# Automatic Direct Debit for Postpaid Customers (Card Tokenization) Drop 1

**MTN**

DESIGN SPECIFICATION ---- IT Design & Integration

# DISTRIBUTION LIST

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# REVISION HISTORY

| VERSION | AUTHOR | DATE | SECTION(S) | REASON(S) FOR CHANGE |
|---------|--------|------|------------|----------------------|
| 0.1 | Gideon Aiyedatiwa | 14/12/2021 | | Draft |
| 0.2 | Gideon Aiyedatiwa | 4/2/2022 | Sequence Diagrams and TRM | Updated with recommendations from Line Manager and CPG Team. |
| 0.3 | Gideon Aiyedatiwa | 9/2/2022 | • Opt in use cases<br>• Failed invoice payment | • System to auto populate required customer details and new card tokenization should be free.<br>• Re-use existing Clawback process |
| 0.4 | Gideon Aiyedatiwa | 25/2/2022 | Opt in (New Card) | Updated Opt in with a new card with reversal process. |
| 0.5 | Gideon Aiyedatiwa | 10/3/2022 | • Opt in (New Card)<br>• Open invoice payment | • Removed reversal process<br>• Introduce querying and making payment for an open invoice |
| 1.0 | Gideon Aiyedatiwa | 24/03/2022 | • ALL | • Issued by QA for Signoff |

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# AIA

| Compliance: Fully Compliant | | | | | |
|---|---|---|---|---|---|
| Demand Description | Capability Set | Impacted Systems | Scope of Change | Change Size | Change Type |
| Automatic Direct debit is a process where the subscriber would agree to automatic payment of invoices generated for every billing cycle. The Direct Debit Process document describes the activities involved from customers giving mandate, implementing the customer mandate on the billing system to when the payment deduction happens and gets recognized by the business.<br><br>It also defines activities around mandate renewal, termination, and Reporting Management. This is to ensure a seamless direct payment debit process, enshrine a culture of proper prompt payment and prevent the business risk that could arise from payment default for services deployed. | Bill Payment Management | DCBS | Development | Small | Incremental |
| | | MADAPI | Development | Small | Simplification |
| | | Banks | Development | Small | Simplification |
| | | MTN App | Development | Small | Incremental |
| | | MTN Web | Development | Small | Incremental |
| | | CLM | Development | Small | Simplification |
| | | CPG | Development | Small | Simplification |

# Contents

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# Overview

Automatic Direct debit is a process where the subscriber would agree for automatic payment of invoices generated for every billing cycle. The Direct Debit Process document describes the activities involved from customers giving mandate, implementing the customer mandate on the billing system to when the payment deduction happens and gets recognized by the business.

It also defines activities around mandate renewal, termination, and Reporting Management. This is to ensure seamless direct payment debit process, enshrine a culture of proper prompt payment and prevent business risk that could arise from payment default for services deployed

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# Scope

A. In scope

- Opt into auto debit
- Opt out from auto debit
- Bill/Invoice generation
- Send bill/invoice to payment gate and customers.
- Full bill payment
- Create alert notifications on failed bill payment
- Clear pending invoice when payment is successful
- View payment history
- Notifications
- Reporting
- Survey/Customer's feedback
- Card tokenization
- Query an open invoice

B. Out of Scope

- Retry Mechanism
- Partial bill Payment
- Refund payment
- Bank account payment Option

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# Design Considerations

1. The direct debit system shall be flexible to allow for the removal, addition, and modification of direct debit functionality.

2. System shall have the capability to track customers with failure status more than once

3. It shall be possible to perform refund where excess or multiple credit transactions occur during the direct debit implementation. The Customer shall notify MTN Customer Support Partner of excess or multiple deduction, and the internal refund process shall take care of the refund.

4. Audit trails of all activities shall be available on the direct debit application at all times indicating name, date, time stamps of action and all activities performed

5. It shall be possible to determine payment made through direct debit application on the billing system

6. It should be possible to keep better track and history of the direct debits with analytics, reports and activity logs on the direct debit platform.

7. Existing payment into MTN's account after payment collection on payment gateway would be re-used.

8. Where customer made full payment through another channel, the system shall recognize and treat the invoice as fully settled, the direct debit shall not operate.

9. Where there is failed transaction, system would escalate to the Key account management team/account support partner to follow up with the customer.

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# Design Considerations

10. SME SOHO/MICRO and Consumer customers will receive debit notification on 3rd of every month – immediately after bill run.

11. SME SOHO/MICRO and Consumer customers bank account will be debited on 5th of every month

12. Where there is a delay in bill run, customer's grace period will be extended / reviewed by the same number of days for SME SOHO/MICRO and Consumer customers.

13. Large Enterprise, SME-Medium and SME Consumer customers that opted for direct debit will received debit notification on 8th of every month

14. Large Enterprise, SME-Medium and SME and Consumer customers that opted for direct debit will received debit notification on 10th of every month

15. Where there is a delay in bill run, customer's grace period will be extended / reviewed by the same number of days for Large Enterprise, SME-Medium, SME and Consumer customers

16. Refund process for multiple and excess transaction would be created outside the system as this can not be implemented system wise.

# 01 Use Case List, Diagram & Description

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# Use Case List

| ID | Use Case Name | Description | URS References | Design References |
|---|---|---|---|---|
| 1 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | Customer opt in and give standing order through MTN Channels to start process bill payment. | | Slides 36- 41 |
| 2 | Opt out from auto debit via MTN channels | Customer opt out and give standing order through MTN Channels to stop processing bill payment | | Slides 43 -45 |
| 3 | Bill/Invoice generation | Generating customer's invoice/bill and send to the bank to process payment. | Microsoft Word Document | Slide 46 |
| 4 | Full bill Payment | Full payment of the impacted invoice | | Slide 46 |
| 5 | Clear impacted invoice | Impacted invoice would be cleared when bill payment is successful | | Slide 46 |
| 6 | Add/Delete tokenized card(s) | Customer would be able to add a new card or delete an existing card | | Slide 42 |
| 7 | Failed bill payment | Failed payment transaction when there is no funds in customer's account and the impacted invoice would still be left opened. | | Slide47 |

# Use Case List

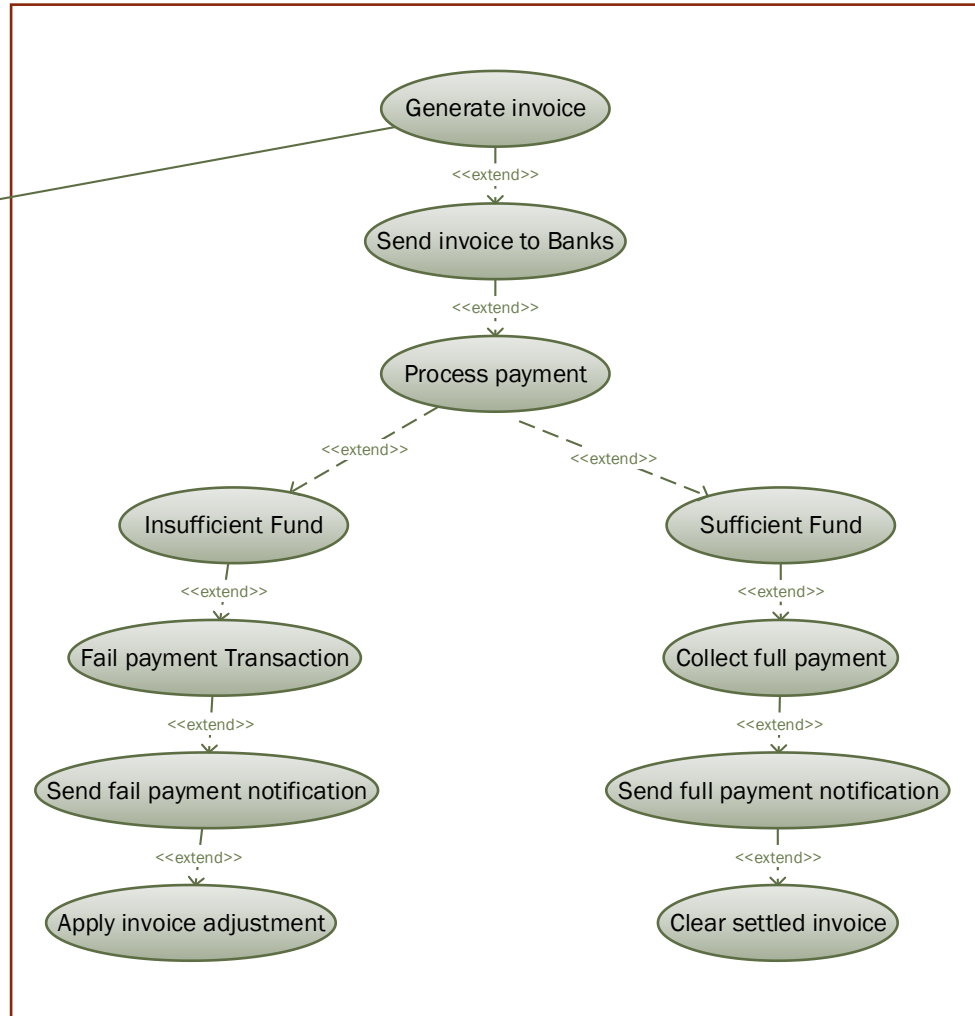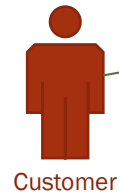| ID | Use Case Name | Description | URS References | Design References |
|----|--------------|-------------|----------------|-------------------|
| 8 | Alert notifications on insufficient/failed bill payment | Alerting the account support partner on failed bill payment | | Slide 47 |
| 9 | View payment history | Customer to view bill payment history on the bank platform | | Slide 48 |
| 10 | Survey/Customer's feedback | Customer would be able to provide feedback on the automated direct debit experience |  Document | Slide 50 |
| 11 | Notifications | System send notification after successful and failed transaction to customer and account support officer | | Slide 46 |
| 12 | Open invoice Payment | Customer can check open and make payment | | Slide 49 |
| 13 | Reporting | Captures All Entries on the Enterprise direct debit application into separate columns for the different request, input and changes. Fields captured into separate columns | | Slide 57 |

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# Use Case Diagrams

## Opt-In to Auto Debit
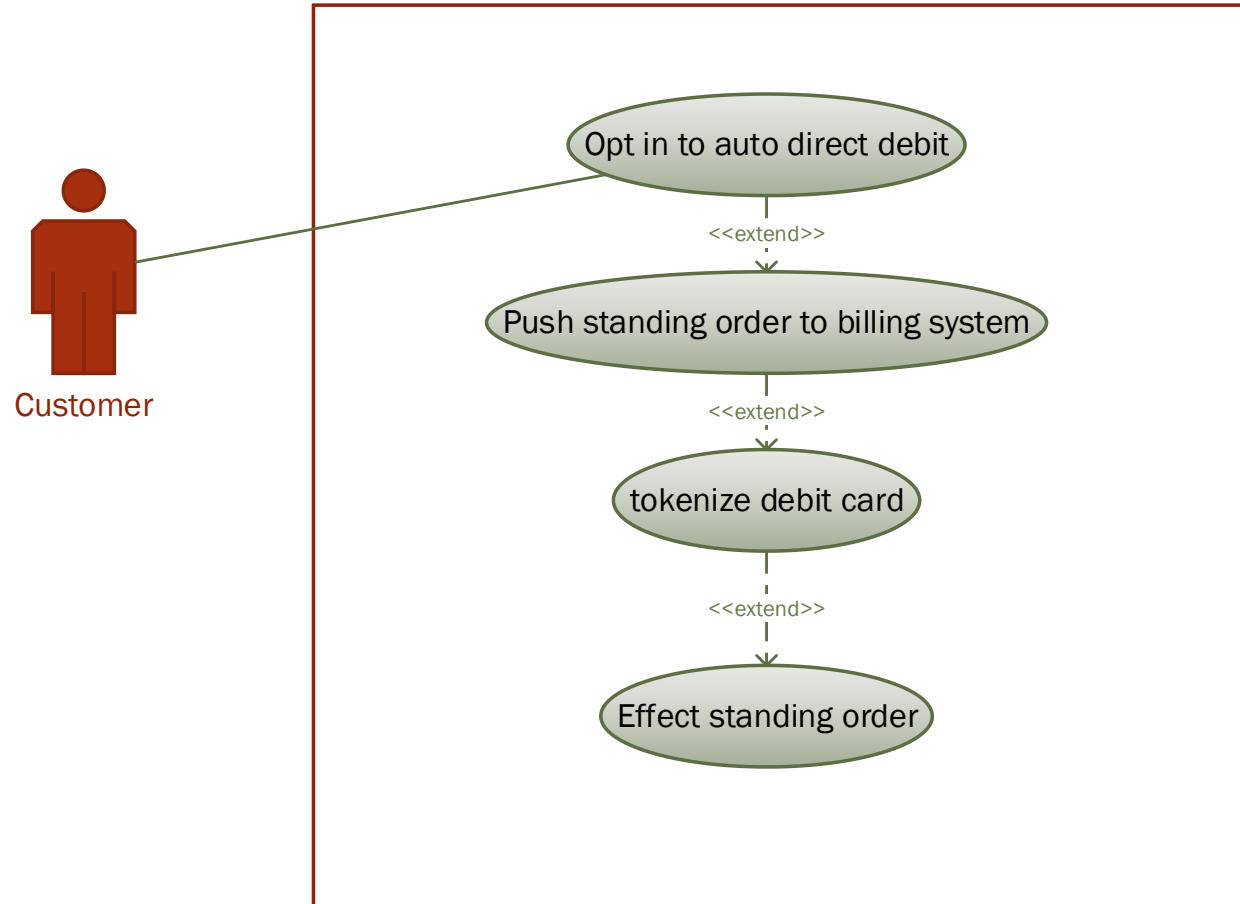
# Use Case Diagrams
## Opt Out of Auto Debit
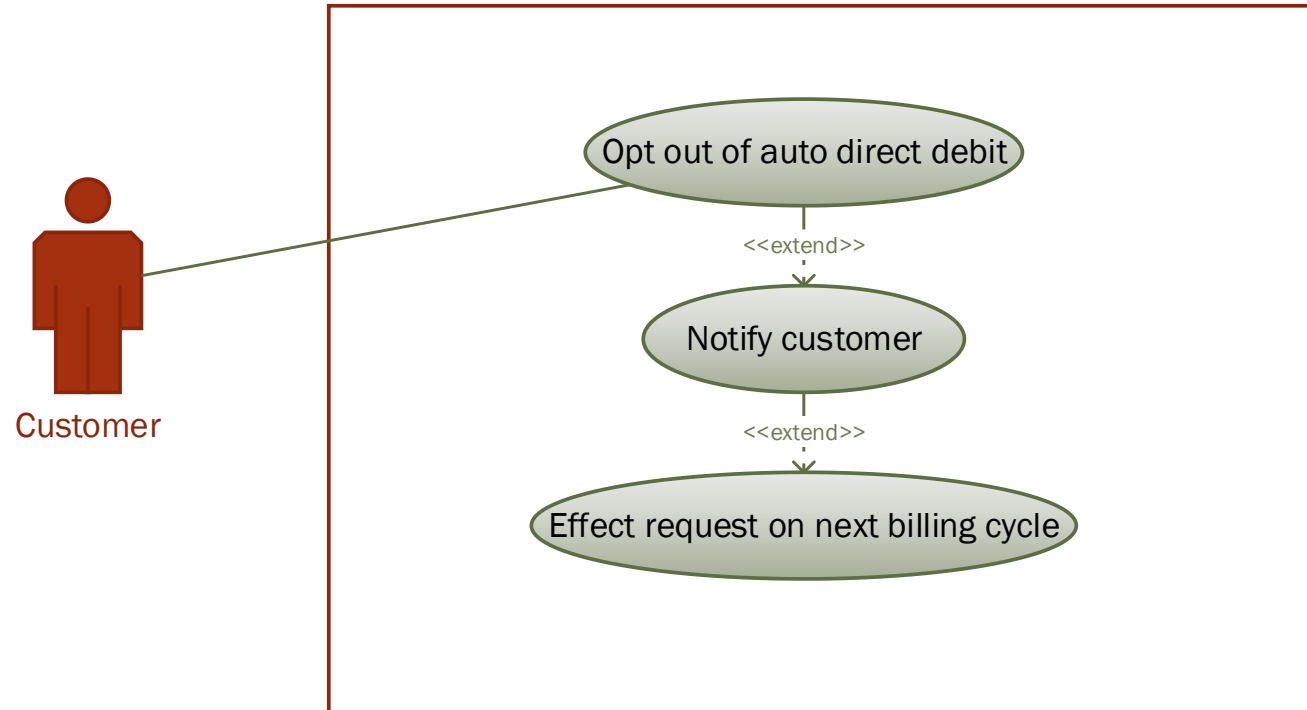
# Use Case Diagrams
## Invoice Generation and Payment

# 02 User Stories and Acceptance Criteria

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# User Stories

| USE CASE ID | UC 1A |
|---|---|
| Use Case Name | Opt into Auto debit via NextGen, myMTN Web |
| Description | Ability to apply for automatic direct debit service |
| Assumptions | • Customer is MTN Postpaid customer<br>• Customer has been onboarded and created on customer management system and billing system |
| Acceptance Criteria | 1. Customer can access MTN Channels such as NextGen, myMTN Web<br>2. Customer select auto direct debit service on the channel<br>3. Customer select opt in option<br>4. System prompt customer to accept the terms and conditions<br>5. If customer did not accept terms and conditions, the system would end the opt in process<br>6. If customer accept the terms and conditions, system will allow the customer to continue with request<br>7. Customer can select either account level or service level (Telco Master). Consumer default option is Service level<br>8. System auto populate the below for either at account level<br>    • Customer Name<br>    • MSISDN<br>    • Account ID<br>    • Customer ID<br>    • Email Address<br>9. System auto populate the below for either at Service level<br>    • Customer Name<br>    • MSISDN<br>    • Service ID<br>    • Customer ID<br>    • Email Address |

# User Stories

| USE CASE ID | UC 1A |
|---|---|
| Acceptance Criteria | 10. Customer select card payment option<br>11. System display existing tokenized cards and option to input new card details -<br>12. Customer can select either existing or use a new Credit/Debit Card<br>13. If customer select existing card, System will list all existing tokenized cards and request customer to select<br>14. If customer select a new card, system will would request customer to input new card details for tokenization<br>15. Customer input new card details<br>16. System auto check save card option and customer is unable to unchecked it<br>17. System trigger OTP to customer and prompt customer to input OTP<br>18. Customer enter OTP<br>19. System tokenized customer card<br>20. System notify customer on successful submission |

# User Stories

| USE CASE ID | UC 1B |
|---|---|
| Use Case Name | Opt into Auto debit via Zigi (Chatbot) |
| Description | Ability to apply for automatic direct debit service |
| Assumptions | • Customer is MTN Postpaid customer<br>• Customer has been onboarded and created on customer management system and billing system |
| Acceptance Criteria | 1. Customer request auto direct debit service on the channel<br>2. Chatbot request customer to select opt in or opt out<br>3. Customer select opt in<br>4. chatbot prompt customer to accept the terms and conditions by selecting Yes or No<br>5. If customer select No, chatbot would end the opt in process<br>6. If customer Select Yes, chatbot will allow the customer to continue with request<br>7. Chatbot request customer to select either account level or service level (Telcom Master). Consumer will only have service level option<br>8. System auto populate the below for either at account level<br>   • Customer Name<br>   • MSISDN<br>   • Account ID<br>   • Customer ID<br>   • Email Address<br>9. System auto populate the below for either at service level<br>   • Customer Name<br>   • MSISDN<br>   • Service ID<br>   • Customer ID<br>   • Email Address |

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# User Stories

| USE CASE ID | UC 1B |
|---|---|
| Acceptance Criteria | 10. Chatbot request customer to select either card payment or Bank payment<br><br>11. Customer select card payment option<br><br>12. Chatbot request customer to select existing tokenized card or use a new card<br><br>13. If customer select existing card, chatbot will list all existing tokenized cards and request customer to select<br><br>14. If customer select a new card, system will generate a link for customer to input new card details for tokenization<br><br>15. Customer click on link to input new card details<br><br>16. System trigger OTP to customer and prompt customer to input OTP<br><br>17. Customer enter OTP<br><br>18. System tokenized customer card<br><br>19. System notify customer on successful submission |

# User Stories

| USE CASE ID | UC 1C |
|---|---|
| Use Case Name | Opt into Auto debit (Walk in) |
| Description | Ability to opt in and give standing order by MTN service centres |
| Assumptions | • Customer is MTN Postpaid customer<br>• Customer has been onboarded and created on customer management system and billing system |
| Acceptance Criteria | 1. Customer visit MTN Service centers<br>2. Customer Request to opt into auto direct debit service<br>3. Frontline agent issue direct debit form with T&C to customer to fill<br>4. Customer completed the form and handover to frontline agent<br>5. If customer reject T&C, frontline agent will not treat the request<br>6. If customer accept T&C, frontline agent will  log in to CLM and select auto direct debit service<br>7. Frontline agent input all necessary information for either account or service level (This is dependent of customer choice on the form)<br>8. Frontline agent select card payment option<br>9. If customer indicated the use of an existing card, system fetch and display list of tokenized cards for customer to select<br>10. If customer indicated the use of a new card , System generate link and send to customer to provide a new card details<br>11. Customer click on link, input a new card details and authenticate with OTP<br>12. Frontline agent complete the opt in  process.<br>13. System notify customer on successful submission |

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# User Stories

| USE CASE ID | UC 2A |
|---|---|
| Use Case Name | Opt out from Auto debit via NextGen, myMTN Web |
| Description | Ability to discontinue automatic direct debit service |
| Assumptions | • Customer is MTN Postpaid customer<br>• Customer has opted into the auto direct debit service |
| Acceptance Criteria | 1. Customer can access MTN Channels such as NextGen, myMTN Web<br><br>2. Customer can select auto direct debit service on the channel<br><br>3. Customer select opt out option and submit request<br><br>4. System notify customer and effect request on next billing cycle |

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# User Stories

| USE CASE ID | UC 2B |
|---|---|
| Use Case Name | Opt out from Auto debit via Zigi (Chatbot) |
| Description | Ability to discontinue automatic direct debit service |
| Assumptions | • Customer is MTN Postpaid customer<br>• Customer has opted into the auto direct debit service |
| Acceptance Criteria | 1. Customer request auto direct debit service on the channel<br>2. Chatbot request customer to select opt in or opt out<br>3. Customer select opt out<br>4. System notify customer and effect request on next billing cycle |

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# User Stories

| USE CASE ID | UC 2C |
|---|---|
| Use Case Name | Opt out from Auto debit (Walk in) |
| Description | Ability to opt out by visiting MTN Service Centres |
| Assumptions | • Customer is MTN Postpaid customer<br>• Customer has opted into the auto direct debit service |
| Acceptance Criteria | 1. Customer visit MTN Centers and opt out of auto direct debit<br><br>2. Frontline Agent log in to CLM and select auto direct debit<br><br>3. Frontline agent select opt out option and submit request<br><br>4. System notify customer and effect request on next billing cycle |

# User Stories

| USE CASE ID | UC 3, 4, 5 and 11 |
|---|---|
| Use Case Name | Bill/Invoice generation, Full bill Payment, Clear impacted invoice, Notification |
| Description | UC 3: Generating customer's invoice/bill and send to the bank to process payment<br>UC 4: Full payment of the impacted invoice<br>UC 5: Impacted invoice would be cleared when bill payment is successful<br>UC 11: System send notification after successful transaction to customer and account support officer |
| Assumptions | • Customer is MTN Postpaid customer<br>• Customer has opted into the auto direct debit service |
| Acceptance Criteria | 1. Billing system generate invoice and send to Payment gateway for payment<br><br>2. Payment Gateway receive invoice and check customer tokenized id<br><br>3. Payment Gateway process payment and deduct full bill payment<br><br>4. Payment Gateway respond with successful payment to Billing System<br><br>5. Billing system clear customer invoice/bill<br><br>6. Billing system notify account support partner on successful invoice payment<br><br>7. Billing system notify customer on successful invoice payment |

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# User Stories

| USE CASE ID | UC 3, 7 and 8 |
|---|---|
| Use Case Name | Bill/Invoice generation, Failed bill payment, Alert notifications on insufficient/failed bill payment |
| Description | UC 3: Generating customer's invoice/bill and send to the bank to process payment<br>UC 7: The impacted invoice would be still be left opened<br>UC 8: Alerting the account support partner on failed bill payment |
| Assumptions | • Customer is MTN Postpaid customer<br>• Customer has opted into the auto direct debit service |
| Acceptance Criteria | 1. Billing system generate invoice and send to payment gateway for payment<br><br>2. Payment Gateway receive invoice and check customer tokenized id<br><br>3. Bill payment would fail if customer is having insufficient funds<br><br>4. Payment gateway notify billing system upon failed payment<br><br>5. Billing system notify customer and also send an escalation alert to account support partner upon failed payment<br><br>6. Billing system leaves invoice opened |

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# User Stories

| USE CASE ID | UC 6 |
|---|---|
| Use Case Name | Add/Delete tokenized card(s) |
| Description | Ability to add a new card or delete an existing card |
| Assumptions | • Customer is MTN Postpaid customer<br>• Customer has opted into the auto direct debit service |
| Acceptance Criteria | 1. Customer can access MTN Channels such as NextGen, myMTN Web and Zigi (Chatbot)<br>2. Customer can select auto direct debit service on the channel<br>3. Customer select add/delete card option<br>4. Channels fetch tokenized cards From Payment Gateway<br>5. Payment Gate send list of tokenized card and link to use a new card<br>6. Customer delete existing card and input a new card<br>7. CPG validate the new card status and send an OTP to customer to authenticate<br>8. Customer authenticate with OTP<br>9. CPG send tokenized id to channels<br>10. Channel complete onboarding process and notify DCBS with onboarding info<br>11. DCBS Store customer request information and tokenized ID |

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# User Stories

| USE CASE ID | UC 10 |
|---|---|
| Use Case Name | View Payment history |
| Description | Ability to view bill payment history |
| Assumptions | • Customer is MTN Postpaid customer<br>• Customer has opted into the auto direct debit service<br>• Customer has history of payment transactions. |
| Acceptance Criteria | • Customer can access MTN Channels such as NextGen, myMTN Web and Zigi (Chatbot)<br><br>• Customer select auto direct debit<br><br>• Customer select payment history<br><br>• Channels query payment history from DCBS via MADAPI<br><br>• DCBS respond with list of payment transactions back to the channels via MADAPI<br><br>• Channels display list of payment transactions. |

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# User Stories

| USE CASE ID | UC 11 |
|---|---|
| Use Case Name | Survey/Customer's feedback |
| Description | Customer would be able to provide feedback on the automated direct debit experience |
| Assumptions | • Customer is MTN Postpaid customer<br>• Customer has opted into the auto direct debit service |
| Acceptance Criteria | 1. Channel generate survey/feedback link on a monthly or quarterly basis<br><br>2. Channel send survey/feedback link to customer<br><br>3. Customer receive link and click on link<br><br>4. Customer is redirect to the channel that sent the link<br><br>5. Customer answered all survey/feedback questions and submit<br><br>6. Channel record survey/feedback answered. |

# User Stories

| USE CASE ID | UC 12 |
|---|---|
| Use Case Name | Open Invoice Payment |
| Description | Customer would be able to check open invoice and make payment |
| Assumptions | • Customer is MTN Postpaid customer<br>• Customer has opted into the auto direct debit service<br>• Customer has an open invoice to offset |
| Acceptance Criteria | 1. Customer access MTN channels<br><br>2. Customer click on bill payment<br><br>3. Customer input either invoice number, service ID or account ID<br><br>4. System display open invoice<br><br>5. Customer click on make payment<br><br>6. System process bill payment<br><br>7. System notify customer and account support partner upon successful bill payment. |

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# 03 Business Rules

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# Business Rules

| S/N | Business Rules On Debit Notification And Timeline Based On Customer Sub-segment |
|-----|-------------------------------------------------------------------------------|
| 1 | SME SOHO/MICRO and Consumer customers will receive debit notification on 3rd of every month – immediately after bill run |
| 2 | SME SOHO/MICRO and Consumer customers bank account will be debited on 5th of every month |
| 3 | Where there is a delay in bill run, customer's grace period will be extended / reviewed by the same number of days for SME SOHO/MICRO and Consumer customers. |
| 4 | Large Enterprise, SME-Medium and SME Small customers that opted for direct debit will received debit notification on 8th of every month |
| 5 | Large Enterprise, SME-Medium and SME Small customers that opted for direct debit bank account will be debited on 10th of every month |
| 6 | Where there is a delay in bill run, customer's grace period will be extended / reviewed by the same number of days for Large Enterprise, SME-Medium and SME Small customers |

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# 04 Integration Architecture

# Integration Architecture

# 05 Sequence Diagrams

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# UC 1A: NextGen, myMTN Web Opt In Flow (Existing Card)

**NextGen, MyMTNWeb**

Actors/Lifelines: Customer | Channels | MADAPI | CPG | Card Platform | Bank | DCBS | CLM

System to auto-populate the below required details

- **account level**
  - Customer Name
  - MSISDN
  - Account id
  - Customer id
  - Email Address
- **service level**
  - Customer Name
  - MSISDN
  - Service id
  - Customer id
  - Email Address

Customer → Channels: Launch App/Web
Channels → MADAPI: Fetch customer profile
MADAPI → CLM: Fetch customer profile
CLM: Check customer profile
CLM → MADAPI: Response
MADAPI ⇠ Channels: Response
Customer → Channels: Select auto direct debit
Customer → Channels: Select Opt in
Channels: Display T&C

**Disagree to T&C**
Customer → Channels: Disagree to T&C
Channels: End Application process

Customer → Channels: Agree to T&C
Channels → MADAPI: Call bill management API
MADAPI → DCBS: fetch bill management API
DCBS: fetch bill management API
DCBS → MADAPI: Response
MADAPI ⇠ Channels: Response
Channels: Display bill profile

**Telco Master**
Channels: Select either account/ Service level

**SMEs/Consumer**
The default option should be service level and the required details should be auto-populated

Channels: Display payment option
Customer → Channels: Select card payment
Channels: Prompt customer to select existing/new card
Customer → Channels: Select existing card
Channels → MADAPI: Fetch tokenized card(s)
MADAPI → CPG: Fetch tokenized card(s)
CPG: check tokenized records
CPG → MADAPI: Response
MADAPI ⇠ Channels: Response
Channels: Display list of tokenized card(s)
Customer → Channels: Select card
Customer → Channels: Click Submit
Channels: update Opt in details
Channels → DCBS: Notify DCBS with Opt in info
Channels → DCBS: Notify DCBS with Opt in info
DCBS: Activate auto direct service
DCBS: Keep Opt in info

DCBS to keep opt info for the purpose of payment. The opt info includes the tokenized card ID(s)

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# UC 1A: NextGen, myMTN Web Opt In Flow (New Card)

# UC 1B: Zigi Opt In Flow (Existing Card)



System to auto-populate the below required details
- **account level**
  - Customer Name
  - MSISDN
  - Account id
  - Customer id
  - Email Address
- **service level**
  - Customer Name
  - MSISDN
  - Service id
  - Customer id
  - Email Address

DCBS to keep opt info for the purpose of payment. The opt info includes the tokenized card ID(s)

# UC 1B: Zigi Opt In Flow (New Card)

# UC 1C: Walk In Opt In Flow (Existing Card)

# UC 1C: Walk In Opt In Flow (New Card)
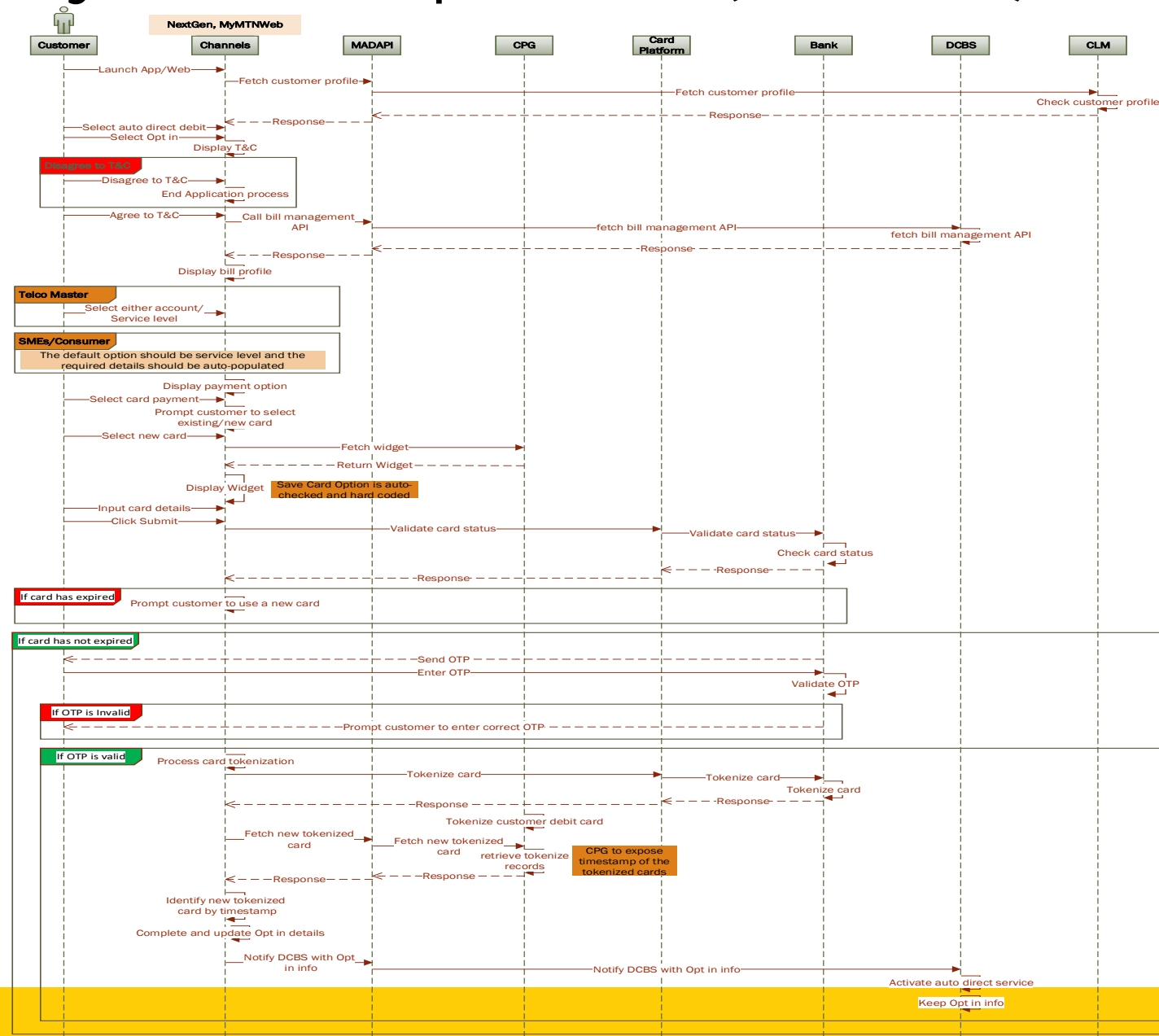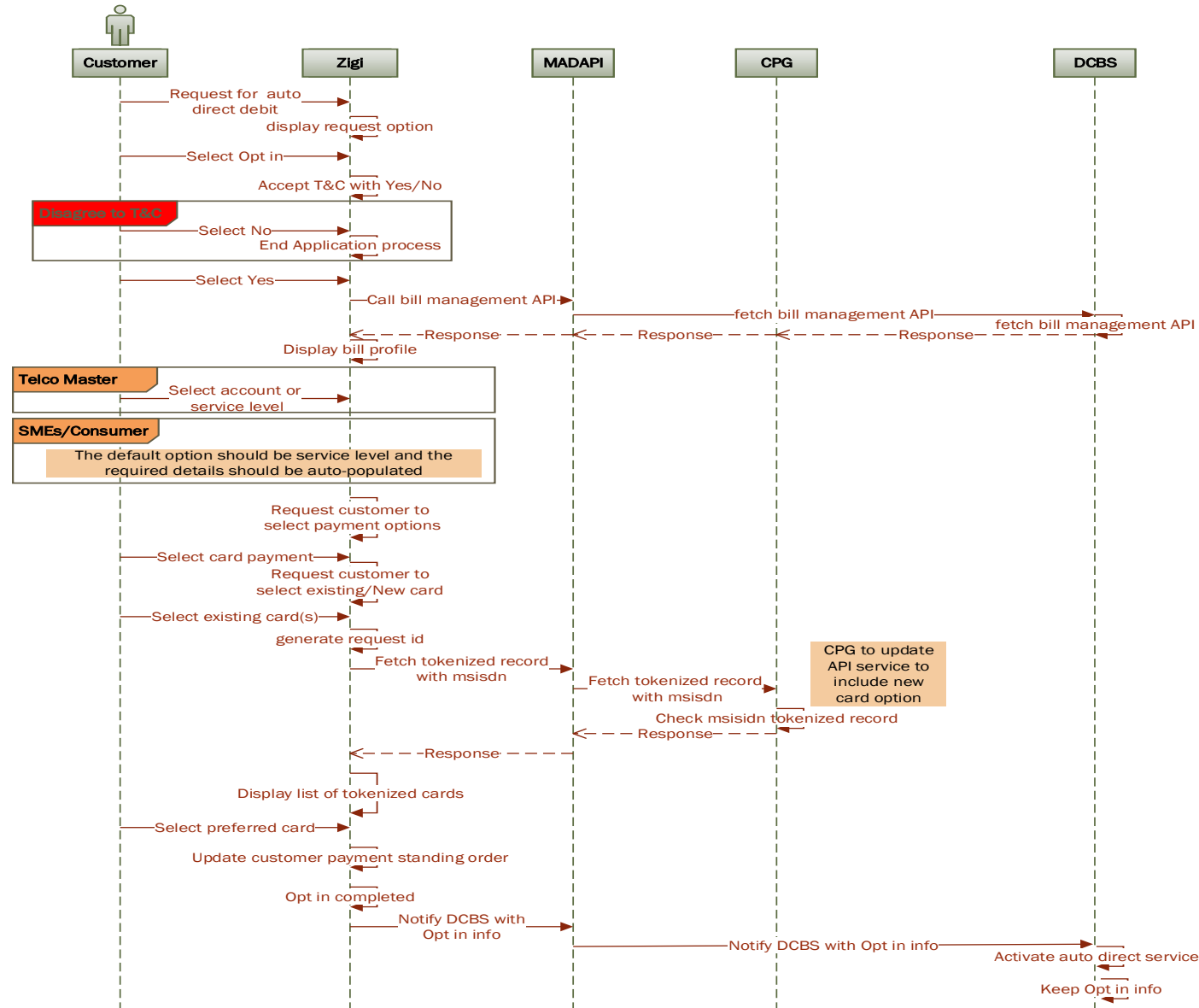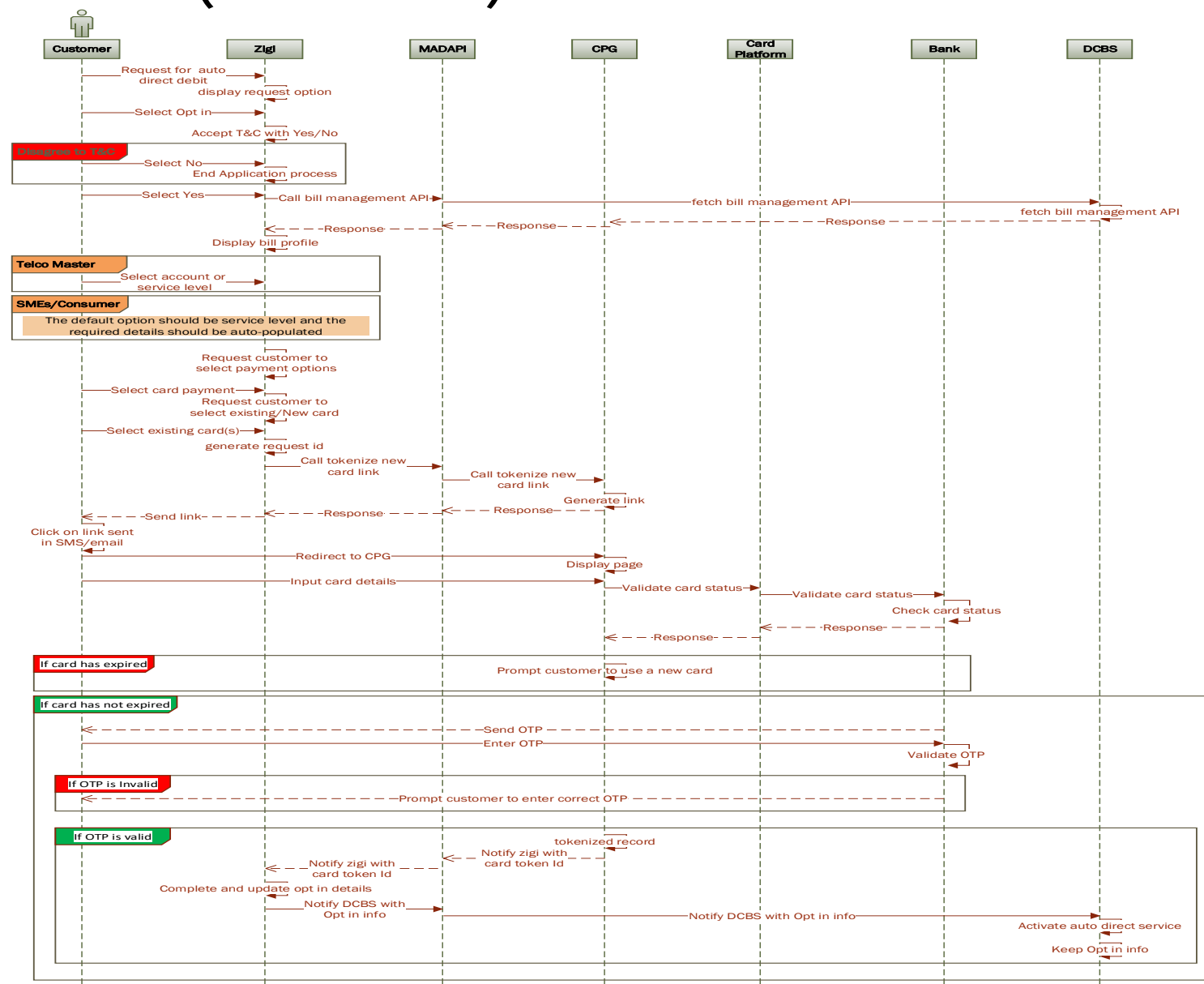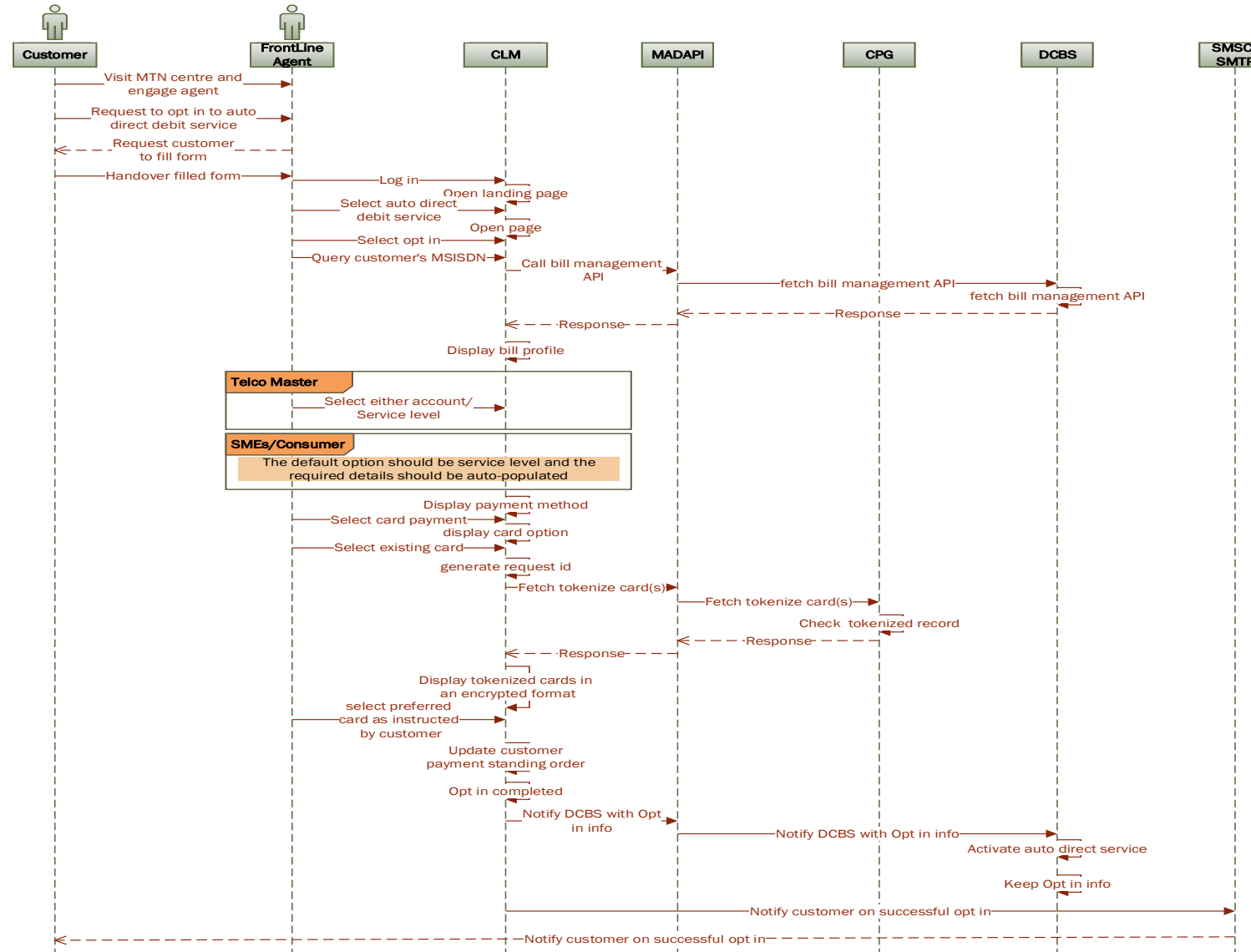
System to auto-populate the below required details

- **account level**
  - Customer Name
  - MSISDN
  - Account id
  - Customer id
  - Email Address
- **service level**
  - Customer Name
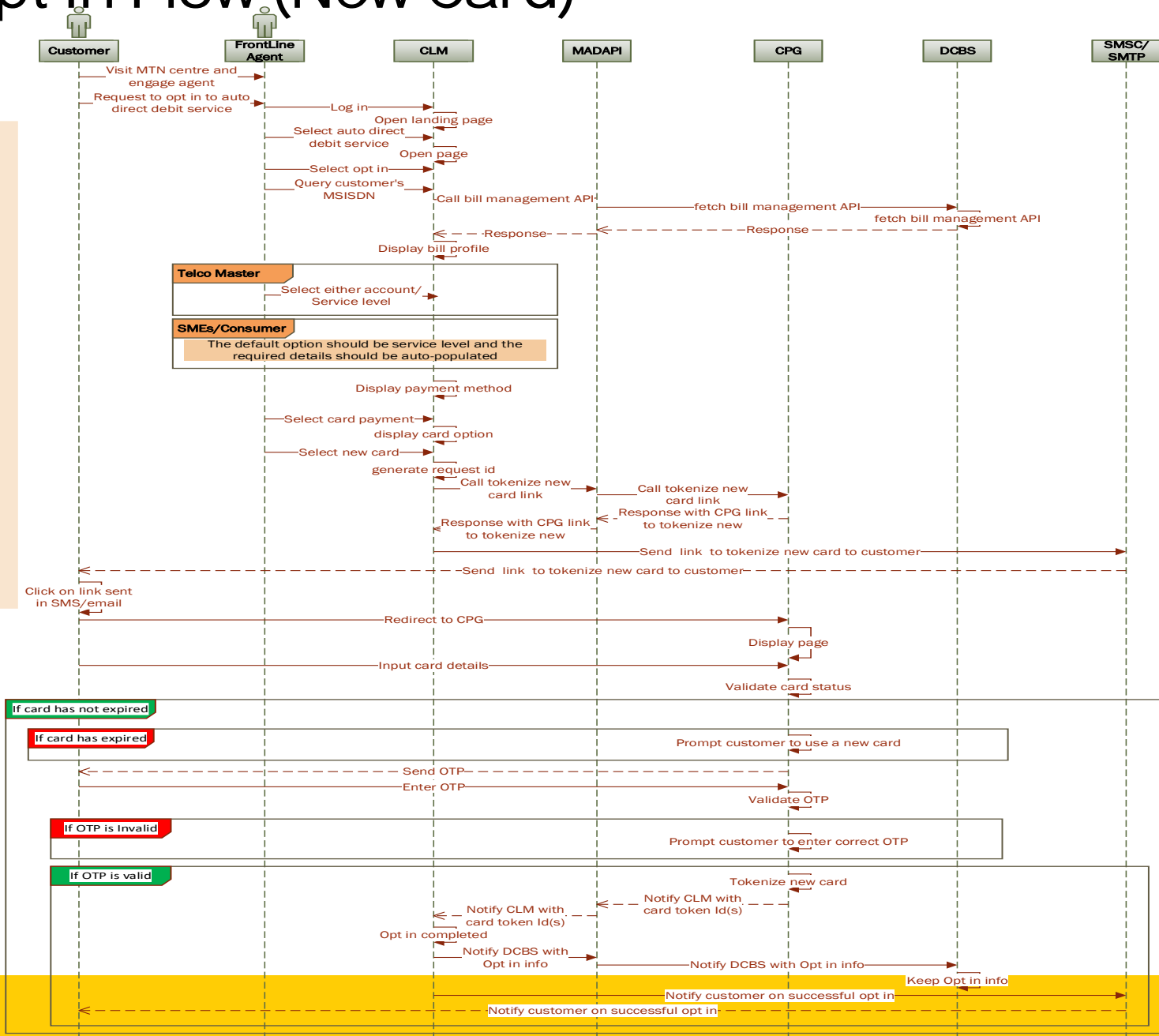  - MSISDN
  - Service id
  - Customer id
  - Email Address

**Participants:** Customer, FrontLine Agent, CLM, MADAPI, CPG, DCBS, SMSC/SMTP

- Customer → FrontLine Agent: Visit MTN centre and engage agent
- Customer → FrontLine Agent: Request to opt in to auto direct debit service
- FrontLine Agent → CLM: Log in
- CLM → FrontLine Agent: Open landing page
- FrontLine Agent → CLM: Select auto direct debit service
- CLM → FrontLine Agent: Open page
- FrontLine Agent → CLM: Select opt in
- FrontLine Agent → CLM: Query customer's MSISDN
- CLM → MADAPI: Call bill management API
- MADAPI → DCBS: fetch bill management API
- DCBS → SMSC/SMTP: fetch bill management API
- DCBS → MADAPI: Response
- MADAPI → CLM: Response
- CLM → FrontLine Agent: Display bill profile

**Telco Master**
- FrontLine Agent → CLM: Select either account/ Service level

**SMEs/Consumer**
The default option should be service level and the required details should be auto-populated

- CLM → FrontLine Agent: Display payment method
- FrontLine Agent → CLM: Select card payment
- CLM → FrontLine Agent: display card option
- FrontLine Agent → CLM: Select new card
- CLM: generate request id
- CLM → MADAPI: Call tokenize new card link
- MADAPI → CPG: Call tokenize new card link
- CPG → MADAPI: Response with CPG link to tokenize new
- MADAPI → CLM: Response with CPG link to tokenize new
- CLM → SMSC/SMTP: Send link to tokenize new card to customer
- SMSC/SMTP → Customer: Send link to tokenize new card to customer
- Customer: Click on link sent in SMS/email
- Customer → CPG: Redirect to CPG
- CPG → Customer: Display page
- Customer → CPG: Input card details
- CPG: Validate card status

**If card has not expired**

**If card has expired**
- CPG → Customer: Prompt customer to use a new card

- CPG → Customer: Send OTP
- Customer → CPG: Enter OTP
- CPG: Validate OTP

**If OTP is Invalid**
- CPG → Customer: Prompt customer to enter correct OTP

**If OTP is valid**
- CPG: Tokenize new card
- CPG → MADAPI: Notify CLM with card token Id(s)
- MADAPI → CLM: Notify CLM with card token Id(s)
- CLM: Opt in completed
- CLM → MADAPI: Notify DCBS with Opt in info
- MADAPI → DCBS: Notify DCBS with Opt in info
- DCBS → SMSC/SMTP: Keep Opt in info
- CLM → SMSC/SMTP: Notify customer on successful opt in
- SMSC/SMTP → Customer: Notify customer on successful opt in

DCBS to keep opt info for the purpose of payment. The opt info includes the tokenized card ID(s)

MTN

# Add/Delete Tokenized Card(s)

# NextGen App, myMTN Web Opt Out Flow



Customer — Launch App/Web/Chatbot channels → Channels

Customer — Select auto direct debit → Channels

Customer — Select opt out → Channels

Customer — Submit request → Channels

Channels: Process request

Channels: Generate request id

Channels — Notify DCBS → MADAPI

MADAPI — Notify DCBS → DCBS

DCBS: Apply on next billing cycle

**NextGen, myMTN Web**

DCBS to stop sending invoice to impacted banks on next billing cycle

MTN

# Zigi Opt Out Flow

# Walk In Opt Out Flow

# Bill/Invoice Generation, Full Bill Payment, Clear Impacted Invoice, Notification
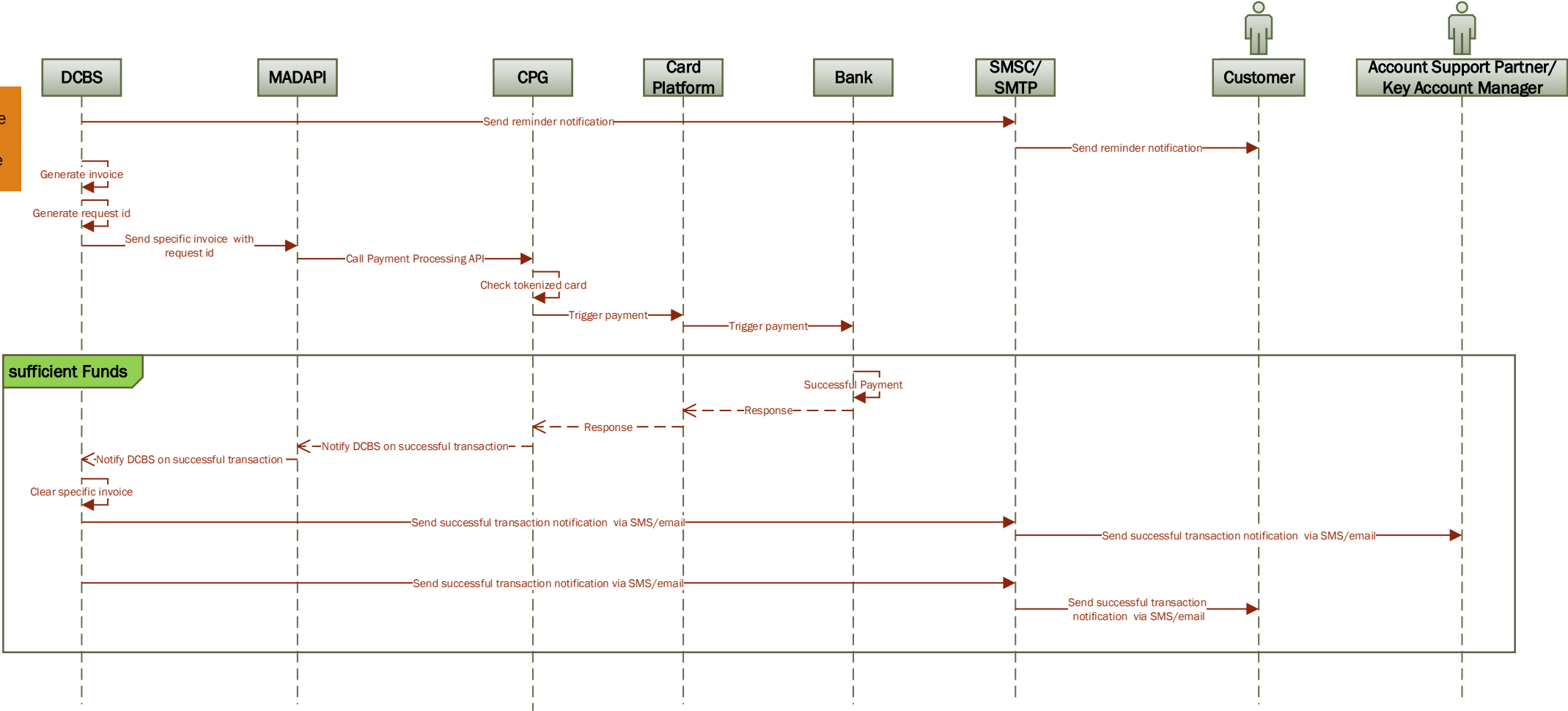
# Bill/Invoice Generation, Failed Bill Payment, Alert Notifications On No Funds, Notification
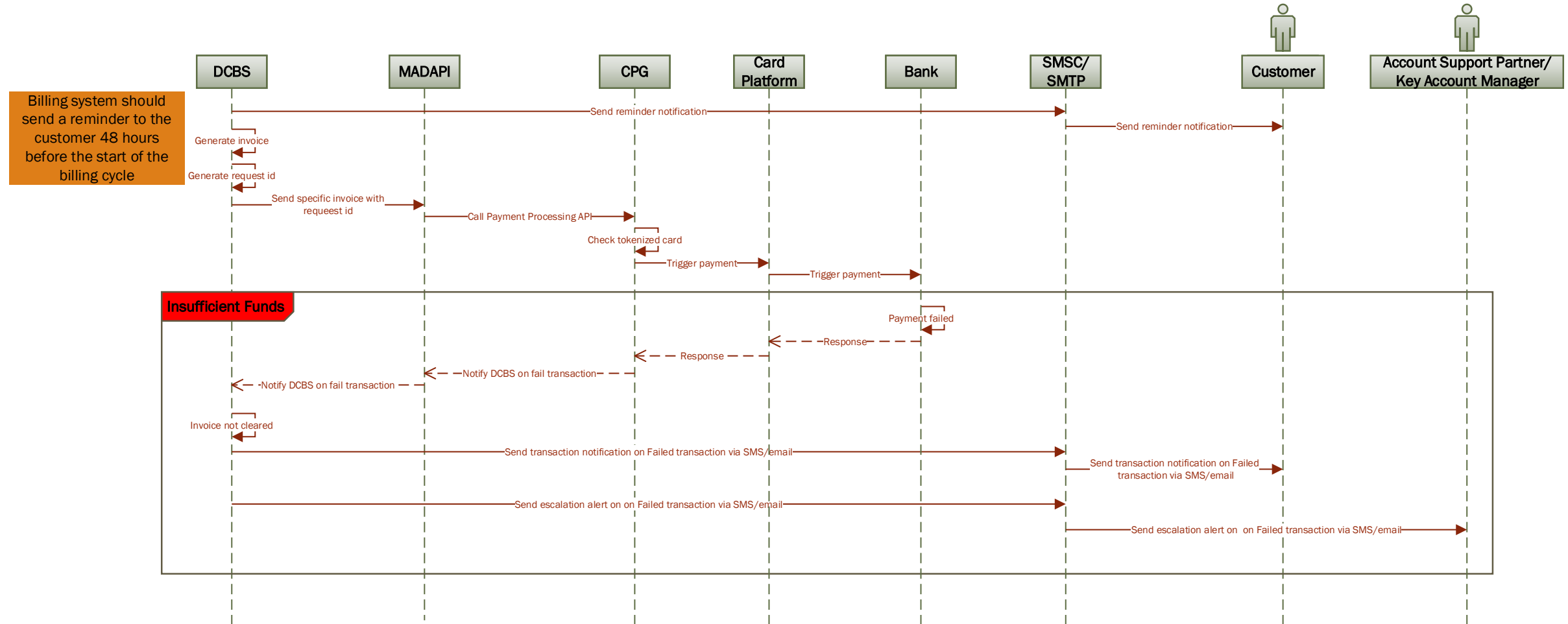
# View Payment History
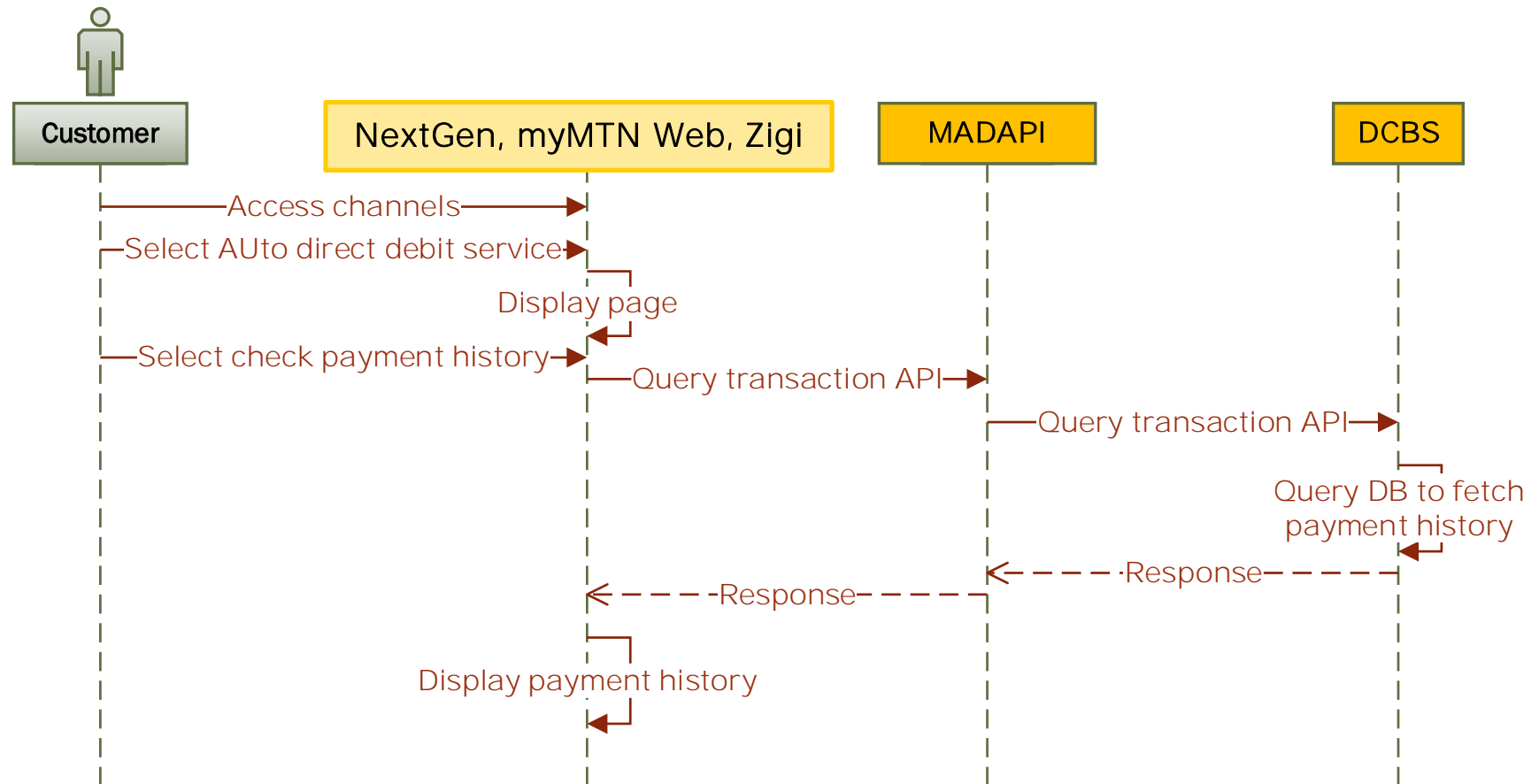
# Open Invoice Payment
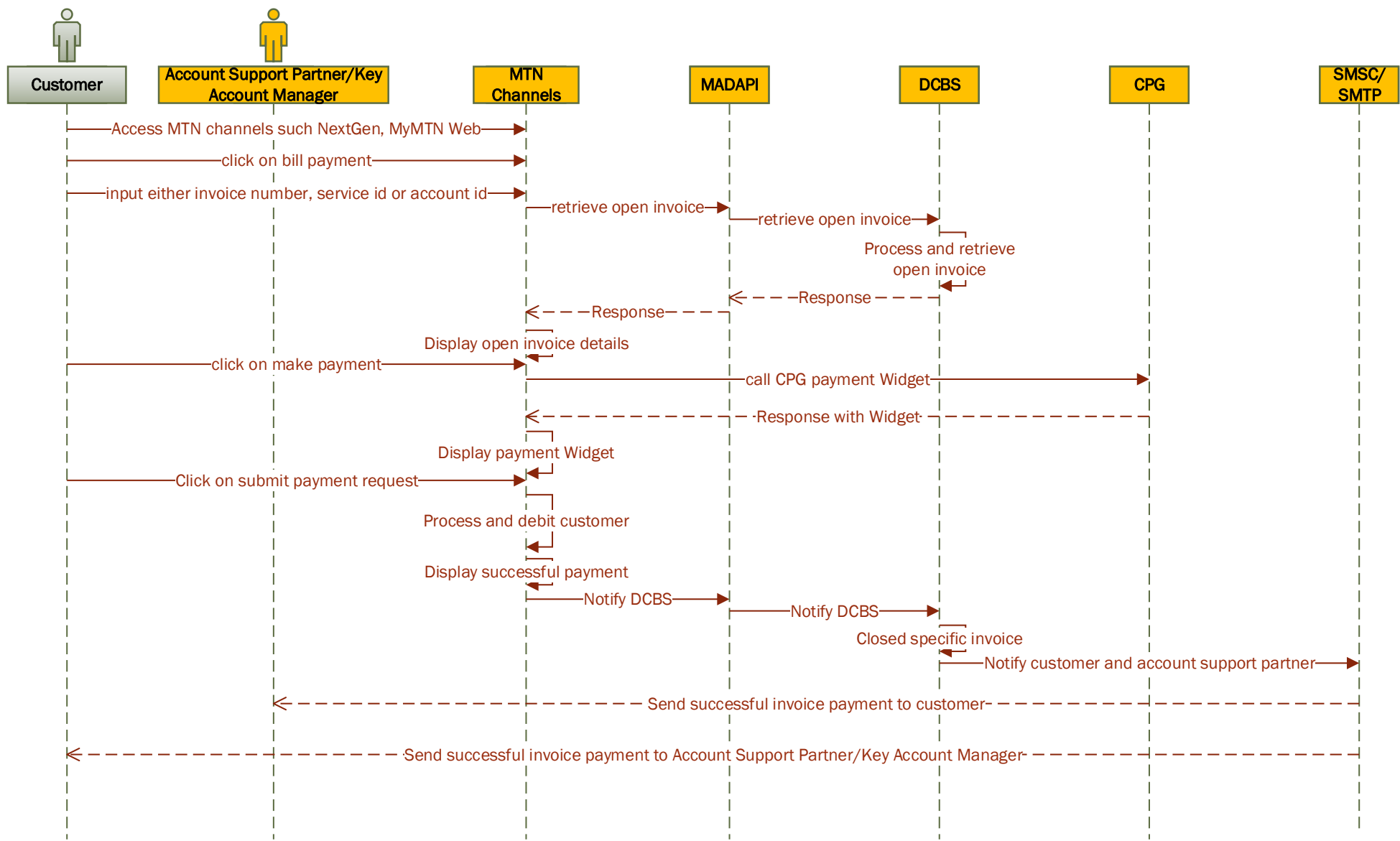
# Survey/Customer's Feedback
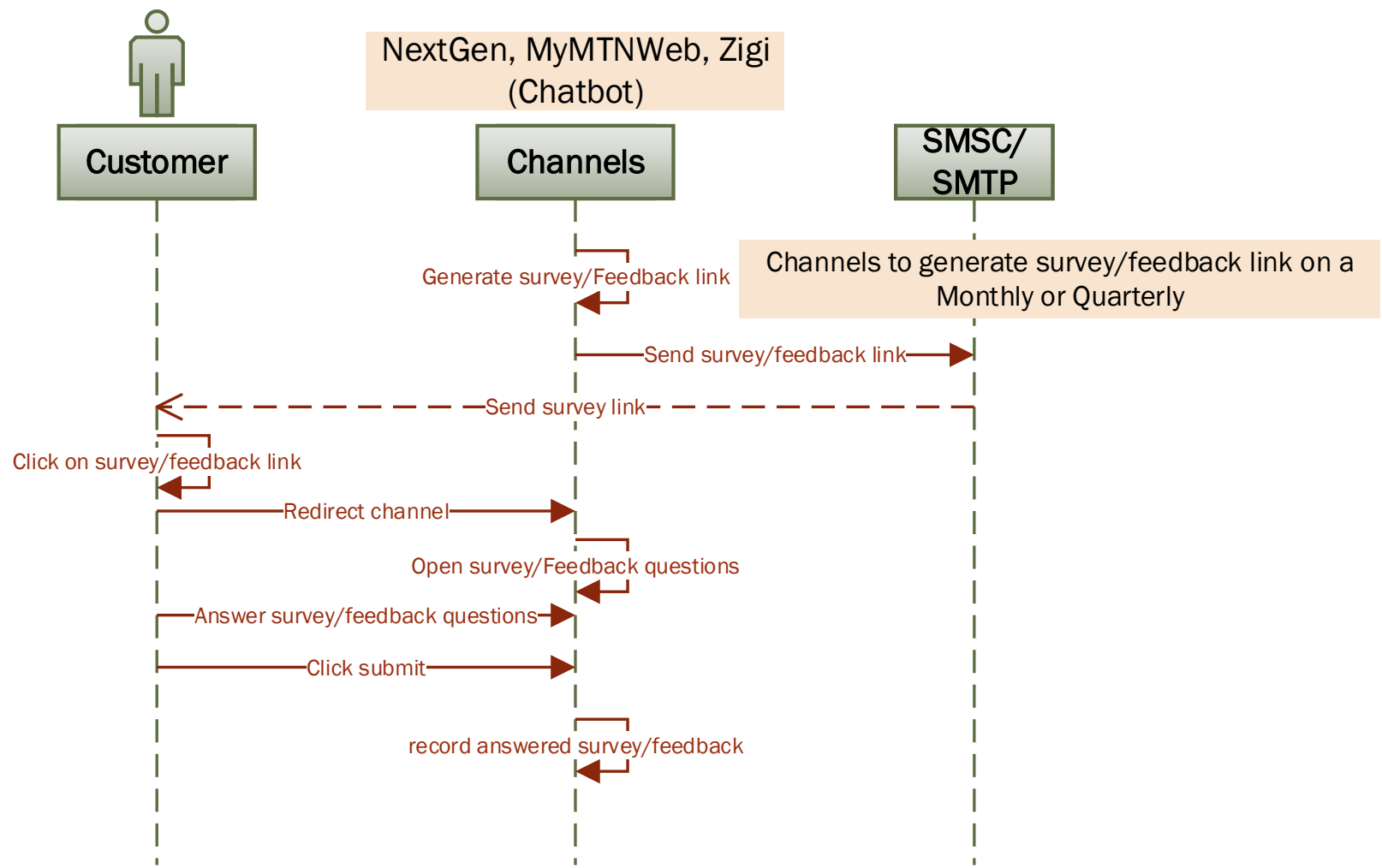
# Survey/Customer's feedback

## Tell us about MTN Direct Debit

We welcome your ideas, requests or comments about our direct Debit.

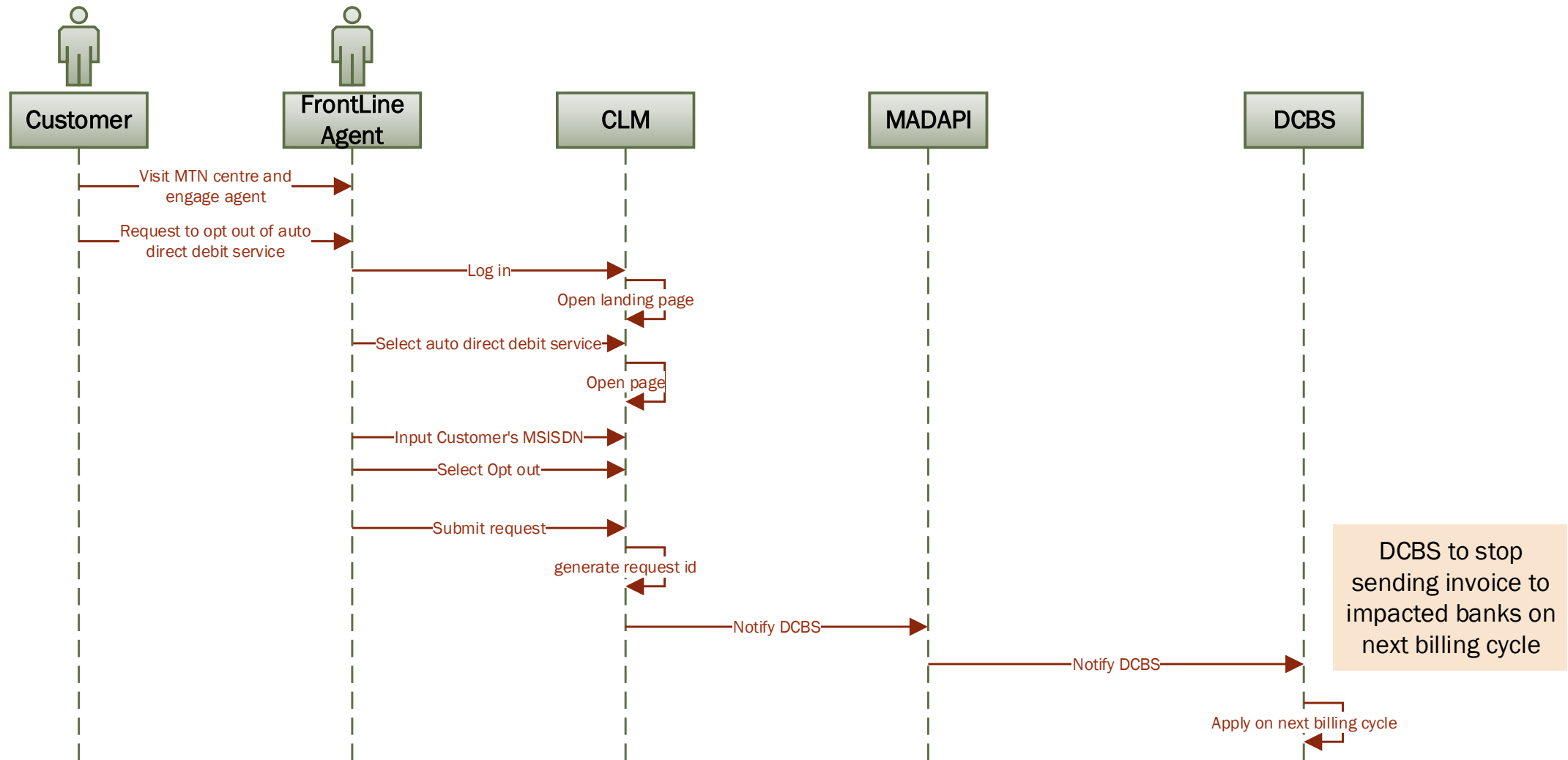We'll use them to improve our service. For help please contact: billingbanks.banks@mtn.com

You can also submit a support ticket there.

* Required information

What would you like to tell us about? *

List of option to select from:

List of selected options –
- What I like
- What I do not like
- Suggest an improvement
- Suggest a new idea
- General comment

MTN

# Survey/Customer's feedback

Tell us more. And thank you. *

Create a box for customer feedback

Email: (optional, if you would like us to respond)

Another box for customer to input e-mail

MTN

# 06 Integration Interface Design (API, Web Service)

# Provider System API Specifications

| ID | Service/API Name | Use Case | Provider System | Consuming System | Middleware? |
|----|------------------|----------|-----------------|------------------|-------------|
| 1 | Fetch Tokenized Record | Existing tokenized card | CPG | NextGen, CLM, MTN Web, Zigi | MADAPI |
| 2 | Notify API | 1. Successful payment<br>2. Failed Payment | CPG | NextGen, CLM, MTN Web, Zigi | MADAPI |
| 3 | Query Transaction | View payment history | CPG | NextGen, CLM, MTN Web, Zigi | MADAPI |
| 4 | Payment Processing | Bill/invoice generation and Payment | CPG | DCBS | MADAPI |
| 5 | Notify API | 1. Opt out<br>2. Opt in | DCBS | NextGen, CLM, MTN Web, Zigi | MADAPI |
| 6 | New Card tokenization | New Card | CPG | NextGen, CLM, MTN Web, Zigi | MADAPI |
| 7 | Bill payment Management | Open Invoice Payment | DCBS | NextGen, MTN Web | MADAPI |
| 8 | Payment Process | Open Invoice Payment | CPG | NextGen, MTN Web | MADAPI |
| 9 | Party manager | Customer bill information | DCBS | NextGen, CLM, MTN Web, Zigi | MADAPI |

# 07 Exception Management

MTN

# Exception Management - T & C Disagreement
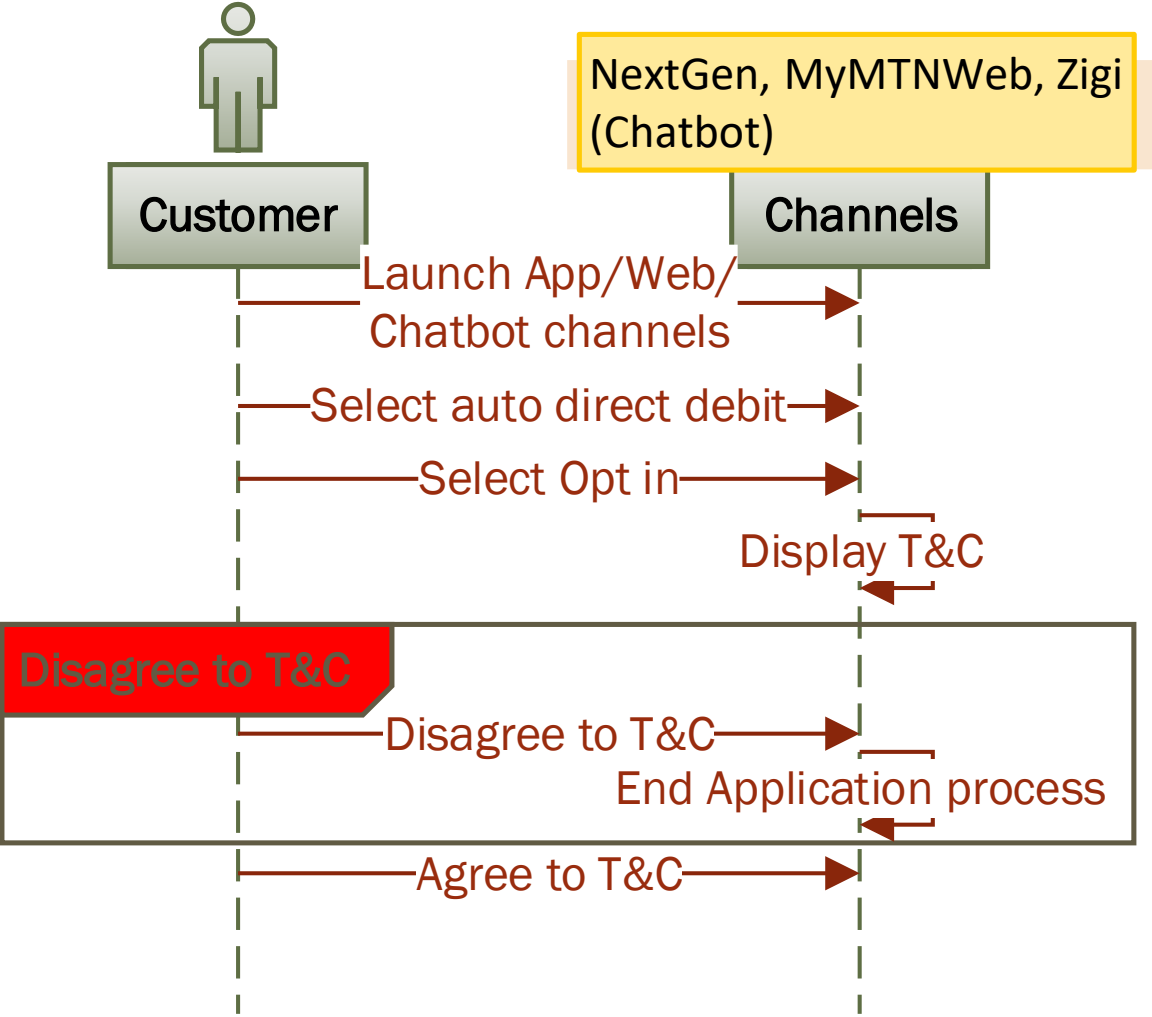
# 08 Reporting

# Reports

| S/N | Field Name | Description |
|-----|-----------|-------------|
| 1 | Profile ID (From Order Management System) | Unique ID assigned to a profile on the billing system |
| 2 | Account ID (From Order Management System) | The account level ID of the account(s) created as a result of the account |
| 3 | Service ID | MSISDN, DN, Username |
| 4 | Customer Name | Name of external Customer |
| 5 | Segment(Corporate, Carrier, SME, Consumer) | Section which document is administer |
| 6 | Type of Service | Specify the type of service for uptake |
| 7 | Amount | Details of direct debit amount |
| 8 | Card Type | Type of the card used to make payment |
| 9 | Time stamp | Time and date the payment was made |
| 10 | Status | Successful / failed |
| 11 | Transaction Ref ID | Transaction reference |
| 12 | Invoice Amount | Total on invoice paid |
| 13 | Comments | Track comment |
| 14 | Administrator/authorize username | Pick name of user and commenters |

MTN

# 09 Performance

# Performance

| S/N | Requirements |
|-----|--------------|
| 1 | The system shall respond within 2 seconds to a user click and action |
| 2 | Over reasonably common internet connection speeds, the server should respond to client requests in less than one second |
| 3 | Querying the database should take less than one second. |

MTN

# 10 Capacity

MTN

# Capacity

| S/N | Requirements |
|---|---|
| 1 | Resource usage – At peak period, resource utilization shall not exceed 80% of memory and CPU capacity |
| 2 | Storage growth shall be considered and planned for as this will be required as platform usage increase |

# 11 Availability

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# Availability

| S/N | Requirements |
|:---:|---|
| 1 | Outage during critical working hour shall be limited to less than 44.64 minutes in a month |
| 2 | The service/solution shall be available for user for 24x7 i.e., hours of operation must be 24x7 |
| 3 | The service/solution shall have 99.50%  / 99.90% availability |

# 12 Monitoring

# Monitoring

| S/N | Requirements |
|-----|--------------|
| 1 | There shall be URL monitoring to ensure service availability |
| 2 | There shall be application and database monitoring on the system |
| 3 | There shall be logfile, processes, services and port monitoring where applicable on the system |

MTN

# 12 Security

# Security

| S/No. | Required | Control | Requirement Description |
|---|---|---|---|
| 1 | Data Protection | Data in Transit | TLS 1.2 should be applied to transport channels that application will use to transmit sensitive information, session tokens, or other sensitive data to a backend API or web service(E.g communication between MADAPi and myMTN Web, NextGen APP, DCBS, CPG) |
| | | | Card details such as cvv,card numbr and expiry date should be tokenized securely |
| | | | All integrations in the internal environment (DCBS, myMTNAPP, web etc) shall be via a middleware i.e MADAPi) |
| | | | E2E encryption must be in place. TLS 1.2 should be applied to transport channels that application will use to transmit sensitive information. |
| | | Session Management | Session IDs should be unique to users and issued after successful authentication. |
| | | | The session IDs shall be randomly generated from a respected randomization source of a sufficient length and must not contain personal information nor offer unnecessary details about the purpose and meaning of the ID. |
| | | | 5 minutes time-out shall be set for inactive sessions. Should be configurable |
| | | | Session ID shall be protected throughout their life cycle (be encrypted using AES 256) |
| | | Data at Rest | All sensitive information at rest should be encrypted using atleast AES 256 |
| | | | All sensitive information (Customer data, financial data) shall be encrypted |
| | | | Applications must never connect to database using the database administrator account or an account with schema privileges. |
| | | | Database remote connectivity should be disabled |
| | | | Disable all insecure connection to the Database via protocols such as FTP, Telnet, rlogin, etc. |
| | | 3rd Party Integration | Integration to Third Party Systems (E.g integration to payment gateway) must follow the MTN Third Party Integration Standards. |
| 2 | Exception Handling | Exception Handling | Errors messages on the application shall reflect just enough information to the customer without giving the user information about internal state of the application (the code, the file system, or permissions). |
| | | | System shall fail secure in the event of an error that causes the program or a part of the program to fail |

# Security

| S/No. | Required | Control | Requirement Description |
|---|---|---|---|
| 3 | Audit and Logs | Enable Detailed Logging | Enable system logging to include detailed information such as an event source, date, user, timestamp, source addresses, destination addresses, and other useful elements. |
| | | No sensitive information in clear text in logs | Sensitive information must not be stored/cached and must not appear in any system log |
| | | Maintain a Log Database | Log all API errors. Errors at a minimum include:<br>API Request failure, API authentication errors and API wrong HTTP methods |
| | | Log and Alert on Unsuccessful Login | Configure systems to issue a log entry and alert on unsuccessful logins to the portal. |
| 4 | API Security | API Security | Authenticate first, Authorize next before all API communications |
| | | | Implement Throttling and Resource Quotas |
| | | | Enforce Encryption all end to end. TLS 1.2 must be implemented for proper protection of authentication credentials in transit, such as API keys and session tokens. |
| | | | Enforce an arrest in spike traffic or a per-app usage quota, so that the backend won't be impacted |
| 5 | Transport Security | Data Integrity | All internal systems (SMSC, DCBS) platform should maintain the current security features |
| | | | TLS 1.2 should be applied to transport channels that CPG will use to transmit sensitive information, session tokens, or other sensitive data to a backend API or web service. |
| 6 | Priacy | Customer Data Protection | Customers must accept terms and conditions before submitting their debit/credit cards details on the Portal/ USSD Channel. A link to the full terms and condition shall be made available on the application |
| | | | Customer's data should not for any reason be used or tampered without the customer's consent |
| | | | Limit the access to customer data to only authorized and authenticated users |

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# 13 High Level Work Packages

**MTN**

# High Level Work Packages

## TechMahindra

### NextGen

- Create a menu for automatic Direct Debit Service
- Customer should be able to opt in and opt out
- Create and enable customer to agree to T&C before proceeding with direct debit application.
- Create a logic for the system to end the application process when a customer disagree with the T&C.
- Telco master should be able to select either account or service level.

- System auto populate the below for either at account level
  - Customer Name
  - MSISDN
  - Account ID
  - Customer ID
  - Email Address

- Other corporate customer should be able to select either account or service level.

- System auto populate the below for either at Service level
  - Customer Name
  - MSISDN
  - Service ID
  - Customer ID
  - Email Address
- Enable Customer to select an existing tokenized card or a new card
- Fetch and display existing tokenized card for the customer to select from upon picking existing card option
- Transmit request and include customer info and tokenized ID to DCBS to commence debit actions at the appropriate time.
- Make it possible for Customer to be able to cancel or opt out of Direct Debit function running on their account and notify DCBS
- Direct debit functionality  should be flexible enough for the removal, addition, and modification of the required customer information.
- Make it possible for customer to be able to add a new card and delete an existing card.
- Make it possible for customer to b able to check payment history.
- Make it possible for customer to query open invoice and make payment for the open invoice
- Create, generate and trigger survey/feedback link on a monthly or quarterly basis to customers.
- Store answered survey/feedbacks questions for business review.

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# High Level Work Packages

## Comviva

### myMTN Web

- Create a menu for automatic Direct Debit Service
- Customer should be able to opt in and opt out
- Create and enable customer to agree to T&C before proceeding with direct debit application.
- Create a logic for the system to end the application process when a customer disagree with the T&C.
- Telco master should be able to select either account or service level.
- System auto populate the below for either at account level
  - Customer Name
  - MSISDN
  - Account ID
  - Customer ID
  - Email Address

- Other corporate customer should be able to select either account or service level.

- System auto populate the below for either at Service level
  - Customer Name
  - MSISDN
  - Service ID
  - Customer ID
  - Email Address
- Enable Customer to select an existing tokenized card or a new card
- Fetch and display existing tokenized card for the customer to select from upon picking existing card option
- Display CPG widget for a customer to purchase a product for a new card to be tokenized when a customer select new card option.
- Transmit request and include customer info and tokenized ID to DCBS to commence debit actions at the appropriate time.
- Make it possible for Customer to be able to cancel or opt out of Direct Debit function running on their account and notify DCBS
- Direct debit functionality should be flexible enough for the removal, addition, and modification of the required customer information.
- Make it possible for customer to be able to add a new card and delete an existing card.
- Make it possible for customer to b able to check payment history.
- Make it possible for customer to query open invoice and make payment for the open invoice
- Create, generate and trigger survey/feedback link on a monthly or quarterly basis to customers.
- Store answered survey/feedbacks questions for business review.

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# High Level Work Packages

## VoiceWeb
## Zigi

- Create a menu for automatic Direct Debit Service
- Customer should be able to opt in and opt out
- Create and enable customer to agree to T&C before proceeding with direct debit application.
- Create a logic for the system to end the application process when a customer disagree with the T&C.
- Telco master should be able to select either account or service level.
- System auto populate the below for either at account level
  - Customer Name
  - MSISDN
  - Account ID
  - Customer ID
  - Email Address

- Other corporate customer should be able to select either account or service level.
- System auto populate the below for either at Service level
  - Customer Name
  - MSISDN
  - Service ID
  - Customer ID
  - Email Address
- Enable Customer to select an existing tokenized card or a new card
- Fetch and display existing tokenized card for the customer to select from upon picking existing card option
- Call CPG link API for a customer to provide new card details to be tokenized when a customer select new card option.
- Send payment link to the customer to complete payment for a new card to be tokenized.
- Transmit request and include customer info and tokenized ID to DCBS to commence debit actions at the appropriate time.
- Make it possible for Customer to be able to cancel or opt out of Direct Debit function running on their account and notify DCBS
- Direct debit functionality  should be flexible enough for the removal, addition, and modification of the required customer information.
- Make it possible for customer to be able to add a new card and delete an existing card.
- Make it possible for customer to b able to check payment history.
- Create, generate and trigger survey/feedback link on a monthly or quarterly basis to customers.
- Store answered survey/feedbacks questions for business review.

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# High Level Work Packages

## Tecnotree

### CLM

- Create a menu for automatic Direct Debit Service
- Customer should be able to opt in and opt out
- Create and enable customer to agree to T&C before proceeding with direct debit application.
- Create a logic for the system to end the application process when a customer disagree with the T&C.
- Telco master should be able to select either account or service level.
- System auto populate the below for either at account level
    - Customer Name
    - MSISDN
    - Account ID
    - Customer ID
    - Email Address

- Other corporate customer should be able to select either account or service level.

- System auto populate the below for either at Service level
    - Customer Name
    - MSISDN
    - Service ID
    - Customer ID
    - Email Address
- Enable Customer to select an existing tokenized card or a new card
- Fetch and display existing tokenized card for the customer to select from upon picking existing card option
- Call CPG link API for a customer to provide new card details to be tokenized when a customer select new card option.
- Send payment link to the customer to complete payment for a new card to be tokenized.
- Transmit request and include customer info and tokenized ID to DCBS to commence debit actions at the appropriate time.
- Make it possible for Customer to be able to cancel or opt out of Direct Debit function running on their account and notify DCBS
- Direct debit functionality should be flexible enough for the removal, addition, and modification of the required customer information.
- Make it possible for customer to be able to check payment history.

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# High Level Work Packages

## Tecnotree

### DCBS

- Automatically generate and triggered customer invoice with tokenized ID to CPG via MADAPI based on the billing cycle and payment due date of the customer.
-  Keep track and history of the direct debits with analytics, reports and activity logs on the direct debit transactions.
- Clear the pending invoice against the payment collected.
- Customer should be made to get immediate value once payment is made.
- Send reminder notification to customer 48 hours before billing cycle commenced.
- Automatically generate payment ID for each payment. This shall auto-reflect on the billing system and shall be captured in all transactions.
- Expose payment history API  to channels via MADAPI
- Expose bill management API for customer billing profile information for account id, service id and invoice id
- Send notifications via SMS/email to the customer for successful initiated on the system.
- Send notification via SMS/email to customer for failed direct debit initiated on the system.
- Enable DCBS to track customers with failure status more than once.
- Send escalation alert notification to the account support partner for a failed transaction after retry period.
- Send notifications via SMS/email to the customer for successful initiated on the system.
- Send debit notification on 3rd of every month immediately after bill run to SME SOHO/MICRO and Consumer customers.
- Extend customer's grace period by the same number of days for Large Enterprise, SME-Medium and SME Small customers where there is a delay in bill run.
- Debit Large Enterprise, SME-Medium and SME Small customers that opted for direct debit on the 10th of every month.
- Extend customer's grace period for SME SOH and Consumer customers where there is a delay in bill run .

# High Level Work Packages

## Tavia

- Expose existing or new tokenized IDs to channels with date/timestamp.
- Notify DCBS via MADAPI on successful and failed payment transactions.
- Develop a link and expose the API/Widget to channels for new card tokenization
- Make tokenization of a new card zero fee

## ATOS

### MADAPI

- Wrap and expose fetch token API for list of tokenized cards
- Notify Channel when a tokenized card has been selected with tokenized Id
- Expose Notify API to DCBS on successful and failed payment transactions.
- Wrap and expose query transaction history API for an existing transactions.
- Wrap and expose payment API to DCBS for invoice/bill payment
- Wrap and expose reversal API to channel

MTN

# 14 Requirement Traceability Matrix

# Requirement Traceability Matrix

| URS ID | URS Requirements Specification | SD Section ID | SD Functional Requirement | Use Case ID | Use Case Description | Additional Comments |
|---|---|---|---|---|---|---|
| UR 1 | The direct payment debit functionality shall be available for all Enterprise / Consumer products and services | Slides 12,14,15,18,20,22,23, 24,25,34,35,36,37,38, 41,42,43 | Customer opt in and opt out of auto direct debit | UC 1 & 2 | Customer opt in and opt out of auto direct debit | |
| UR 2 | It shall be possible for customers to give a standing instruction to the bank /online / Walk-in auto debit requisition to settle monthly bills. | Slides 12,14,15,18,20,22,23, 24,25,34,35,36,37,38, 41,42,43 | Customer opt in and opt out of auto direct debit | UC 1 & 2 | Customer opt in and opt out of auto direct debit | Bank is out of scope for drop 1 |
| UR 3 | It shall be possible for the bank to send the upload file to be updated to the customer accounts based on its billed amount | Slides 12,27,44 | Full bill payment | UC 4 | Full payment of the impacted invoice | |
| UR 4 | The direct debit customers would provide the Bank Account detail / debit or credit card information to the bank which will be linked with the operator's bank account. | Slides 12,14,18,20,34,35,36, 37,38,39 | opt into auto debit and card tokenization Via MTN channels; • Existing card • New Card | UC 1 | Customer opt in and give standing order to Banks through MTN Channels to start process bill payment. | Bank is out of scope for drop 1 |
| UR 5 | The direct debit system shall be automatically triggered by the bank based on the billing cycle and payment due date of the customer | Slides 12,16,27,44,45 | Bill/Invoice generation | UC 3 | Generating customer's invoice/bill and send for payment. | |
| UR 6 | It shall be possible to keep better track and history of the direct debits with analytics, reports and activity logs on the direct debit platform | Slides 10,13,47 | Reporting | UC 13 | Captures All Entries on the Enterprise direct debit application into separate columns for the different request, input and changes. Fields captured into separate columns | |
| UR 7 | It shall be possible for the payment information to be shared by the bank as a bank file upload to the billing system | | | | | Bank is out of scope for drop 1 |
| UR 8 | It shall be possible for the system to raise alert notifications where the direct debit fails and channel it through an escalation path where necessary | Slides 12,16,23,38 | Failed bill payment | UC 7 | Failed payment transaction when there is no funds in customer's account | |

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# Requirement Traceability Matrix

| URS ID | URS Requirements Specification | SD Section ID | SD Functional Requirement | Use Case ID | Use Case Description | Additional Comments |
|---|---|---|---|---|---|---|
| UR 9 | The direct debit system shall have the ability for the billing system to consider payment information and clear the pending invoice against the payment collected | Slides 12,16,22,37,38 | Clear impacted invoice | UC 5 | Impacted invoice would be cleared when bill payment is successful | |
| UR 10 | The payment made shall be specific only to the full invoice due | Slides 12,16,22,37,38 | Clear impacted invoice | UC 5 | Impacted invoice would be cleared when bill payment is successful | |
| UR 11 | The system shall allow the payment to impact the indicated invoice account only | Slides 12,16,22,37,38 | Clear impacted invoice | UC 5 | Impacted invoice would be cleared when bill payment is successful | |
| UR 12 | Customer shall be made to get immediate value once payment is made | Slides 12,16,22,37,38 | Clear impacted invoice | UC 5 | Impacted invoice would be cleared when bill payment is successful | |
| UR 13 | The direct debit system shall be flexible to allow for the removal, addition, and modification of direct debit functionality. | Slide 10 | | | | This is captured in design consideration |
| UR 14 | The application shall also allow view of history of payments via direct debit per customer | Slides 13,25,39 | View payment history | UC 10 | Customer to view bill payment history on the bank platform | |
| UR 15 | The direct debit system shall automatically generate payment ID for each payment. This shall auto-reflect on the billing system and shall be captured in all transactions | Slides 12,16,27,44,45 | Bill/Invoice generation | UC 3 | Generating customer's invoice/bill and send for payment. | |
| UR 16 | The application shall have the capability to send pending notifications via email to the customer for both unsuccessful and failed direct debit initiated on the system. It shall also send this notification via email to the account support partner/CR Banking Support team | Slides 12,13, 22,37 | Notifications | UC 12 | System send notification after successful and failed transaction to customer and account support officer | |
| UR 17 | The application shall have the capability to send notifications via email to the customer for successful direct debit initiated on the system. It shall also send this notification via email to the account support partner | Slides 12,13, 22,37 | Notifications | UC 12 | System send notification after successful and failed transaction to customer and account support officer | |

# Requirement Traceability Matrix

| URS ID | URS Requirements Specification | SD Section ID | SD Functional Requirement | Use Case ID | Use Case Description | Additional Comments |
|---|---|---|---|---|---|---|
| UR 18 | Email notifications shall be sent as reminder to customers 24hrs before direct debit action | | | | | Out of scope |
| UR 19 | System shall have the capability to track customers with failure status more than once | | | | | This is captured in design consideration |
| UR 20 | It shall be possible to perform refund where multiple credit transactions occur during the direct debit implementation. The Customer shall notify the Bank and MTN Customer Support Partner of multiple deduction and the internal refund process shall take care of the refund. | | | | | This is captured in design consideration. Refund process would be created outside the system as this can not be implemented system wise. |
| UR 21 | It shall be possible to have a refund button on CLM to process a refund to customer where there is over billing or double entry | | | | | This is captured in design consideration. Refund process would be created outside the system as this can not be implemented system wise. |
| UR 22 | The CLM shall trigger an approval to Treasury to process a refund to Customer Account | | | | | This is captured in design consideration. Refund process would be created outside the system as this can not be implemented system wise. |
| UR 23 | The Approved refund shall the sent to Bank to debit MTN account and credit Customer account for refund immediately | | | | | This is captured in design consideration. Refund process would be created outside the system as this can not be implemented system wise. |
| UR 24 | Where a refund process is approved by Treasury and Customer account is credited, such refund shall impact the customer next invoice with the value and detail narration | | | | | This is captured in design consideration. Refund process would be created outside the system as this can not be implemented system wise. |
| UR 25 | The refund narration shall be captured on CLM for customer management purposes. | | | | | This is captured in design consideration. Refund process would be created outside the system as this can not be implemented system wise. |

MTN

# Requirement Traceability Matrix

| URS ID | URS Requirements Specification | SD Section ID | SD Functional Requirement | Use Case ID | Use Case Description | Additional Comments |
|--------|--------------------------------|---------------|---------------------------|-------------|---------------------|---------------------|
| UR 26 | Customer shall receive notification of insufficient fund when it occurs. | Slides 12,16,23,38 | Failed bill payment | UC 7 | Failed payment transaction when there is no funds in customer's account | |
| UR 27 | Where there is insufficient fund in Customer's account, the system shall have the functionality to re-try automatically till end of the current month (>=25 days but < 28days).   Please state number of retries. See the updated UR 27 .. (>=25 days but < 28days). | Slide 45 | Insufficient Funds/Retry Mechanisms | | The system would retry to debit the customer account. | Out of scope |
| UR 28 | It shall be possible for the system to trigger e-mail to Customer Support Partner of payment issue such as insufficient after the re-trial period. | Slides 12,16,23,38 | Failed bill payment | UC 7 | Failed payment transaction when there is no funds in customer's account | |
| UR 29 | The direct debit application shall be able to send notifications detailing amount and invoice amount settled to the customer | Slides 12,13, 22,37 | Notifications | UC 12 | System send notification after successful and failed transaction to customer and account support officer | |
| UR 30 | It shall be possible to do invoice specific with direct debit functionality | Slides 12,14,15,18,20,22,23, 24,25,34,35,36,37,38, 41,42,43 | Customer opt in and opt out of auto direct debit | UC 1 & 2 | Customer opt in and opt out of auto direct debit | |
| UR 31 | It shall be possible to spool a report of all activities (end to end) on the direct debit application. This shall be exportable to MS Excel | Slides 10,13,47 | Reporting | UC 13 | Captures All Entries on the Enterprise direct debit application into separate columns for the different request, input and changes. Fields captured into separate columns | |
| UR 32 | It shall be possible to set up automated survey deployment for customers' feedback via email and SMS | Slides 13,26,40 | Survey/Customer's Feedback | UC 11 | Customer would be able to provide feedback on the automated direct debit experience | |
| UR 33 | It shall also be possible to generate an automatic report based on the report specifications provided and required | Slides 10,13,47 | Reporting | UC 13 | Captures All Entries on the Enterprise direct debit application into separate columns for the different request, input and changes. Fields captured into separate columns | |

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# Requirement Traceability Matrix

| URS ID | URS Requirements Specification | SD Section ID | SD Functional Requirement | Use Case ID | Use Case Description | Additional Comments |
|---|---|---|---|---|---|---|
| UR 34 | Audit trails of all activities shall be available on the direct debit application at all times indicating name, date, time stamps of action and all activities performed | Slides 10,13,47 | Reporting | UC 13 | Captures All Entries on the Enterprise direct debit application into separate columns for the different request, input and changes. Fields captured into separate columns | |
| UR 35 | It shall be possible to determine payment made through direct debit application on the billing system | Slides 12,22,37 | Full bill payment | UC 4 | Full payment of the impacted invoice | |
| UR 36 | It shall be possible for Customer to opt out of Direct debit either by notifying the bank or MTN. | Slides 12,23,24,25,41,42,43 | opt out from auto debit via MTN channels | UC 2 | Customer opt out and give standing order through MTN Channels to stop processing bill payment | |
| UR 37 | Where customer is opting out from direct debit, it shall be effective from the next billing cycle date. | Slides 12,23,24,25,41,42,43 | opt out from auto debit via MTN channels | UC 2 | Customer opt out and give standing order through MTN Channels to stop processing bill payment | |
| UR 38 | It shall be possible for customer to agreed to part payment where there is insufficient fund. This shall generate a notification to customer with the Narration "Amount of Nxxe been part payment for invoice Noxxxxx" | | | | | Out of Scope for drop 1 |
| UR 39 | Where customer agreed to Part payment, it shall be possible for the system to retry to clear the outstanding balance when the account is funded. Where the outstanding balance had been settled, the system shall generate a notification to customer with the Narration "Amount of Nxxe been outstanding payment for invoice No xxxxx" | | | | | Out of Scope for drop 1 |
| UR 40 | Where customer made full payment through another channel, the system shall recognize and treat the invoice as fully settled, the direct debit shall not operate. | | | | | Included in the design consideration |

MTN

# Requirement Traceability Matrix

| URS ID | URS Requirements Specification | SD Section ID | SD Functional Requirement | Use Case ID | Use Case Description | Additional Comments |
|---|---|---|---|---|---|---|
| UR 41 | Where customer made part payment through another channel, the system shall treat the invoice as partly settled. However, the direct debit shall settle the balance, with the Narration "Amount of Nxxe been outstanding payment for invoice No xxxxx" | | | | | Out of Scope for drop 1 |
| UR 42 | It shall be possible to request direct debit through selfcare, support partners and all MTN touchpoints | Slides 12,14,15,18,20,22,23, 24,25,34,35,36,37,38, 41,42,4 | Customer opt in and opt out of auto direct debit | UC 1 & 2 | Customer opt in and opt out of auto direct debit | |
| UR 43 | The direct debit amount shall reflect on the account immediately and the same amount can be seen on the billing system | Slides 12,27,44 | Full bill payment | UC 4 | Full payment of the impacted invoice | |
| UR 44 | It shall be possible for system to automatically do direct debit for subscription-based products and services | Slides 12,16,27,44,45 | Bill/Invoice generation | UC 3 | Generating customer's invoice/bill and send for payment. | |
| UR 45 | It shall be possible for system to automatically do direct debit for usage-based invoices where monthly invoices are not the same month on month | Slides 12,16,27,44,45 | Bill/Invoice generation | UC 3 | Generating customer's invoice/bill and send for payment. | |
| UR 46 | It shall be possible for the system to store direct debit forms filled by customers | Slides 12,14,18,20,34,35,36, 37,38,39 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order to Banks through MTN Channels to start process bill payment. | |
| UR 47 | The functionality for Direct debit shall be possible / made available on all postpaid payment channels. | Slides 12,14,15,18,20,22,23, 24,25,34,35,36,37,38, 41,42,4 | Customer opt in and opt out of auto direct debit | UC 1 & 2 | Customer opt in and opt out of auto direct debit | |
| UR 48 | Direct Debit channel used by customer shall be indicated on the account or service on CLM | Slides 12,25,38,39 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order to Banks through MTN Channels to start process bill payment. | |

MTN

# Requirement Traceability Matrix

| URS ID | URS Requirements Specification | SD Section ID | SD Functional Requirement | Use Case ID | Use Case Description | Additional Comments |
|---|---|---|---|---|---|---|
| UR 49 | It shall be possible for customer to make use of tokenized cards in all Direct Debit application channels | Slides 12,14,18,20,34,35,36, 37,38,39 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |
| UR 50 | All applicable security and authentication on tokenized cards available to customer shall be allowed in all the Direct Debit application journeys. | | | | | Included in the security requirements. |
| **myMTN Web/NextGen App** | | | | | | |
| UR 51 | Customer shall be able to apply for Direct Debit function via myMTN Web/NextGen App | Slides 12,14,18,20,34,35,36, 37,38,39 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |
| UR 52 | Direct Debit request menu shall be added to the app interface | Slides 12,14,18,20,34,35,36, 37,38,39 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |
| UR 53 | Customer shall be able to agree to T&C in order to proceed with the application | Slides 12,14,18,20,34,35,36, 37,38,39 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |
| UR 54 | All applicable banks shall be available for selection on the app | | | | | To be implemented in drop 2 |
| UR 55 | Customer shall be able to input bank account ID or card details | Slides 12,14,18,20,34,35,36, 37,38,39 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |

# Requirement Traceability Matrix

| URS ID | URS Requirements Specification | SD Section ID | SD Functional Requirement | Use Case ID | Use Case Description | Additional Comments |
|--------|-------------------------------|---------------|---------------------------|-------------|---------------------|---------------------|
| UR 56 | Customer shall be able to input the following MTN account details as part of request set-up based on his or her preference<br>Account ID<br>Service ID | Slides 12,14,18,20,34,35,36,37,38,39 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |
| UR 57 | It shall be possible to captured customer email address and Contact Phone number as part of application process | Slides 12,14,18,20,34,35,36,37,38,39 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |
| UR 58 | E-mail address and Contact Phone shall be made mandatory | Slides 12,14,18,20,34,35,36,37,38,39 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |
| UR 59 | Customer shall be able to authenticate request with the use of bank Token or any other bank security validation processes | Slides 12,14,18,20,34,35,36,37,38,39 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |
| UR 60 | Once confirmed by customer Direct Debit shall become active on the account or service | Slides 12,14,18,20,34,35,36,37,38,39 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |
| UR 61 | Direct Debit application request shall be transmitted to the respective banks to commence debit actions at the appropriate times | Slides 12,14,18,20,34,35,36,37,38,39 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |
| UR 62 | Customer shall be able to cancel or opt out of Direct Debit function running on their account | Slides 12,23,24,25,41,42,43 | opt out from auto debit via MTN channels | UC 2 | Customer opt out and give standing order through MTN Channels to stop processing bill payment | |

MTN

# Requirement Traceability Matrix

| URS ID | URS Requirements Specification | SD Section ID | SD Functional Requirement | Use Case ID | Use Case Description | Additional Comments |
|---|---|---|---|---|---|---|
| | | | **Zigi – MTN Chatbot** | | | |
| UR 63 | Customer shall be able to apply for Direct Debit function via Zigi | Slides 12,20,37,38 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |
| UR 64 | Zigi shall be able to provide required answers and assist customer to complete Direct Debit application | Slides 12,20,37,38 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |
| UR 65 | Direct Debit request menu shall be added to the process | Slides 12,20,37,38 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |
| UR 66 | Customer shall be able to agree to T&C in order to proceed with the application | Slides 12,20,37,38 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |
| UR 67 | All applicable banks shall be available for selection on Zigi | | | | | To be implemented in drop 2 |
| UR 68 | Customer shall be able to input bank account ID or card details | Slides 12,20,37,38 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |
| UR 69 | Customer shall be able to input the following MTN account details as part of request set-up based on his or her preference<br>Account ID<br>Service ID | Slides 12,20,37,38 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |

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# Requirement Traceability Matrix

| URS ID | URS Requirements Specification | SD Section ID | SD Functional Requirement | Use Case ID | Use Case Description | Additional Comments |
|---|---|---|---|---|---|---|
| UR 70 | It shall be possible to captured customer email address and Contact Phone number as part of application process | Slides 12,20,37,38 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |
| UR 71 | E-mail address and Contact Phone number shall be made mandatory | Slides 12,20,37,38 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |
| UR 72 | Customer shall be able to authenticate request with the use of bank Token or any other bank security validation processes | | | | | Included in the security requirements |
| UR 73 | Once confirmed by customer Direct Debit shall become active on the account or service | Slides 12,20,37,38 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |
| UR 74 | Direct Debit application request shall be transmitted to the respective banks to commence debit actions at the appropriate times | Slides 12,20,37,38 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |
| UR 75 | Customer shall be able to cancel or opt out of Direct Debit function running on their account | Slides 12,42 | opt out from auto debit via MTN channels | UC 2 | Customer opt out and give standing order through MTN Channels to stop processing bill payment | |

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# Requirement Traceability Matrix

| URS ID | URS Requirements Specification | SD Section ID | SD Functional Requirement | Use Case ID | Use Case Description | Additional Comments |
|---|---|---|---|---|---|---|
| **MTN Shop/EB Agents – Customer Management System** |
| UR 76 | It shall be possible to action customer Direct Debit application from CLM | Slides 12,14,22,38,39 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |
| UR 77 | All applicable banks shall be available for selection on CLM | | | | | To be implemented in drop 2 |
| UR 78 | It shall be possible to input customer bank account ID | Slides 12,14,22,38,39 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |
| UR 79 | It shall be possible to set the Direct Debit application at account or service level | Slides 12,14,22,38,39 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |
| UR 80 | It shall be possible to captured customer email address and Contact Phone number as part of application process | Slides 12,14,22,38,39 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |
| UR 81 | E-mail address and Contact Phone number shall be made mandatory | Slides 12,14,22,38,39 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |
| UR 82 | Once the application is submitted by the Agent, Customer shall receive authentication request on the registered number with the bank and be able to authenticate request with the use of bank Token or any other bank security validation processes | | | | | Included in the security requirements |
| UR 83 | Customer shall be able to agree to T&C in order to proceed with the application | Slides 12,14,22,38,39 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |

# Requirement Traceability Matrix

| URS ID | URS Requirements Specification | SD Section ID | SD Functional Requirement | Use Case ID | Use Case Description | Additional Comments |
|---|---|---|---|---|---|---|
| UR 84 | Once confirmed by customer Direct Debit shall become active on the account or service | Slides 12,14,22,38,39 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |
| UR 85 | Direct Debit application request shall be transmitted to the respective banks to commence debit actions at the appropriate times | Slides 12,14,22,38,39 | opt into auto debit and card tokenization Via MTN channels;<br>• Existing card<br>• New Card | UC 1 | Customer opt in and give standing order start process bill payment. | |
| UR 86 | Agent shall be able to cancel Direct Debit running on customer account via CLM | Slides 12,15,25,45 | opt out from auto debit via MTN channels | UC 2 | Customer opt out and give standing order through MTN Channels to stop processing bill payment | |
| **Debit Notification and Timeline based on Customer Sub-Segment** | | | | | | |
| UR 87 | SME SOHO/MICRO and Consumer customers will receive debit notification on 3rd of every month – immediately after bill run | Slide 32 | | | | Included in business rules slide |
| UR 88 | SME SOHO/MICRO and Consumer customers bank account will be debited on 5th of every month | | | | | Included in business rules slide |
| UR 89 | Where there is a delay in bill run, customer's grace period will be extended / reviewed by the same number of days for SME SOHO/MICRO and Consumer customers. | | | | | Included in business rules slide |
| UR 90 | Large Enterprise, SME-Medium and SME Small customers that opted for direct debit will received debit notification on 8th of every month | | | | | Included in business rules slide |
| UR 91 | Large Enterprise, SME-Medium and SME Small customers that opted for direct debit bank account will be debited on 10th of every month | | | | | Included in business rules slide |
| UR 92 | Where there is a delay in bill run, customer's grace period will be extended / reviewed by the same number of days for Large Enterprise, SME-Medium and SME Small customers | | | | | Included in business rules slide |

MTN

# Approvals

| Name | Representing | Signature | Date |
|------|-------------|-----------|------|
| Oluseye Oyede | IT Solution Design & Integration | | |
| Lukumon Balogun | IT, Enterprise Architecture | | |
| Ijeoma Duru | IT QA & Compliance | | |

# Thank you