Virtual Teller System
- Socio-Economic and Environmental Benefits

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Establishment of BSN: Mandate

Established by the Government of Malaysia with the following objectives:

- To promote and mobilise savings, for the general public particularly from small savers;
- To inculcate the habit of thrift and savings; and
- Financing the economic development of the nation.

Continues supporting Government’s aspirations via various government financing schemes, such as Creative Industry Loan, Micro Financing, Youth Housing Scheme.
VTM - Montage
• Building an efficient solution for BSN to utilize its staff from other branches around the country to serve customers.
• Reduce customers’ waiting time.
• Improve customers’ banking experience and satisfaction.
• Savings in cost from new staff hiring and branch expansion.
• Expand beyond normal working hours.
• Virtual branches to be built within days.
Traditional Virtual Teller System

Centralized Call Centre

Location A

Location B

Location C

Call Centre

Virtual Teller Agent A

Virtual Teller Agent B

Video Call Messaging Server

VTM Server

Data Centre
BSN Virtual Teller System
Distributed Call Centre (VTA Branches)

VTM Branch – Main branch, business branch (busy)
VTA Branch – Mini branch (less busy)

Customer in VTM Branch perform transactions assisted by teller in VTA Branch via Virtual Teller System

93 Virtual Teller Machines (VTM) in 31 VTM Branches

400 Virtual Teller Agents (VTA) from 151 VTA Branches
Components of Virtual Teller System (VTS)

- **ML-QMS**
  Multi-Link Queue Management System

- **VTM**
  Virtual Teller Machine

- **VTAs**
  Virtual Teller Agents
Multi-Link Queue Management System (ML-QMS)

Functions:
- Customer select banking transaction
- Customer insert ID Card and scan thumbprint for verification
- System retrieve customer’s information
- Print Queue ticket for customer.
Virtual Teller Machine (VTM)

- Video Phone (VTA in the screen)
- LCD Touch Screen (Transaction & Advertisement)
- A4 Document Scanner
- Bulk Note Accepter
- Note Reject
- Bulk Note Dispenser
- Speakers
- Debit Card Issuers
- Receipt Printer
- Card Reader
- PCI-EPP PIN Pad
- Signature Pad with Stylus
- Identity Card & Biometric Reader
- 1D/2D Barcode Reader
How VTA-VTM Branches Work

Customer take a queue number at ML-QMS Kiosk

Queue number being called by VTA

Customer proceed to VTM, VTA appears on screen to welcome the customer

System verify customer’s identity by reading ID Card & thumbprint

VTA executes the bank transaction via Remote BDS

Transaction completed
<table>
<thead>
<tr>
<th>Item</th>
<th>Type of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Account Enquiry</td>
</tr>
<tr>
<td>2</td>
<td>Withdrawal (Savings A/C)</td>
</tr>
<tr>
<td>3</td>
<td>Deposit (BSN Savings A/C)</td>
</tr>
<tr>
<td>4</td>
<td>Fund Transfer</td>
</tr>
<tr>
<td>5</td>
<td>Opening Account &amp; debit card issuance * (To be offered in Q3 2016)</td>
</tr>
<tr>
<td>6</td>
<td>Bill Payment (200 billers)</td>
</tr>
<tr>
<td>7</td>
<td>Loan &amp; Credit Card Repayment</td>
</tr>
</tbody>
</table>
LIST OF 151 VTA BRANCHES

400 VTA
Ratio 1:4.3

11 branches
8 branches
16 branches
17 branches
9 branches
18 branches
15 branches
18 branches
12 branches
7 branches
• Customer’s acceptance
• System efficiency
Q3 2016

**Functionality**
- Opening account
- Debit Card issuance

**Deployment**
- VTM at LRT stations
  - 4 sites
Socio-Economic Benefits

• Technology exposure to customers
• Optimized counter tellers productivity
• Eliminate resource relocation issues
• Improved customers experience
Environmental Benefits

• Machine deployment as compared to full blown branch setup
• Make do with existing space
• Installed VTM at public area
Thank You
BSN: Vision and Mission

VISION
- No Malaysian Left Behind

MISSION
- Build lifelong and meaningful relationships with our customers

BSN has undergone over 4 decades of continuous transformation...

## Statistics

<table>
<thead>
<tr>
<th></th>
<th>September 2015</th>
<th>February 2016</th>
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<tbody>
<tr>
<td>No of VTMs</td>
<td>45</td>
<td>93</td>
</tr>
<tr>
<td>No of VTAs</td>
<td>153</td>
<td>440</td>
</tr>
<tr>
<td>% VTM Transactions at Branch</td>
<td>14%</td>
<td>23%</td>
</tr>
<tr>
<td>% Successful VTM Transactions</td>
<td>63%</td>
<td>94%</td>
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**Major Challenges**

<table>
<thead>
<tr>
<th>A ready integrated VTM system</th>
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<tr>
<td>No readily available system capable to meet BSN’s VTM requirements. Engagement with a team of dedicated ISVs (Independent Software Vendors) to develop the VTM application from scratch for BSN</td>
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<tr>
<th>Infrastructure readiness</th>
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<tr>
<td>Requirement for resilience network infrastructure and security control especially bandwidth</td>
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<th>Customer adoption</th>
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<tr>
<td>A changing customers’ expectation towards new technology and new concept of virtual banking. Customers expect intuitive interaction and more versatile touch-points</td>
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<th>Service extension</th>
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<td>Speed of delivering new services and more complex transactions via VTM</td>
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<th>New regulatory evolution risk</th>
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<tr>
<td>Constantly comply with an ever-changing regulatory framework</td>
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Agenda
1) Introduction to Bank Simpanan Nasional (BSN)
3) VTM – Our Journey
4) VTM Objective
5) About VTM
   - Traditional Virtual Teller System
   - BSN Virtual Teller System
   - Components of Virtual Teller System
   - Virtual Teller System Architecture
   - How VTA-VTM Branches Work
6) Statistic and Challenges
VTM Branch

ML-QMS Kiosk
Pre-screen customer information & print queue ticket

QMS Display
Call customer to the designated counter (normal counter or VTM)

Counters and VTMs
Features:
Teller in VTA Branch serve customer in VTM branch remotely during idle time via Video Conference & Remote BDS System.