Smart Card Management Innovation
- Shinhan Card Case Study

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Contents

- KSSL Introduction

- What is IBM CoreSCMS

- SCMS Market in Korea
  - Shinhan Card was one of the earliest companies in the world to adopt SCMS

- Shinhan Card Case
  - First Release, 2005
  - Second Release (OTA Service Support), 2007
  - Shinhan Day2, 2008 & Current
IBM SW Group announced the launch of Korea Software Solutions Lab in April 2007. It consists of three solution centers:

- Finance S/W Solution Center
- Telco S/W Solution Center
- Cloud Solution Center
- Industrial S/W Solutions
- Cross-Brand S/W Solutions

Impact business with more solutions in each focused industry.

Korea Software Solution Lab.

Leading-Edge Market Requirements

Right Solutions
What is IBM CoreSCMS

- IBM CoreSCMS provides management of the overall card lifecycle including card issuance and post-issuance and customer support service.

Card and Applet Lifecycle Mgmt.

Card Component Mgmt.

Card Product Design & Building

Issue Mgmt. (Mass Issuing or Instant Issuing)

Card Holder Support

Post-Issuance Support

Reporting

Key Mgmt.
SCMS Market in Korea

- Telecommunication companies achieved increased market share and profit as end-users increased usage of their handsets.
- Visa reports that banks were also able to increase their market share and reduce costs by,
  - providing improved quality customer service
  - decreasing the need for direct customer care.

SKT Telecom is largest Telecom Company in Korea. Market share is 51.1%
Shinhan Card : A Global Leader

- Asia’s 1\textsuperscript{st} Card Company, 15\textsuperscript{th} Card Company globally
- Card holder : over 13.7 M

<from Nilson report, Dec. 2007, Unit : USD bn>
Shinhan Card Case Study

I  First Release, 2005
II  Second Release (OTA), 2007
III Shinhan Day2, 2008 & Current
# Shinhan Card CoreSCMS Release

<table>
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<tr>
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<tbody>
<tr>
<td>Duration : 8 Months</td>
<td>Duration : 1 Month</td>
<td>Duration : 5 Months</td>
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</tbody>
</table>

**Goal**

- Issuance System Integration
- DB Migration
- Compliant Global Platform
- Efficient IT & Business System

**Goal**

- Add the Issuance Channel with Mobile phone for the VSDC Application
- Add OTA Service for VSDC with one Mobile Company (SKT)

**Goal**

- Provide Instant Issuance capabilities
- Add new interface and integrate with another AMS
- Mass Instance Integration Acceptance test
- Migration of Existing Card Products
Shinhan Card Case

I  First Release, 2005
II  Second Release (OTA), 2007
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Why Shinhan Card choose CoreSCMS, in 2005

- Shinhan Card requested to solve 4 major problems of their legacy system.

IBM CoreSCMS

IBM CoreSCMS (Smart Card Mgmt. System)

Factor of the SCMS

- Host: Extension of Mgmt. Factor
- Issuance: Make Applet composition
- CMS should integrate IC Legacy System
- Customer: Post Issuance System

Basic Principal

Migration with whole IC System

- System Integration
- IC Card Product
- DB Migration

Compliant Global Platform

Efficient Management Chip & Card product
Shinhan Card Status **before & After** CoreSCMS

- **In Shinhan Card**, there was no IC Card issuance management System with 1,090,000 EMV Cards since 2004.
- In 2005, 23.7 % of all cardholders had EMV cards.
- **Shinhan Card** had to establish an efficient IC infrastructure because of IC card introduction by Government, EMV conversion.
Since 2005, Shinhan has issued over 30 card products via CoreSCMS and they are continuously adding new card products without having to make any changes to CoreSCMS.

- **Debit**
- **MMAA**
- **Medicine**
- **GPI N**
- **VCASH**
- **KTGM**
- **E-Cert**
- **Mobile**
- **Loyalty**
- **SKT**
- **Check Card**
- **PIMS**
- **ZOOP**
- **Member Card**
- **MMAA**
- **Card Perso.**

**Total 37 Application (2005)**

**Total 11 Chip (2005)**

![Diagram showing card products and applications]

<table>
<thead>
<tr>
<th>No.</th>
<th>Card Products</th>
<th>SCMS</th>
<th>Application List</th>
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<tr>
<td>1</td>
<td>KT 신한고유점</td>
<td>SKT</td>
<td>&lt;2005&gt;</td>
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</tr>
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</table>
Central issuance system

- Issuance System is centralized.
- If the new issuance channel is added, Core-Engine can be used and add the channel only.
Post Issuance via Web

- Post Issuance Web Page, Read the Chip and mix the information of the CoreSCMS System.
Shinhan Card Case

I  First Release, 2005

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OTA System (Financial Side OTA Case)

- First Card Issuer is Telco. OTA System of Telco. has the role of downloading VM and load/install card applet.
- Second Card Issuer, Financial Company has the module of VSDC application issuance and DL Server for communication with VM on Mobile.
OTA Service on the Phone

• First Request for the Issuance: CoreSCMS checks the card instance status

• Password, CVC verification and Second issuance:
  If there is no problem, then send the APDUs to requester
Shinhan Card Case

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Shinhan Card SCMS migration, since 2008.

- Shinhan Card acquired LG Card.
- IBM CoreSCMS manages the issuance process including the new Instance Issuance
Business Enhancements after CoreSCMS

- CoreSCMS provides the basis to promptly and effectively respond to various business requirements.
Business Benefit

- Shinhan Card started Smart Card Instant Issuance through successful deployment of IBM CoreSCMS as well as Mass Issuance
  - Number of Instant Issuances doubled after deployment
  - With this process model, CoresSCMS is now scaling to over 20,000 instant issuances and over 40,000 mass issuances per day.

- Shinhan Card expands the service via mobile
  - OTA Service is supporting the 3 Telco. Companies in Korea
  - OTA Card holder is increasing more and more.
  - 150 – 200 OTA issuance per Month
Thanks
Loyalty Usage with NFC

- With NFC readable smart poster, chip update the point
ID Check with the NFC

- Check the ID value inside of the Cardlet. If the id & password information is correct, the device ready the chip information just select APDU command from the ID Check device.

  Id/password OK

  ![Id/password OK](image1)

  ![Id/password not OK](image2)