



We Make Money Mobile

The Canadian (and Secure Element) Success Story

SIMalliance Workshop “Evaluating NFC Deployment Strategies”
Cartes Secure Connexions America
May 4, 2015 – Washington, D.C.

- Canada – a world leader in mobile payments
- Canada's NFC mobile payments environment – an overview
- EnStream as the Hub – who we are, what we do, what we *don't* do
- Factors for success – it takes 3 to tango: Issuers, MNOs & Retailers
- Why the Secure Element? Why NOT the Secure Element?
- An Issuer-centric approach in light of ApplePay, Samsung

MOBILE NETWORK OPERATORS

All of Canada's major MNOs offer Secure Element-based NFC payment capability:

- Bell
- Rogers
- TELUS
- MTS
- SaskTel

Together they cover 95% of Canadian mobile phone users.

- 74% of Canadian cellphone users have smartphones, one of the highest smartphone penetrations in the world.
- Almost 2/3 of those are Android or BlackBerry - iPhone 6 only just available, but ApplePay is still not available in Canada.

ISSUERS

5 of Canada's "Big Six" Financial Institutions (FIs) do the same.

- Toronto Dominion
- Scotiabank
- CIBC
- Desjardins
- Royal Bank of Canada

Together they cover 85% of Canadian retail banking customers.

RETAILERS – *In mobile payments, it takes 3 to tango*

Having the ability to use your phone to make payments doesn't do much good if you don't have places where you can actually use it.

The liability shift happened in Canada relatively late, March 2011, but already now over 84% of Canada's major retail merchants have contactless EMV terminals.

This is dramatically different from the US, where the liability shift won't happen until October 2015, and where only about 2% of US retailers have contactless payment capability.

- This coverage by the majority of Canada's FIs, MNOs and retailers means that the percentage of Canadians now able to obtain mobile payment capability is significantly higher than anywhere else in the world.
- This is consistent with Canada's history of early and significant adoption of new technologies such as the Internet, debit cards, EMV, smartphones and contactless cards.
- EnStream is very proud to be at the centre of it all, providing SEM, SP TSM and/or SE Access services to many of the participants directly, and indirectly to virtually all of the others.

Deployed Connections through the EnStream
Technical infrastructure and/or EnStream's
Commercial Relationships*



Canada's Mobile Payment Hub
One-Stop, End-to-End
Technical and Commercial Solutions

* Credential delivery is not yet enabled across all connected parties.

- Other than the low-value, closed-loop, prepaid systems of Starbucks or Tim Hortons, all Canadian deployments to date have been Secure Element-based. (One Issuer stores credentials in the cloud, but still uses applets that reside on the SE.)
- We do not see tokenized HCE and SE solutions as mutually exclusive, but as potentially useful for different purposes.
- One of our banks is also conducting a non-SE-based HCE trial, and we will be very interested in the results of that.
- We have yet to see, however, a different approach that is as secure, reliable and cost effective as our Secure Element-based solution.

SEM, SP TSM and SE ACCESS – WE DO IT ALL

- EnStream is the Secure Element Trusted Service Manager (SEM) for MNOs.
- EnStream is the Service Provider Trusted Service Manager (SP TSM) for Issuers and Wallet providers.
- EnStream is also the SE Access Reseller between most of the MNOs and Issuers. This single point of contact eliminates the need for bilateral negotiations, contracts and associated complexities.

The hub approach is simple and efficient.

FACTORS FOR SUCCESS IN CANADA (and it's all Secure Element)

- Relatively small # of large, security-conscious FIs
- Relatively small # of large MNOs
- Good, reliable technology (EnStream, Bell ID and BlackBerry)
- EnStream as Hub – cost effective, efficient and simple
- High penetration of retail contactless terminals
- EnStream as a utility -- technology and connections available to all

WHY THE SECURE ELEMENT? WHY NOT?

In Canada, the SE-based solution clearly works.

- It is cost competitive and, with scale, becoming more so all the time.
- It is time competitive – we can now get a deployment to market in as little as 6 months.
- It is proven and reliable. It works.
- *We have yet to see another option can match the security of the SE.* HCE with tokenization may be great for a variety of applications, but for full credit and debit card payments, questions remain about the level of security it can provide as well as overall cost and reliability.

WHY NOT THE SECURE ELEMENT?

- Virtually all new smartphones are NFC capable.
- In Canada, all new SIM cards are NFC-capable; the iPhone 6 uses an embedded SE; and all new non-Apple phones are pre-seeded with NFC-capable SIM cards.
- Much of the “why” behind HCE is a perceived need for a non-MNO alternative. Yes, an SE-based solution requires a relationship with the MNOs – but we have shown that this is much simpler, easier, and cost-effective than seems to be assumed.
- On the other hand, HCE deployments are taking longer than expected, there are security concerns, other complexities, concerns about working with ever-changing phone OSs – and tokenization is neither cheap nor easy.

- We know that Issuers are looking at alternatives.
- We also know that Issuers are concerned about losing contact with their own customers through ApplePay and whatever other intermediary options arise. Ironically, EnStream is on the banks' side in this -- we remain focused on solutions that keep the contact between the Issuer and its customers.
- These new developments also raise concerns about market control – we support a fully open market with truly competitive alternatives.
- As for mobile transactions that may need less security, if a truly cheaper, more efficient option is available for those (HCE or otherwise), we're happy to source it and include it in the mix for our clients with those needs.

For now, we still prefer the Secure Element option.

Given our experience, our success in deployments and the security advantage, unless and until there is clear evidence that an HCE solution provides the necessary combination of cost, timing, ease of use and security, we recommend the SE-based options.

As we've seen, Apple has also embraced the SE option, although using an embedded one that Apple controls and controls access to.

And this will be key: Less important than the technology of SE v. HCE will be the relationship with the customer, and customers' own preferences.

- We welcome the entry of ApplePay and whatever Google, Samsung and others come up with – they are encouraging the growth of the mobile payments ecosystem. However, we also want to ensure an open market and competitive opportunities.
- Can individual banks take on these international competitors alone, deploying their own solutions using HCE (including continued security, reliability and user concerns)?
- Can they compete more effectively and retain that customer connection by working together, and with the MNOs, using the open access SIM-based Secure Element solution?
- We are proof that the hub approach works, and we remain committed to Issuer-centric solutions.

At EnStream, we're proud to be playing a central role in this Canadian success story. If anyone has any questions or would like more information, please contact us.

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