



Bangko Sentral ng Pilipinas

MAYNILA, PILIPINAS

OFFICE OF THE DEPUTY GOVERNOR SUPERVISION AND EXAMINATION SECTOR

MEMORANDUM NO. M – 2008 – 033

To : ALL BANKS

Subject : Refurbished Automated Teller Machine (ATM)

In view of the requirement of VISA and MasterCard to adopt Triple Data Encryption Standard (Triple DES¹) in ATMs, several banks have already disposed their old ATMs and replaced them with new models which are Triple DES compliant. On the other hand, there are those who opted to upgrade their existing ATMs to Triple DES. However, it should be known that not all models can be upgraded to such standard of encryption.

It has come to the attention of the Bangko Sentral ng Pilipinas (BSP) that several banks (mostly rural banks) are being misled into buying refurbished ATMs whose Triple DES compliance is questionable. Either the upgrade to Triple DES was inadequately done or the model of the refurbished ATM itself is non-upgradeable.

To protect the banks from dubious claims on refurbished ATMs, the following should be kept in mind:

1. Not all ATMs can be upgraded to Triple DES. Generally, upgrade/conversion kits are available for Diebold, NCR and Fujitsu. However, said manufacturers have announced that they will not supply encryption upgrade solutions for several of their older models. It is therefore best to verify with the ATM manufacturer whether a specific model is indeed upgradeable.
2. If a specific ATM model has been verified to be upgradeable, upgrade to Triple DES should be done in a thorough manner. It is not enough that the ATM's software is upgraded. To be Triple DES compliant, the following would be necessary:
 - **Encrypting PIN Pad²(EPP)**. Existing ATM keypads must be replaced with an EPP, which serves as a countermeasure to

¹ Triple DES or Triple Data Encryption Standard is a code requiring electronic fund transfer (EFT) transactions to be encrypted three times at the ATM or point-of-sale terminal before being routed through an electronic payments network for authorization.

² An Encrypting Pin Pad (EPP) is a combination of a numeric keypad and an encryption processor, contained within a Tamper Resistant Security Module. It encrypts the cardholder PIN at the point of entry.

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security incidents involving thieves who install illegal "skimming" devices inside ATMs and are able to intercept cardholder PINs before they are encrypted.

- **Original software.** An illegal software may not be capable of monitoring half of the numerous status messages (in the case of NCR ATMs, there are more or less 2000) produced by the ATM. It is therefore best to obtain the software directly from the ATM manufacturer.
 - **Faster processor and more memory.** The older the ATM, the greater the chance that a total core upgrade will be necessary.
3. Although tests are being conducted by some ATM consortium³, it is highly recommended that the bank conduct its own transaction condition testing for the ATM/s it will purchase.
 4. Any competent third-party maintenance provider should be able to provide maintenance services for the ATM upgraded to Triple DES.
 5. In some cases, there are vendors who receive certification/s that their hardware/software is compliant with ANSI⁴ and/or ISO⁵ standards on cryptographic design and PIN security methodologies.

For your guidance.


NESTOR A. ESPENILLA JR.
Deputy Governor

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³ An ATM consortium is an entity that operates and maintains an ATM switch network connecting member institutions

⁴ ANSI stands for American National Standards Institute. An organization that oversees the creation, promulgation and use of thousands of norms and guidelines that directly impact businesses in nearly every sector. In many cases, MasterCard, VISA and other networks have adopted PIN security requirements closely modeled on ANSI standards.

⁵ ISO (International Organization for Standardization) is the world's largest developer and publisher of International Standards. It is a network of the national standards institutes of 157 countries.