**APPENDIX A**

# SCOPE OF WORK

## DuitNow - Request To Pay

| **SOW** | **TASK** | **EFFORT** | |
| --- | --- | --- | --- |
| **(Man Days)** | |
| **01: DN – REQUEST TO PAY (RTP)** | | | |
| Remain the current structure of the Internet Banking workflow and processes, including interfaces and connections to existing third party systems. | | | |
| **BSNeBiz (Web)** | | | |
| **SOW01.1** | **i. DuitNow Request To Pay Module** | 60 | **110** |
| a) Request Payment - single (5) |
| - Request screen (Customer to insert details of request) |
| - Request to Account Number and Proxy |
| - New and Favourite request |
|  |
| b) Request Payment – Bulk (10) |
| - File upload |
| - Data Entry |
| - Bulk History |
|  |
| c) Manage Pending RTP (13) |
| - Incoming and outgoing list |
| - Action. (Include Approve, Reject, Forward and Block) |
|  |
| d) RTP History (5) |
| - List of previous transaction (exclude pending status) |
| - Allow customer to download (excel & PDF) |
| - Incoming and Outgoing |
|  |
| e) RTP Block Maintenance (3) |
| - Retrieve blocked list from DB |
| - View and unblock on the account number, proxy ID. |
| (Mobile number and Business Registration Number) |
|  |
| f) RTP Favourite Maintenance (3) |
| - Account |
| - Proxy ID |
|  |
| **ii. Authorization** | 30 |
| Update Authorization (Verifier & Approver) module in BSNeBiz (Web) for DN – RTP |
| **Cover for all action:** |
| Single - New Request, Approve (Pay), Reject (Pay), Forward (Pay), Block (Pay) and Unblock. |
| Bulk - New Request |
| - Verifier |
| - Approver |
|  |
| **iii. Enhancement on other related modules at BSNeBiz (Web)** (13) | 20 |
| a) Host Transaction History |
| Penril assumes that Host will provide different Transaction Code for any transaction related to DN RTP and the transaction description will be customised for RTP payment purpose. |
|  |
| b) BSNeBiz Transaction History |
| i. This consists of successful RTP Request |
| ii. This consists of successful RTP Update |
| iii. Block & Unblock |
|  |
| **BSNeBiz (Mobile)** | | | |
| **SOW01.2** | **i. DuitNow Request Module (Android & IOS)** | 60 | **130** |
| a) Request Payment |
| - Request screen (Customer to insert details of request) |
| - Request to Account Number and Proxy |
| - New and Favourite request |
|  |
| b) Manage Pending Request |
| - Incoming and outgoing list |
| - Action. (Include Approve, Reject, Forward and Block) |
|  |
| c) Request History |
| - List of previous transaction (exclude pending status) |
| - Allow customer to download (excel & PDF) |
| - Incoming and Outgoing |
|  |
| d) RTP Block Maintenance |
| - Retrieve blocked list from DB |
| - View and unblock on the account number, proxy ID. |
| - (Mobile number and Business Registration Number) |
|  |
| **ii. Authorization** | 30 |
| Update Authorization (Verifier & Approver) module in BSNeBiz (Mobile) for DN – RTP |
| **Cover for all action:** |
| New Request, Approve (Pay), Reject (Pay), Forward (Pay), Block (Pay) and Unblock. |
| - Verifier |
| - Approver |
|  |
| **iii. Push Notification** (20) | 20 |
| To receive notification of new RTP request |
| - Cover for Android & IOS |
| - Message of incoming notification |
| - Push Notification – to approve |
|  |
| **iv. Enhancement on other related modules at BSNeBiz (Mobile)** (13) | 20 |
| a) Host Transaction History |
| b) BSNeBiz Transaction History |
|  |
| **Internet Banking Application Manager (IBAM)** | | | |
| **SOW01.3** | **i. New feature at IBAM** | 15 | **30** |
| a) DuitNow Request Maintenance – Under Service Info |
| - **Add new field** - Enable / Disable Forward Feature (Response   P2P|B2C) |
| - **Add new field** - Validity Period of Outgoing DuitNow Request   (Custom Expiration Setup) |
|  |
| b) Report |
| - Sent DuitNow Request Report |
| - Received DuitNow Request Report |
|  |
| **ii. Enhancement on other related modules at IBAM** | 15 |
| a) IBAM > CBE |
| (Organization Setup; BSNeBiz Navigation; BSNeBiz Transaction Enquiry; User Activity Log; BSNeBiz Report; RPP Message Log) |
|  |
| b) IBAM > BBE |
| (Content - Service Info; File Format) |
|  |
| **Integration / Database** | | | |
| **SOW01.4** | **i. BSNeBiz Web Integration** | 50 | **110** |
| a) New integration to Paynet (30) |
| - RTP outgoing |
| - Retrieve transaction info |
| - Manage Pending |
| o Approve |
| o Reject |
| o Forward |
|  |
| b) New Webservice for Paynet to call |
| - RTP incoming and forward |
| - Approve (Update Status) |
| - Reject (Update Status) |
|  |
| **SOW01.5** | **i. BSNeBIz Mobile Integration** | 30 |
| a) To create restful for integration with Paynet |
| i. Request Payment |
| ii. Manage Pending |
| iii. RTP History |
| iv. Block Maintenance |
| v. Authorization |
|  |
| **SOW01.6** | **i. Enhancement at Batch Program and Database** | 30 |
| a) To create Batch for |
| - Outgoing Request (Bulk Request) |
| - DuitNow Request Expiration |
|  |
| b) To add new table at Data Base |
|  |
|  | **SIT** | 20 | **20** |
| **DN - RTP: Total Development (Man Days)** | | ***400*** | |

## DuitNow - Consent (Auto Debit)

| **SOW** | **TASK** | **EFFORT** | |
| --- | --- | --- | --- |
| **(Man Days)** | |
| **02: DN – CONSENT (Auto Debit)** | | | |
| Remain the current structure of the Internet Banking workflow and processes, including interfaces and connections to existing third party systems. | | | |
| **BSNeBiz (Web)** | | | |
| **SOW02.1** | **i.** **DuitNow Auto Debit Consent (Registration)** | 40 | **108** |
| a) DuitNow Customer Consent (BSN as Merchant) |
| To request and manage consent from customer |
| - Register |
| - Approve |
| - Reject |
|  |
| b) DuitNow Self Consent (BSN as Customer) |
| To give and manage consent given to others |
| - Register |
| - Approve |
| - Reject |
| - Pause |
| - Block |
| - Cancel |
| - Switch Bank |
| - Switch Account |
|  |
| **ii.** **DuitNow Real Time Debit** | 45 |
| a) DuitNow Customer Auto Debit |
| - To send and manage customer's Auto Debit |
|  |
| b) DuitNow Self Auto Debit |
| - To manage Auto Debit sent by others |
|  |
| c) RTP with Auto Debit Registration offer |
| - Once RTP successful, offer to do give consent similar to item i(b) |
|  |
| **iii.** **Authorization** | 8 |
| Update Authorization (Verifier & Approver) module in BSNeBiz (Web) for incoming DuitNow consent |
| - To have approver role for Real Time Debit transaction |
|  |
| **iv.** **Enhancement on other related modules at BSNeBiz (Web)** | 15 |
| a) Host Transaction History |
| Penril assumes that Host will provide different TC for any transaction related to Consent Management such as: |
| i. Auto Debit after recurring transaction completed. |
| ii. Penril assumed that the transaction description will be customised   for Auto Debit payment purpose. |
|  |
| b) BSNeBiz Transaction History |
| i. This consists of successful Auto Debit Registration |
| ii. This consists of successful Auto Debit Update (Switch Bank &   Switch Account, Pause, Enable, Cancel/Remove) |
| iii. Block & Unblock |
| iv. Reject |
|  |
| **BSNeBiz (Mobile)** | | | |
| **SOW02.2** | **i.** **Authorization** | 10 | **20** |
| Update Authorization (Verifier & Approver) module in BSNeBiz (Mobile) for incoming DuitNow consent. |
|  |
| **ii.** **Push Notification** | 10 |
| - Cover for Android & IOS |
| - Message of incoming notification |
| - Push Notification – to approve |
|  |
| **Internet Banking Application Manager (IBAM)** | | | |
| **SOW02.3** | **i.** **New feature at IBAM** | 20 | **27** |
| a) DuitNow Consent Maintenance |
| - Min and Max of Consent Auto Debit amount |
| - Suspended Merchant Maintenance (Suspend Merchant by Bank) |
| - Auto Debit validity period maintenance |
|  |
| b) Report |
| - Consent Auto Debit Register Report (Incoming, Outgoing and   Redirect) |
| - eConsent Auto Debit Report |
|  |
| **ii.** **Enhancement on other related modules at IBAM** | 7 |
| a) IBAM > CBE |
| (Organization Setup; BSNeBiz Navigation; BSNeBiz Transaction Enquiry; User Activity Log; BSNeBiz Report; RPP Message Log) |
|  |
| b) IBAM > BBE |
| (Content - Service Info; File Format) |
|  |
| **Integration / Database** | | | |
| **SOW02.4** | **i.** **BSNeBiz Web Integration** | 45 | **88** |
| a) New integration to Paynet |
| - Consent request |
| - Approve consent |
| - Reject consent |
| - Cancel active consent |
| - Auto Debit transaction |
|  |
| b) New Webservice for Paynet to call |
| - Consent Maintenance |
| - Approve (Update Status) |
| - Reject (Update status) |
| - Cancel (Update Status) |
| - Consent incoming |
| - Real Time Debit – To confirm |
|  |
| **SOW02.5** | **i.** **BSNeBIz Mobile Integration** | 20 |
| a) To create restful for integration with backend service |
| - Register eConsent |
| - Manage Pending |
| - Manage active eConsent |
| - Block Maintenance |
| - Autorization |
| - Real-Time debit |
|  |
| **SOW02.6** | **i.** **Enhancement at Batch Program and Database** | 23 |
| a) To create Batch for |
| - Outgoing Request |
| - Expired consent |
|  |
| b) To add new table at Data Base |
|  |
|  | **SIT** | 20 | **20** |
| **DN - Consent (Auto Debit): Total Development (Man Days)** | | ***263*** | |

## DuitNow Online Banking (DOB)

| **SOW** | **TASK** | **EFFORT** | |
| --- | --- | --- | --- |
| **(Man Days)** | |
| **03: DuitNow Online Banking** | | | |
| New creation of DuitNow Online Banking interface, remain the current structure of the internet Banking workflow and process. | | | |
| **Integration** | | | |
| **SOW03.1** | **i. DOB – BSNeBiz Integration** | 40 | **75** |
| a) To integrate with DuitNow Online Banking web service |
| - Inquiry Bank List |
| - Inquiry Account |
| - Payment |
| - Page Status update (Send to Paynet) |
| - Cancel Transaction |
|  |
| **SOW03.2** | **i. DOB– BSNeBiz Mobile** | 35 |
| a) To create restful for : |
| - Authorization for Payment |
| - Push Approval |
|  |
| **BSNeBiz (Website)** | | | |
| **SOW03.3** | **i. Web redirect interface** | 60 | **80** |
| a) Key verification |
|  |
| b) To develop new portal |
| - Login Screen |
| - Details Screen |
| - Confirm Screen |
| - Result Screen |
| - Receipt |
|  |
| c) Redirect back to merchant screen |
|  |
| **ii. Authorization** | 10 |
| a) Update Authorization (Verifier & Approver) module in BSNeBiz (Web)   for DuitNow Online Banking approval |
|  |
| **iii. Enhancement on other related modules at BSNeBiz (Mobile)** | 10 |
| a) BSNeBiz Transaction History |
|  |
| **BSNeBiz (Mobile)** | | | |
| **SOW03.4** | **i.** **Authorization** | 10 | **35** |
| a) Update Authorization (Verifier & Approver) module in BSNeBiz (Mobile)   for DuitNow Online Banking approval |
|  |
| **ii. Enhancement on other related modules at BSNeBiz (Mobile)** | 10 |
| a) BSNeBiz Transaction History |
|  |
| **iii. Push Notification** | 15 |
| a) To receive notification of new DOB request |
| - Cover for Android & IOS |
| - Message of incoming notification |
| - Push Notification – to approve |
|  |
| **Internet Banking Application Manager (IBAM)** | | | |
| **SOW03.5** | **i. Enhancement on existing module at IBAM** | 15 | **15** |
|  | a) IBAM > CBE |
|  | - BSNeBiz Transaction Enquiry; |
|  | - User Activity Log; |
|  | - BSNeBiz Report – New Report |
|  |  |
|  | **SIT** | 20 | **20** |
| **DN - DOB: Total Development (Man Days)** | | ***225*** | |

## Professional Services

|  |  |  |
| --- | --- | --- |
| **SOW** | **TASK** | **EFFORT** |
| **(Man Days)** |
| **Professional Services** | | |
| 1 | To conduct Planning & Design services inclusive of Requirement Gathering and preparation and delivery of the following Documentations: | 35 |
| a) FSD Compilation |
| b) TSD Compilation |
| c) User Guide and Training Material |
| d) Demo |
|  |
| 2 | To perform the following support | 45 |
| a) UAT support |
| b) Pentest Support |
| c) Go live support |
|  |
| 3 | Performance Test | 30 |
|  |
| **Professional Services (Man Days)** | | ***110*** |
| **TOTAL MANDAYS** | | **998** |
|

|  |
| --- |
| **Development Assumptions:**  **DuitNow- RTP**   1. Request to Pay is an overlay servive for Retails Payments Platform (RPP). Payee will be the initiation party. Payee can send request to ask payment from Payer. 2. Request to pay (in Biz) covers business models as below :  * Business to Consumer (B2C) * Businiess to Business (B2B) * e/m- commerce  1. DuitNow Request To Pay consisting of TWO Transaction type :    * DuitNow Request    * DuitNow Response 2. Decouple requirement does not require immediate attention (longer expiry period). 3. RTP module allow payment request in a bulk, instead of creating the payment request to their customer one by one, they can choose to upload the file contains the request they would like to send out via Crediting Agent.   **DuitNow - CONSENT (AUTO DEBIT)**   1. Consent AutoDebit allow Biller to request and obtain on-demand or periodic charges consent from their customers. 2. Biller can initiate the Real Time Direct Debit instruction based on the consent they obtained. 3. Consent Management allow Biller and Customer to manage the registered consent. Biller can view, update or terminate the consent based on request from customers. 4. Consent AutoDebit registration can be done via 2 types of methods (involved biz) :    * + - 1. **Consent AutoDebit Registration via Debiting Agent**   Retail customer will initiate consent registration and Merchant / Biller will approve / reject.   * + - * 1. **Consent Registration via Crediting Agent**   Merchant / Biller send consent request to customer and customer will approve / reject.  **DuitNow Online Banking (DOB)**   1. DuitNow Online Banking / Wallet is a real time online payment service which enables Payers to transact securely using their Internet Banking and Mobile Banking. This service supports the real-time switching and routing of payment transactions between the Merchant and Debiting Participant. 2. The Parties involved in the DuitNow Onlone Banking / Wallet Service are :   **Payer**  Individual, companies, body corporate, businesses, government agencies, statutory bodies, societies and other Customers that initiates Payment to Merchant via DuitNow Online Banking.   * 1. **Merchant**   Businesses that registered with the Companies of Malaysia, sole proprietor and partnership, government agencies, statutory bodies, societies, and other entities that receive funds from Payer using DuitNow Online Banking / Wallet. Merchant shall establish an acquiring relationship with any Crediting Participant in order to use DuitNow Online Banking/Wallets Services. |

**APPENDIX B**

# FLOW DIAGRAM

## Request To Pay (RTP) Flow Diagram

A picture containing diagram, plan, technical drawing, text

Description automatically generated

**Figure 1 : BSNeBiz - Outgoing**

A screenshot of a diagram

Description automatically generated with low confidence

**Figure 2 : BSNeBiz - Incoming**

## eConsent AutoDebit Flow

**Successful End To End Flow**

A picture containing diagram, plan, technical drawing, line

Description automatically generated

**Figure 3 : Consent Register Request**

A picture containing diagram, plan, technical drawing, line

Description automatically generated

**Figure 4 : Auto Debit Process – File**

A diagram of a flowchart

Description automatically generated with low confidence

**Figure 5 : Auto Debit Process – Individual**

## DuitNow Online Banking Flow Diagram

A diagram of a payment process

Description automatically generated

**Figure 6 : Single User perform transaction**

A diagram of a bank

Description automatically generated

**Figure 7: Initiator (Company with workflow) perform transaction**

A diagram of a process

Description automatically generated

**Figure 7: Approver authorize the request**

### Sample screen for DuitNow Online Banking (DOB)

**Single User / Initiator**

A screenshot of a computer screen

Description automatically generated

After clicking “Return to Merchant” system will logout the user. User need to click “Return to Merchant Page” again to return back to merchant screen.

A screenshot of a phone

Description automatically generated