1 API Details

Development/UAT Details	
Host	Host
Port	Port
https://{ip}:{port}/api/v1/subscribermanagement	URLs
POST	Method
Basic	Authentication/ Authorization
Use Case	User Journey
ISP Subscriber Activation	ISP Subscriber Activation
ISP Subscriber Suspension	Suspension
ISP Subscriber Revoke Suspension	Revoke Suspension
ISP Subscriber Activation	Add Service
ISP Subscriber Termination	Service Termination
ISP Subscriber Package Change	Package Change

SAMPLE PAYLOADS FOR SUBSCRIBER MANAGEMENT API		
USE CASES	REQUEST	RESPONSE
Generic Request/Response	 GenericReq.json	 GenericRes.json
ISP Subscriber Activation	 CreateSubscriberReq.json	 CreateSubscriberRes.json
ISP Subscriber Suspension/ ISP Subscriber Revoke Suspension	 SubscriberSuspensionReq.json	 SubscriberSuspensionRes.json
ISP Subscriber Termination	 TerminateReq.json	 TerminateRes.json
ISP Subscriber Package Change	 PackageChange.json	 PackageChangeRes.json



Business Error Response	 BusinessErrorResponse.json
Technical Error Response	 TechnicalErrorResponse.json

4.2. Customer Bill Management API

4.2.1 API Details

Development/UAT Details	
Host	Host
Port	Port
https://{ip}:{port}/api/v1/customerbillmanagement	URLs
POST	Method
Basic	Authentication/Authorization
Use Case	User Journey
Delayed Payment Fees	Billing & Invoicing

4.2.2 Sample Payloads for Customer Bill Management API

SAMPLE PAYLOADS FOR CUSTOMER BILL MANAGEMENT API		
USE CASES	REQUEST	RESPONSE
Delayed Payment Fees	 DelayedPaymentFee Req.json	 DelayedPaymentFee Resp.json

4.3.3 Sample Error Response



Business Error Response	 BusinessError.json
Technical Error Response	 TechnicalError.json

4.3 Prepay Balance Management API


4.2.1 API Details

Development/UAT Details	
Host	Host
Port	Port
https://{ip}:{port}/prepaybalancemanagement/v1/makepayment	URLs
POST	Method
Basic	Authentication/ Authorization
Use Case	User Journey
Make Payment against Invoice No	View Outstanding Balance & Make Payment

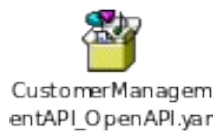
4.2.2 Sample Payloads for Prepay Balance Management API

SAMPLE PAYLOADS FOR PREPAY BALANCE MANAGEMENT API		
USE CASES	REQUEST	RESPONSE
Make Payment against Invoice No	 Req.txt	 SuccessResponse.txt

4.3.3 Sample Error Response

Technical/Business Error Response	 ErrorResponse.txt
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4.4 Customer Management API



5. Error Details

Sr #	Error Message	Error Code
1.	Validation Failed: Type Code is missing	ESF-001
2.	Request Transformation Failure	ESF-002
3.	Response Transformation Failure	ESF-004
4.	Routing Error for channel	ESF-003
5	Other Error	ESF-005
6	Business error returned by Provider system	Code returned by Provider System

6. Disclaimer

ESF request/response structure is subjected to change as we have been asked to share it before we could complete our development. TechM will add actual request/response structure once it completes development.