FAQs: Chip cards

What is a chip card?

A chip card, sometimes referred to as a “smart card”, is a credit or debit card containing an embedded computer chip, which gives the card the ability to store and process data. The chip card provides enhanced security, because it is very difficult to duplicate, and greater convenience, because it allows multiple functions to exist on one card (e.g., stored value, loyalty programs, etc.)

Why chip? Why now?

Although there are many benefits for migrating to chip technology - such as greater convenience at point-of-sale, faster transactions and, in the future, the potential for multiple payment options on a single card - the industry’s decision to make the shift in Canada has been led by substantial increases in counterfeit and fraud activity.

While countries in Europe, Asia, Latin America, the Middle East and Africa have all been working on implementing chip programs, criminals have moved their operations to North America. Both the Interac® and credit card systems have experienced an increasing volume of attacks in Canada. With the access to magnetic stripe read and write devices, as well as the availability of wireless pinhole cameras, fraudsters can capture the information off cards and PIN numbers with relative ease. In 2006, Interac reported counterfeit debit card losses exceeded $94 million.

Counterfeit credit card fraud is also on the rise; in 2006 losses exceeded $135 million. Like debit cards, capturing and replicating data on a credit card’s magnetic stripe is fairly simple for practiced and professional fraudsters. The credit card system also relies on signature-based verification which is generally provided by a merchant’s employee and not an expert in handwriting analysis.

What is EMV?

EMV is an acronym that is associated with chip card technology and refers to Europay-MasterCard-Visa. EMV relates to the technical specifications for how chip cards communicate with merchant terminals and ATMs. EMV is the common global operating standard and has been adopted by the electronic payment industry in Canada. Having a single standard ensures chip cards, terminals and other systems can communicate and will be interoperable all over the world.
What are the benefits of the chip card to consumers?

Consumers have a lot to gain from the migration to chip technology. Benefits include:

- **Added security**: Chip cards provide additional protection to avoid disclosure of personal information and are very difficult to copy.
- **Added convenience**: Greater speed and convenience at the point of sale. The chip platform also allows for the addition of non-payment applications, such as reward programs, in the future.

What are some of the features that may ultimately end up on a chip card?

The potential of chip cards lie in multi-application cards carrying a series of applications from banks and their partners that can be tailored to suit specific groups of customers. Over time, chip cards could be used for:

- A choice of payment applications
- Loyalty or rewards programs
- Public transportation fares
- Secure Internet access for e-commerce

Will chip card transactions be conducted differently than magnetic stripe transactions?

Cardholders can expect to see two changes when conducting a chip transaction:

- Cardholders will insert their card into the device or terminal, rather than swipe, and leave their card in the device or terminal for the duration of the transaction.
- Credit cardholders will need to enter a PIN number, just as they do now for debit cards. PIN is a more secure form of consumer identification and will therefore replace cardholder signature.

Are you doing away with the magnetic stripe?

Magnetic stripe will co-exist with chip to allow consumers to use their cards in other countries that have not yet migrated to chip technology.

Does the move to chip mean that the magnetic stripe is not secure?

Cardholders should have full confidence in the security of magnetic stripe cards. The migration to chip technology represents a forward-looking evolution of electronic payments systems designed to make an already safe payments system even more secure.
During the transition period to chip, magnetic stripe cards will continue to provide Canadians with a safe, reliable and convenient method of payment. In addition, cardholders can be confident in the protection afforded by the added security features offered by individual payment card companies.

**Are chip cards 100% immune to fraud?**

Chip represents the highest level of security available to protect payment information and prevent fraud. While no technology is 100 per cent invulnerable, chip cards employ a range of security features and measures that work in concert with each other to create a multi-layered defense against fraud. We are regularly testing our systems and the technology to assure the highest level of security.

**Have there been any security breaches of chip cards to date?**

We are not aware of any successful attacks involving chip technology.

**Who owns the data contained on the chip?**

Ownership of the card and the chip containing data is typically asserted by the organization that has issued the card. As other applications are added to chip cards, data ownership may evolve.

**When will chip cards be in the marketplace?**

Newly issued credit cards incorporate the chip technology and by the end of 2010, it is expected that the majority of cardholders and merchants will be able to fully benefit from this new technology.

**Why is the migration taking so long to implement in Canada?**

The transition timeline is not unusual, given the vast number of ATMs, point-of-sale devices and cards that have to be converted. Each organization has set out an appropriate timeline that it feels is necessary to achieve a smooth transition for merchants and cardholders.

**Are all financial institutions migrating to chip?**

Each payment card company has set out individual timelines for migration and the timelines for each of their respective members (banks, caisse populaire, etc.) will vary as well.
Will Canadians be able to use chip cards outside of the country?

Yes. Many countries have already successfully adopted chip technology and Canadian chip cards will be fully compatible with these systems. In those countries that have yet to switch to chip technology or do not plan to, cardholders will be able to use their cards since the chip cards will still have a magnetic stripe.

Why is Canada migrating to chip now and the U.S. is not?

In Canada, the evolution to chip technology is based on extensive consultation and research. We are confident that this is the right decision for us right now. We cannot comment on the industry in the U.S.

© CUETS is a registered trademark of Credit Union Central of Canada and is used under license.

© INTERAC is a registered trademark owned by Interac Inc. and is used under license.

© MASTERCARD is a registered trademark owned by MasterCard International Incorporated and is used under license.