

3rd Party
Bill Presentment

Document Revision History

#	Ver. No	Description	Author	Date
1	1.0.0	Initial Document for Bill Presentment	Lahiru Athukorala	26-02-2019
2	1.1.0	Design from iPay core side	Lahiru Athukorala	06-03-2019
3	1.1.1	Added missing response to inquiry API / API endpoint change	Lahiru Athukorala	12-03-2019
4	1.1.2	Added introduction, ER Diagram changes and Flow charts	Nishani Abeysinghe	21-05-2019

3rd Party Bill Presentment APIs

Validate Bill API

POST :: bill-presentment/validate

REQUEST

```
{  
    "accountNo": "<accountNo>",  
    "nic": "<nic>"  
}
```

RESPONSE

```
{  
    "isValid": "<validation status>",  
    "billDate": "<billing cycle date>"  
}
```

Bill Inquiry API

POST :: bill-presentment/inquire

REQUEST

```
{  
    "correlationId": "<unique correlation Id>",  
    "accountNo": "<accountNo>",  
    "nic": "<nic>"  
}
```

RESPONSE

```
{  
    "correlationId": "<unique correlation Id>",  
    "accountNo": "<accountNo>",  
    "status": "<status of the inquiry>",  
    "outstandingAmount": "<outstanding amount of the bill>",  
    "dueDate": "<due date of the bill>",  
    "billDate": "<billing cycle date>"  
}
```

Bulk Bill Inquiry API

POST :: bill-presentment/bulk-inquire

REQUEST

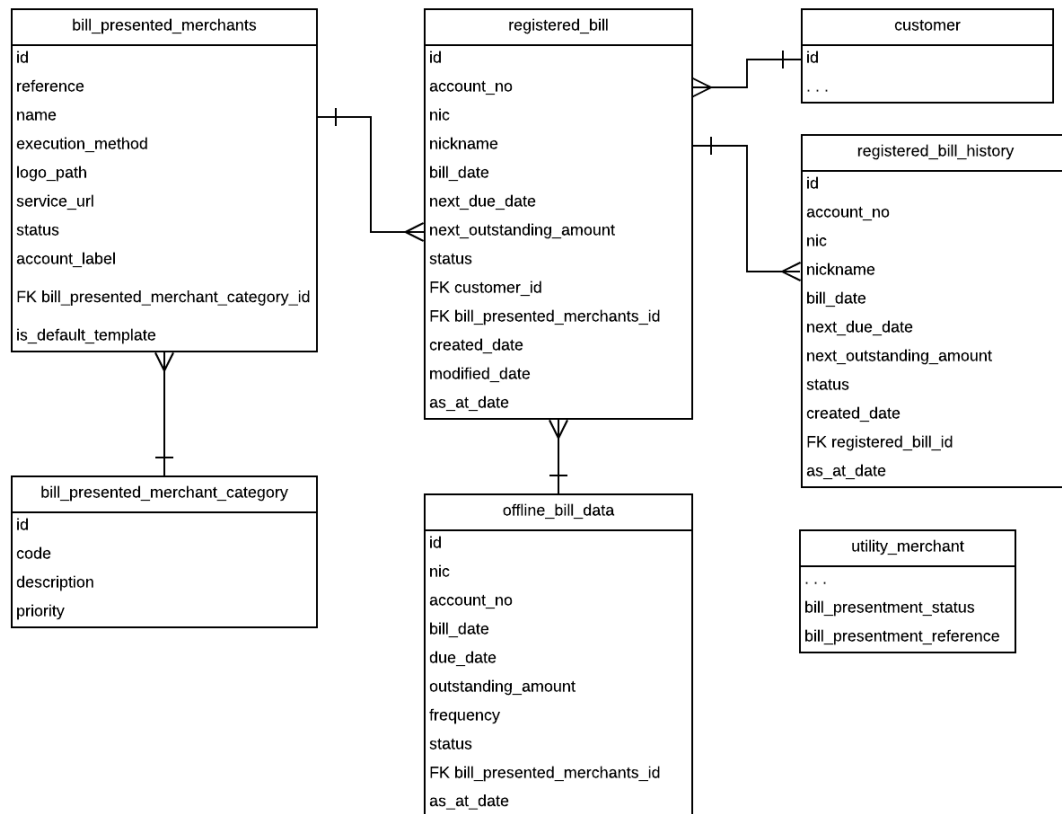
```
[
  {
    "correlationId": "<unique correlation Id>",
    "accountNo": "<accountNo>",
    "nic": "<nic>"
  },
  {
    . . . .
  }
]
```

RESPONSE

```
[
  {
    "correlationId": "<unique correlation Id>",
    "accountNo": "<accountNo>",
    "status": "<status of the inquiry>",
    "outstandingAmount": "<outstanding amount of the bill>",
    "dueDate": "<due date of the bill>",
    "billDate": "<billing cycle date>"
  },
  {
    . . . .
  }
]
```

iPay Core Design

ER Diagram



Introduction

As a process, iPay bill presentment feature involves reminding and displaying bills to the customers, Due Dates and the Due Amounts of Bills will be notified via push notification and customers can also view bill details before paying through iPay app. In iPay Customer App, under “My Bills” tab, customers are enabled to register bills and view already registered bills for his / her iPay account under different billers. “Due Bills” tab will display real-time updates of the bills with due date and due amount. Customer has that facility to pay the payable amount favourably after directly clicking the pay button on relevant due bill.

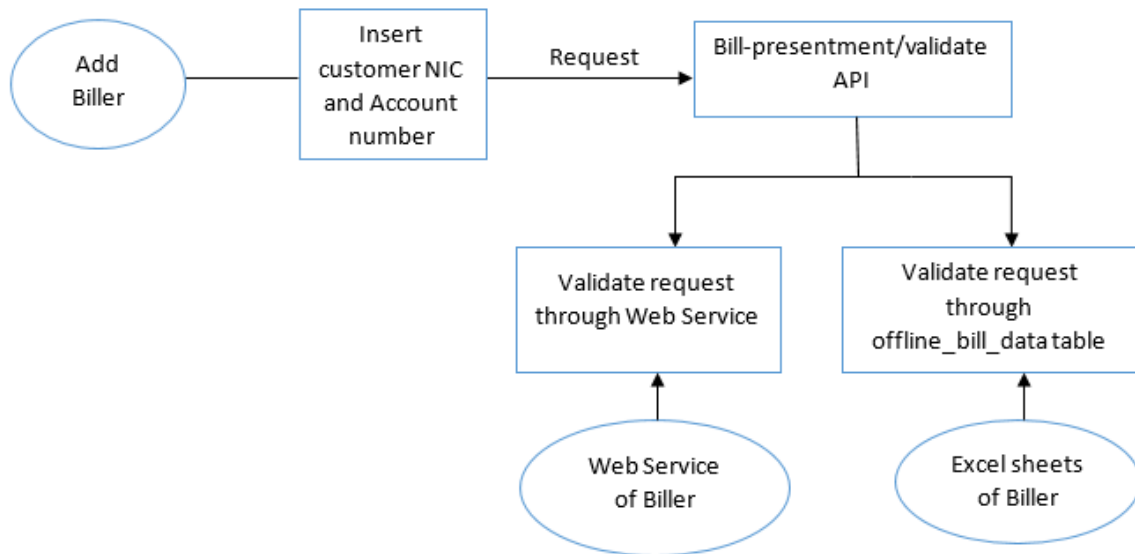
Billers typically refer to the financial service providers, telecommunications companies, and utilities etc. which use electronic bill payment services. According to the billers there are two types of bill presentment methods exist.

“WEB_SERVICE” execution method is used to the billers who are able to provide direct services to the bill presentment feature and the “MANUAL” execution method is used to the billers who provide excel sheets instead of direct services to aid the bill presentment feature. Then the billers who are unable to provide direct web services are supposed to upload their bill details via an excel sheets through a web console provided by iPay. Those details will get into the **offline_bill_data** table and will be used in further bill presentment validations.

Approach

1. Bill presented merchants will be added to a new table **bill_presented_merchants** where it contains a unique reference for the biller.
 - a. **reference** – unique reference for the biller
 - b. **name** – name of the biller
 - c. **execution_method** – manual data entry or automated
 - d. **service_url** – integration API endpoint
2. Two attributes will be added to Utility Merchant table to hold bill presentment status for the particular utility merchant and merchant.
 - a. **bill_presentment_status** – whether utility merchant/merchant has bill presentment enabled
 - b. **bill_presentment_reference** – unique reference of the bill presented merchant
3. New table will be created to hold registered bills of the customer.
4. When loading utility merchant in mobile, if the **bill_presentment_status** is positive it should show bill presentment is available to customers.
5. An API will be exposed to mobile to list down registered bill of the customer for the particular biller.
6. If there are any registered bill presentments, mobile should list down and once a user clicks on an item, due date and outstanding amount should be shown.
7. A scheduler will run in every day and pick up registered bills where their bill date is current date to fetch data from 3rd party bill services. Once responses are received, it will update **next_due_date** and **next_outstanding_amount** columns in **registered_bill** table.
8. Another scheduler will run in every day to fetch and notify customers before they exceed the due date of the bill settlement.
9. Before sending the notification, it should fetch data from 3rd party bill service and update existing records.

Register For Bill Presentment



Push Notification

