Transforming CSD Services Through Innovative Technology

Korea Securities Depository

`19. 03.

CSD Services

Safekeeping

- in dematerialized , book-entry only or in physical(Immobilized) form
- Deposit & Withdrawal

Clearing & Settlement

- DvP(Delivery Versus Payment)

Corporate Actions

- Proxy Voting

Other Services

- Securities Lending & Borrowing
- Repo Settlement

Innovative Technologies

KSD

Blockchain

- Distributed Ledger Technology ⟷ Centralized Ledger
- Public Blockchain & Private Blockchain

AI

- Artificial Intelligence
- RPA(Robotic Process Automation), Chatbot, …

Cloud Computing

- Delivery of on-demand computing services over the internet
- IaaS(Infrastructure as a Service), PasS(Platform) & SaaS(Software)

VR

- Virtual Reality
- Augmented Reality(AR), Mixed Reality(MR)

Threat or Opportunity?

THREAT

- Blockchain may remove intermediaries like CSDs

- AI may replace humans

- Cloud may replace In-house IT infrastructure

V.S.

OPPORTUNITIES

- Quality of service may be improved

- Efficiency of work process may be increased

- Humans may get free from repetitive jobs, and focus on more creative jobs

KSD's working on

Safekeeping

- Electronic Securities System will go live by September, 2019
- CSD Working Group on DLT

Clearing & Settlement

- PoC(Proof-Of-Concept) of OTC Bond Settlement
- Study on DLT-based Settlement projects such as 'Stella' and 'Ubin'
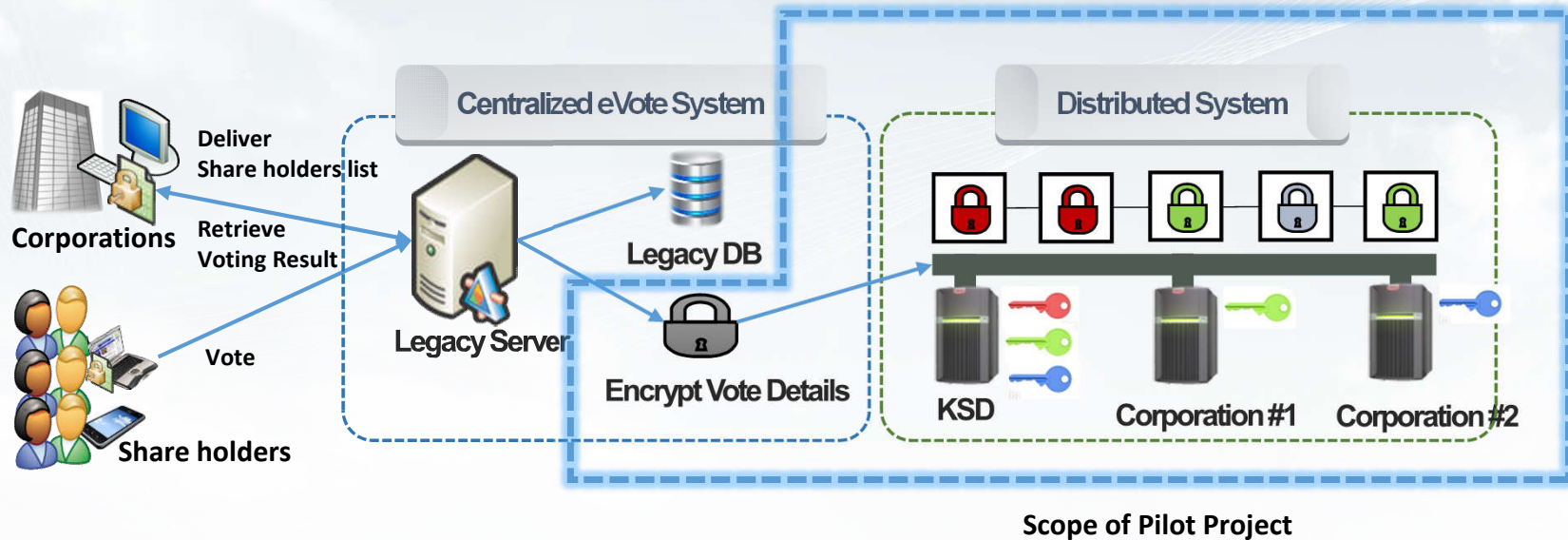- CSD Working Group on DLT

Corporate Actions

- PoC & Pilot of Shareholders' eVoting System using DLT
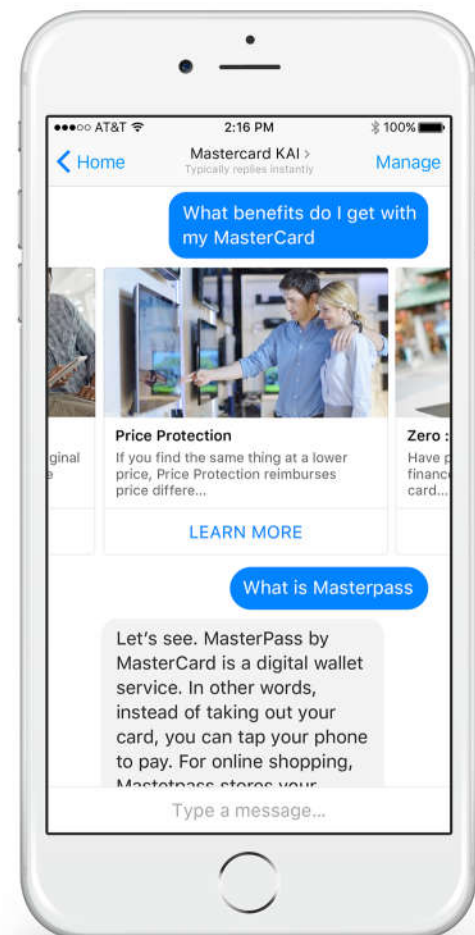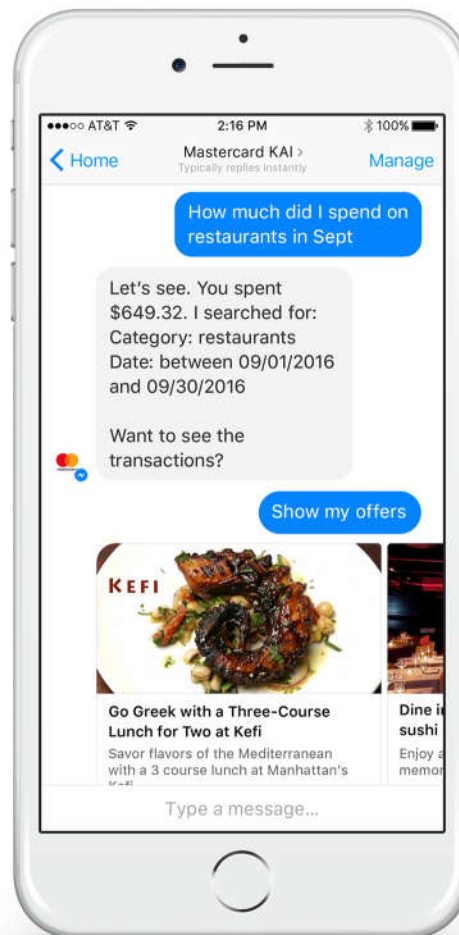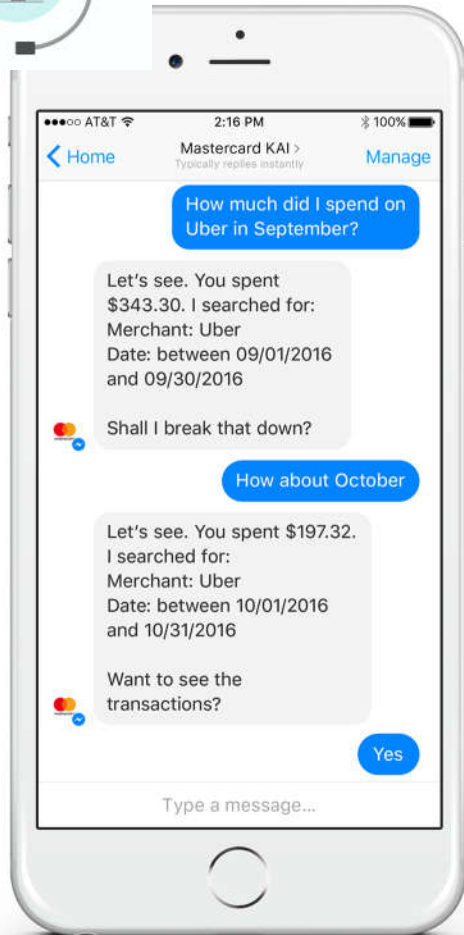- Plan to adopt Chatbot for customer service in eVoting System

Etc.

- Process Automation using RPA

eVote Pilot system using Blockchain

Scope of Pilot Project

- ## Current System
  - KSD works as a management agency for shareholders' electronic voting
  - Only KSD manages eVoting result
  - Problem : **Can KSD prove that the results are NOT Modified**?

- ## Pilot System with Blockchain
  - All eVoting details that has been encrypted will be shared with others → Anti-forgery
  - Encrypting Key will be safely managed & distributed by KSD → Confidentiality
  - **Distributed** but the **NOT Decentralized**

Chatbot for customer services

Other Possible Areas

KSD

AI

- Advanced Analytics & Risk Management
- Cyber Attack Detection
- Robo Advisory

VR/AR

- Cyber Securities Museum

Cloud Computing

- Using Public Cloud for storing non-critical data

Thank you!