# TOKENIZED SERVICES FACTORY

## for secure digital-Commerce Journeys


September 2017

# Agenda

- Why now ?
- Which challenges and captured requirements ?
- Proposal for architectures
- Options of implementations & integrations
- Risk analysis
- Proposal for next steps

# Why now ?

- Fraud is growing at an accelerated pace
- Dissatisfaction of digital consumers is generalizing
- But …nothing stops :
  - The steady growth of digital commerce
  - The diversity of payment means containing payment credentials
  - The infinity of digital journeys embedding a payment step

- Our mission: ***Embed smoothly a tokenization step into a payment flow, itself embedded frictionless into a digital commerce journey !***

# EQUIFAX Earthquake

**Not the first one … not the last one, but impact is strong !**


- Short term:
  - More commercial opportunities for cybersecurity vendors (HW & SW tools)
  - Stricter control on patches management and updates/versioning (particularly for embedded open source SW components)

- Longer term:
  - Architectures for service providers favouring zero storage of sensitive data, or personal data subjected to GDPR (Europe) → clarification of roles between trusted partners and Service Providers
  - Newer technologies to trace and mitigate risks: Scoring, Artificial Intelligence, homographic cryptography, etc. And … Tokenization!

# Different options for digital-Merchants

1. ***Refuse to store personal & sensitive data from their prospects and customers***

   → User Experience is impacted dramatically on mobile phones, with high percentage of drop-off when entering payment credentials, physical address, etc.

   \+ Banks may enforce additional steps [as 3D-Secure] redirecting to them for an authentication step

2. ***Delegate their responsibility (and related liabilities) to an external player, as:***

   ❑ Amazon Checkout: smooth experience as leveraging all customers already enrolled in Amazon. But… price for this service? No more independent marketing initiatives? PacMan effect with future integration into the Amazon digital Mall?

   ❑ Masterpass Checkout: Trying to catch up with difficult traction to-date … will need pre-enrolment in this program. No evident benefit for users.

   → User experience is friendly as « one-click » type of UX, plus Artificial Intelligence for fraud prevention and detection

3. ***Collaborate with issuing banks for « mobile present Tokenization»***

   → User experience is preserved with auto-fill of payment credentials

   → Risks are mitigated as no sensible data are stored and use of tokenization controls (time, place, channel)

   → Users are back in the driver seat, selecting their payment means on their mobile screens

NB: Transparent to PSP's & digital acquirers' processes and flows (no modification required)

# Challenges & Requirements

## Challenges as digital-Merchants:

- want the easiest, quickest and frictionless user experience for their prospects & clients
- don’t like disturbances which derail or distract the « checkout » process, less when leaving the merchant site (as 3D-Secure for authentication)
- while limiting the fraud explosion, putting the whole system at risk and increasing transaction fees and insurances
- and keeping the control of their marketing initiatives without taking additional liabilities

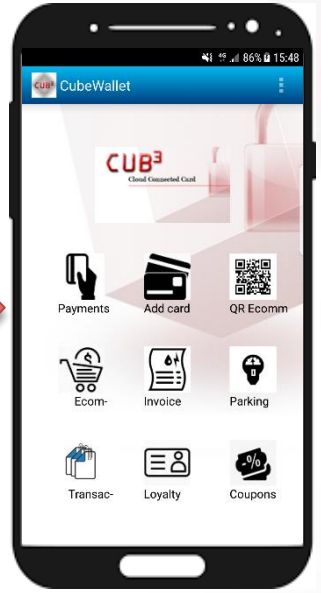
## Requirements:

- Auto fill-up for all long typing fields, not leaving the site
- Control and choices in the hands of users
- Security level of the transactions equivalent to Face-to-Face (EMVCo cryptogram)
- Capacity of adding own marketing tools (Loyalty, own coupons …)
- No storage of sensitive data which would require GDPR, PCI… compliancies

# PROPOSAL FOR ARCHITECTURE

## Options for coupling / notifying


1




1

**Browser extension (1)**
**or**
**Integrated button (2)**

2

**PLATFORM**

Provisioning of payment credentials ready to be tokenized

Cryptogram validation
EMVCo standard flow

PSP / Acquirer

Automatic
fill-up for
user control

1


Browser extension
activated by user
/ or / pre-integrated
CUBE button

PLATFORM

2 Automatic
fill-up

OPTION 2
« Loopback thru
Mobile »

2

1 Display of data for
user control /match

1

OPTION 1
Direct integration
with PSP/Acquirer

# Options of implementation and integration

- **For coupling the smartphone and the e-merchant sites**
  1. QR Code: Very standardized pro-active movement (feeling of control for users)
  2. Wifi/BLE: Pairing method becoming main stream (but might request support)
  3. Geo-localization: Extremely easy as match of location done on the server and simple notification received

  ***NB: for coupling CUB3-Wallet and merchant App's (mobile-Commerce), libraries are provided for notifying and toggling from one App' to the other***

- **Digital merchant site and CUB3 platform**
  1. CUB3 button integrated in the HTML checkout page: pre-integration with the merchant is needed. No specific setp-up requirement on PC/Laptop
  2. Extension added to browsers: No pre-integration needed; all merchants sites are qualifying. Initiative from the user/consumer to install the CUB3 extension

- **CUB3 platform and PSP/Acquirer**
  1. Direct integration server-to-server : pre-integration with the acquirer is needed
  2. « Loopback thru Mobile » : No pre-integration is needed; control by the user-consumer is total

# Risk Analysis - Typology

- **Mobile App'**
  1. Obfuscation
  2. White Box cryptography
  3. Etc.
- **Digital merchant site and CUB3 platform**
  1. Button → Server2Server [TLS based]
  2. Extension → attack when re-directing to another platform than CUB3? Man-in-the-middle? Fraudulent site generating requests of Tokens?
- **CUB3 platform and PSP/Acquirer**
  1. Thru Mobile loopback
  2. Direct integration Server2Server

# Proposal for next step

**CUB3TECH is commited to facilitate the test and deployment of its technologies with gradual technical & financial impact**

- **On the mobile side**
  - Demonstration with CUB3-Wallet
  - White-labelled application with specific branding
  - Mobile SDK for powering the mobile App'
- **On the server side**
  - SaaS mode from CUB3 datacenter
  - « Virtual machine » for development kits, standalone or integrated with the authorization server
  - On-premises installation
- **Different levels of integration with stakeholders**
  - Integration with digital merchants [YES: Button; NO: Browser Extension]
  - Integration with acquirers [YES: direct loopback; NO: « thru Mobile » loopback]
  - Integration with issuers [YES: ID&V; NO: Bulk provisioning]

# Takeaways


**« Mobile Present Transactions! »**

- Security in digital Commerce reaching ***at last*** EMVCo standard
- Consumers are in the driver seat
- Mobile is the platform of choice
- Integration in the eco-system is smooth, gradual
- « Mobile Present » allows flexibility in negotiation:
  - Either the acquirer is « pocketting » the gap between Card-present and Card-non-present levels of fees
  - Either the acquirer accepts to apply Card-present level of fees

# REFERENCES & PARTNERS

tpago® el poder de pago en tu móvil

Xtrategies Strategy & Payment Consultants

logikard c.a.®

CUB3 Cloud Connected Card

contact@cube-hce.com