

## **Enhancing Payment Card Security – New Measures to be Phased in from 2<sup>nd</sup> Quarter 2010 to 1<sup>st</sup> Quarter 2011**

On 5<sup>th</sup> March 2010, The Association of Banks in Singapore announced key measures to adopt a holistic approach to further enhance the security for payment cards, giving cardholders in Singapore greater security and better protection against card fraud. This is in addition to the existing measures whereby banks and card issuers protect cardholders' interests through robust fraud detection systems that monitor and detect unusual/suspicious card usage.

As cardholders and consumers, it is important to ensure that you provide your bank with your current particulars, such as mobile phone number, email address and mailing address.

The following FAQs explain the rationale and benefits of moving to chip-based payment cards as well as activation procedures, introduction of new alert measures for transactions and the new protocols for Card Not Present Transactions.

<b>(I) Replacing magnetic stripe-only cards with EMV chip cards</b>
<p><b>1. What is EMV?</b></p> <p>EMV is a global security standard for chip card technology. It enables chip cards to be accepted anywhere in the world. With the EMV Smart Chip, your card is better protected against fraudulent activities.</p>
<p><b>2. Why is there a need to replace my magnetic stripe card with a chip card?</b></p> <p>Chip cards are safer than magnetic stripe cards. A magnetic stripe card can be easily cloned. A chip card, however, contains a microprocessor chip that uses encryption to prevent its contents from being replicated.</p>
<p><b>3. What are the advantages of having the chip in my card?</b></p> <p>The chip card complies with the Monetary Authority of Singapore's enhanced standard of data security. Compared to a magnetic stripe card, a chip card is able to store more data that uniquely identifies the card and the cardholder. This makes it nearly impossible for fraudsters to decode or tamper with the card.</p>
<p><b>4. Does my magnetic stripe debit card also have to be replaced with a chip card?</b></p> <p>Yes. All credit, debit as well as prepaid cards would have to carry a chip. However, proprietary ATM cards issued by the banks do not need to be replaced at this time.</p>
<p><b>5. My current card already has a chip. Will I still be receiving a new card?</b></p> <p>No. You can simply continue using your existing chip card.</p>
<p><b>6. Do I have to pay for my new chip card?</b></p>

No, customers do not need to pay for the new chip card. The cost of upgrading your magnetic stripe card to a chip card will be borne by the card-issuing bank.

**7. What must I do with my current card once I receive the new chip card?**

Please destroy your old card by cutting it in half, to prevent unauthorised usage.

**8. How do I use a chip card?**

Use your chip card in exactly the same way as your old magnetic stripe card. Present your chip card to the merchant sales staff who will insert your chip card into the chip card reader instead of swiping it at the point-of-sale terminal.

**9. Can I use the chip card overseas?**

Yes. However, in some countries chip cards are not prevalent and not all terminals can accept chip cards. Your card transactions in these countries will revert to using magnetic stripe instead.

**10. Can I use the chip card for online transactions as well as at ATMs?**

Yes (see Part IV for more information regarding online transactions).

**11. What happens to my current PIN?**

Your current PIN will continue to apply to your replacement card.

**12. Will there be any changes to my statement and payment due dates?**

No.

**13. Are my reward points under the existing card affected in any way?**

No. In addition, you will continue to earn reward points in the same way as before.

**14. What happens to GIRO, installment payment plans and recurring payment arrangements that are charged to my current card?**

All GIRO, installment payment plans and recurring payment arrangements will remain unchanged, as your replacement chip card will bear the same 16-digit credit card number as your current card.

**15. I have credit cards with several banks. Will all these cards be replaced with new chip cards as well?**

Yes, banks are progressively sending replacement cards to customers.

**16. When will my magnetic stripe card be replaced?**

This depends on your bank's implementation timeline but we expect the exercise to be completed by Q1 of 2011.

### **17. Do I not need to safeguard my credit/debit card after it is converted to chip card?**

Yes. You will still need to safeguard your credit/debit card just like your cash.

## **(II) Introducing first-usage alert and activation procedure for new/replacement cards**

### **1. What do I do when I receive the new chip card?**

To prevent unauthorised use of your new card should the card be intercepted or stolen in the mail, your bank will advise you whether you have been issued an "unactivated card" or a "live card":

- a) "Unactivated Card" – you have to call your bank's hotline to activate it;
- b) "Live Card" – no activation is required by you; a first usage alert will be sent to you via SMS, email or letter (on advice of your bank).

## **(III) Transaction Alerts based on a pre-defined value threshold**

### **1. What is a Transaction Alert?**

This is an added security measure introduced by the Monetary Authority of Singapore.

You may opt in or opt out of this service based on the service agreement being provided by your bank. When a transaction exceeding a pre-defined value threshold is charged to your credit/debit card, your bank will be required to send you a Transaction Alert via SMS. Some banks may allow alternative modes, e.g. email or postal alerts.

This alert serves as a fraud prevention measure and you should immediately contact the bank if the transaction is not authorised by you.

### **2. What is the threshold amount that will activate a Transaction Alert?**

The threshold amount may vary from bank to bank and with different card products. Your bank will inform you of the default threshold amount, and you may choose to change the threshold amount.

### **3. How will I receive my Transaction Alerts?**

You will receive Transaction Alerts by SMS, unless you have made alternative arrangements with your bank. Please ensure you have updated your contact information with your card issuer.

**4. When will I receive Transaction Alerts?**

You will receive an alert:

- a) when you first use a new card or replacement card;
- b) when you make purchases above the pre-defined threshold amount; and
- c) If the bank detects any suspected fraudulent transactions.

**5. Will I be charged for the Transaction Alerts?**

Banks will not be imposing a charge for Transaction Alerts. However, you should check with your service provider on whether you need to pay for overseas SMS in the event you are outside Singapore.

**6. Can my supplementary cardholders receive Transaction Alerts?**

This depends on your bank.

**7. Will I receive Transaction Alerts on my wireless devices when I leave the country?**

Alerts are sent via SMS. If you can receive SMS while overseas, you will receive the alerts. The time taken for the alert to reach you depends on your service provider and the service provider of the country you are in. If your mobile phone is unable to receive SMS at any time, the alert will be stored for a limited time in the same way as any other SMS. If you require more information on receipt/storage of SMS, please ask your service provider.

**8. Can I change the threshold amount?**

Yes. Please contact your bank's Customer Service Hotline to give new instructions.

**9. Can I opt out of this Transaction Alert service? If I opt out, can I sign up for it in future?**

Yes. Simply contact the bank's Customer Service Hotline with your instructions or contact your bank to check if you can log in your request via internet banking.

**10. Can I register a pre-paid phone card for the Transaction Alert service?**

Yes.

**(IV) One-Time-Password (OTP) for Card Not Present Transactions****1. What is 3-D Secure?**

3-D Secure (3DS) is an added layer of security for online credit and debit card transactions. When a Singapore cardholder makes a purchase at a merchant website that uses 3DS, the cardholder will be asked to enter a One-Time Password (OTP) before the transaction can be completed.

3DS was developed by VISA to improve the security of Internet payments and offered to customers as the Verified by Visa (VbV) service. This protocol has also been adopted by

MasterCard, under the name of MasterCard SecureCode, and JCB International as J/Secure.

## 2. How does 3DS work?

3-D Secure adds another authentication step for online payments. Merchants are encouraged to use 3-D Secure to achieve higher protection against fraud losses. When a merchant does not use 3-D Secure, it is liable for fraudulent transactions even if the transaction was appropriately authorised.

The basic concept of the protocol is to tie the financial authorisation process with online authentication. This authentication is based on a three domain (“3-D”) model. These three domains are:

- Acquirer Domain (the merchant and the bank to which money is being paid).
- Issuer Domain (the bank which issued the card being used).
- Interoperability Domain (the infrastructure provided by the credit card schemes to support the 3-D Secure protocol).

When a customer enters his credit/debit card number during online shopping, a 3DS merchant will submit the account number to the directory server provided by the card scheme (VISA/MC/JCB) to check if the card issuer of the said account number is enrolled for 3DS. If yes, the Directory Server will send the URL of the card issuer’s Access Control Server (ACS) to the merchant. The merchant’s Server Plug-in will then submit an authentication request to the ACS through the cardholder’s browser. The ACS will perform the authentication when the customer enters the 3DS password on his browser.

The 3DS password may be static but in the Singapore context, the Monetary Authority of Singapore has mandated that the card issuer must provide cardholder with a One-Time Password (OTP) for added security, as a static password is vulnerable to other fraud scams such as phishing, man-in-the-middle attack, etc.

## 3. Why is there a need for an One-Time Password (OTP) to complete an online purchase?

The OTP helps to protect against online fraud. It is a secure way to authenticate that the customer making the online purchase is the rightful owner of the credit card being used.

## 4. Do all on-line purchases require entering an OTP?

No. This measure applies only to merchant websites that support the “3-D Secure” authentication protocols.

## 5. How do I know if a merchant is a 3DS enabled merchant?

The merchant website will display the logo of 3DS card schemes such as VISA’s Verified-by-VISA, MasterCard SecureCode or JCB’s J/Secure.

## 6. How do I receive the OTP from the bank?

When you make an online purchase using your credit/debit card, a pop-up message will appear on screen asking you to enter the OTP. The OTP will be sent to your phone via SMS. Some banks may provide the alternative options of using email, a hardware token or a mobile phone application that can generate an OTP. If you are already an Internet banking customer, you should already have your mobile phone number registered with the bank.

If you are not an Internet banking customer, you will be required to register your mobile phone number with your bank.

**7. Do I have to pay for this service?**

No.

**8. When will the card issuing banks introduce 3DS?**

The Monetary Authority of Singapore requires all card-issuing banks to introduce 3DS from June 2010 unless they have obtained an extension. Please check with your banks for their implementation timeline.

**9. Do I need to enrol for 3DS with my bank?**

No. Your bank will automatically enrol all its cardholders.

**10. If I do not have my mobile phone registered with the bank, can I still make an Internet purchase?**

You will still be able to make purchases on merchant websites that have yet to embrace 3DS. For 3DS merchant websites, however, you will not be able to complete a transaction without an OTP.

**11. How do I register my mobile number or obtain a hardware token from my bank?**

Please contact your bank. For security reasons, you may be required to complete a form to register your mobile number or apply for a hardware token. This may take a few days to process. We therefore advise that you register your mobile phone number as early as possible, to ensure that you will be able to make online purchases.

**12. What should I do if I change my mobile phone number?**

As your mobile phone number will be the primary contact for your bank to send you an OTP or SMS alert, you will need to ensure your new mobile phone number is updated with your bank.

**13. Can I opt out of the OTP service for online purchases?**

The OTP is required for online purchases through 3DS merchant websites. You may still make online purchases without the OTP through merchant websites that do not use 3DS.