

Canada's Migration to Chip

Introduction

What is chip technology, and why is Canada and the global market migrating to it? The intent of this document is to provide you with background on chip technology and its implementation in Canada. Find out how the payment brands support this strategic decision and how it benefits you as a merchant. While other documents will provide the specifics of merchant requirements as Canada migrates, this Merchant background document will give an overview of impacts, how to recognize chip and PIN capabilities and how to prepare for chip technology.

What is a Chip Card?

The 'chip' in chip card refers to a small microchip embedded in the payment card. The secure data stored on the chip is virtually impossible to copy or change. EMV Chip represents the most secure technology available today to protect payment information and to prevent certain types of payment card fraud. The chip infrastructure is designed to evolve with future security enhancements.

What is the EMV Specification?

EMVCo was formed February 1999 by Europay International, MasterCard International and Visa International. EMVCo's primary role is to manage, maintain and enhance the EMV Specifications to ensure interoperability and acceptance of chip payment cards globally.

The World is Migrating to EMV Chip

Today, EMV chip can be found in over 65 countries and the number of EMV cards and terminals deployed continues to grow. As of June 2006, there were over 440 million EMV chip cards and 6.3million EMV capable terminals deployed worldwide.

Chip Migration in Canada

The payment brands have agreed to use the EMV standard in Canada. Interac Association, MasterCard and Visa have all committed to migrate to chip.

- **American Express** will support issuer and acquirer migration plans in line with the market.
- **Interac Association** has established migration dates for cards and terminals. Complete card and ABM conversion is required by the end of 2012; complete point of sale (POS) conversion is required by the end of 2015. After 2015, Interac debit magnetic stripe transactions will no longer be accepted at devices in Canada.
- **MasterCard** is supporting its customers' EMV chip migration programs and has commitments from 12 issuers and five acquirers for development by 2010.
- **Visa Canada** is committed to a critical mass of EMV chip cards and terminals in market by 2010 and has implemented a liability shift that takes effect in October 2010. Effective October, 2010, the liability for any fraudulent transaction that would have been prevented by chip technology will fall on the party that has not yet migrated to chip

Canada's Migration to Chip

As there are millions of payment cards and hundreds of thousands of payment terminals in Canada, it will take several years to fully convert the payment system in Canada to chip technology.

Why Chip? Why Now?

Preventing fraud growth is the main driver behind chip migration in Canada. Fraud is largely the work of large, organized criminal organizations and is an international problem. The implementation of chip and PIN makes it more difficult for fraudsters to target payment cards. Part of the growth in fraud in Canada is due to the migration of fraud away from regions that are implementing, or have implemented chip technology to regions that still use magnetic stripe technology.

Counterfeit fraud in Canada on debit and credit cards totaled almost \$250 million in 2006 and has been growing at almost 30% annually. The number of consumers impacted by fraud continues to grow. Chip technology represents a proactive way to protect the Canadian payment system from fraud and ensure consumer and merchant confidence in card payments.

Who is Impacted?

The successful implementation of chip in Canada requires the efforts of multiple stakeholders. The payment brands have provided technical specifications, policies, testing, certification services, support and have upgraded their proprietary networks. Issuers are making significant investments in system upgrades and in issuing chip debit and credit cards to customers. All ABM devices are being upgraded to accept chip cards. Acquirers are investing in the upgrade of back end systems and upgrading and replacing POS terminals. Merchants are key players in Canada's migration to chip. From the training of customer facing staff to the upgrade of proprietary payment systems that will use this technology, merchants have an important role to play. The ultimate goal in Canada's migration to chip is the seamless adoption of chip technology by both merchants and consumers.

What Changes with Chip?

The introduction of chip will result in some changes at the point of sale:

- The card will no longer be swiped but will be inserted into the terminal and will remain there for the duration of the transaction
- Instead of signature authentication for credit transactions, consumers will typically be asked to validate transactions with a PIN (Personal Identification Number). Interac debit transactions will be validated with a PIN as they are today
- Customers may maintain control over their payment cards, depending on the terminal configuration

What Will Need to be Upgraded?

Migration to chip requires the upgrade of most of the components in existing point of sale systems. The financial responsibility for upgrading a particular component typically falls on the owner of each component.

The Benefits of Chip for Merchants

The benefits of chip for merchants include the following:

- Fraud reduction
- Consistent payment experience for credit and debit. Most transactions will be validated with a PIN

Canada's Migration to Chip

- PIN is a stronger method of authentication than signature
- Credit transactions will be validated by the issuer after the consumer uses their PIN, not by retailers checking the signature on the back of the card
- Potential to improve POS checkout speed
- Potential to reduce credit card disputes, charge backs, Requests for Information (RFIs) and associated costs
- Potential to reduce paper supplies
- A single chip can potentially support multiple applications including non-payment services such as loyalty programs

Chip Acceptance Image

Canada's payment industry is striving to make the migration to chip as seamless as possible for Canadian consumers and merchants. The prompts at the POS device will guide consumers and retail sales staff through the chip transaction. To further support the migration to chip, the industry has developed an image that can be used at chip-enabled devices to indicate that chip is accepted at that device. For the Kitchener-Waterloo Trial (October 2007 – October 2008) the image can be used at and on POS terminals that are chip-enabled across all participating payment brands that the terminal accepts. Participating payment brands are defined as those payment brands that are issuing chip cards in Kitchener-Waterloo. When consumers see the image displayed at a POS device, they will be alerted to the fact that they should insert the chip card into the reader. In the case of debit the purchase will be approved with PIN as it is today and in the case of credit now the transaction will be validated with a PIN rather than with signature.



What Does Chip Migration Mean for Mail Order, Telephone Order (MOTO) and Online Merchants?

The upgrade to chip technology provides increased security for a 'card present' transaction. MOTO and online merchants will continue to transact as they do today.

MasterCard and Visa Canada offer best practice information for MOTO merchants that can be found at www.mastercard.ca and www.visa.ca.

Within Canada, the payment brands have been proactive in educating consumers and providing additional security measures to protect against online fraud. Interac Online leverages the consumer's online banking relationship to authenticate a transaction. MasterCard's **SecureCode** and Visa's **Verified by Visa** allow cardholders to authenticate themselves with a password when shopping online at participating merchants.

Canada's Migration to Chip

In Conclusion

Canada's migration to chip affects payment brands, issuers, acquirers, merchants and consumers. Training of retail staff will be important. The migration to chip requires the upgrade or replacement of POS terminals, ABMs and payment cards. Migration to chip will provide a payment infrastructure that is more secure and will bolster consumer and retailer confidence.

Kitchener-Waterloo Chip Trial

The Kitchener-Waterloo Trial represents an industry effort to introduce chip technology in an effective and coordinated way. There are over 30 stakeholders involved in the Trial including payment brands, card issuers, acquirer/processors and merchants.

Trial Principles

The principles of the Trial are **Communication**, the validation of proprietary and industry communication activities; **Adoption**, the seamless introduction and use of chip technology by merchants and consumers; **Interoperability**, to validate that cards and terminals work together as expected;

Trial Timelines

The Trial began in October, 2007 with limited deployment of terminals and issuance of cards. Terminal and card penetration will continue to increase with critical mass expected in the Kitchener-Waterloo area by Spring 2008. The Trial will continue until October 2008 with national rollout to commence thereafter.

Contact Information

If you wish to participate in the Trial, please contact your acquirer/terminal supplier directly.

For more details on the Kitchener-Waterloo Trial, please contact Tracey Black at the Kitchener-Waterloo Trial Project Management Office at 416-203-5252.