

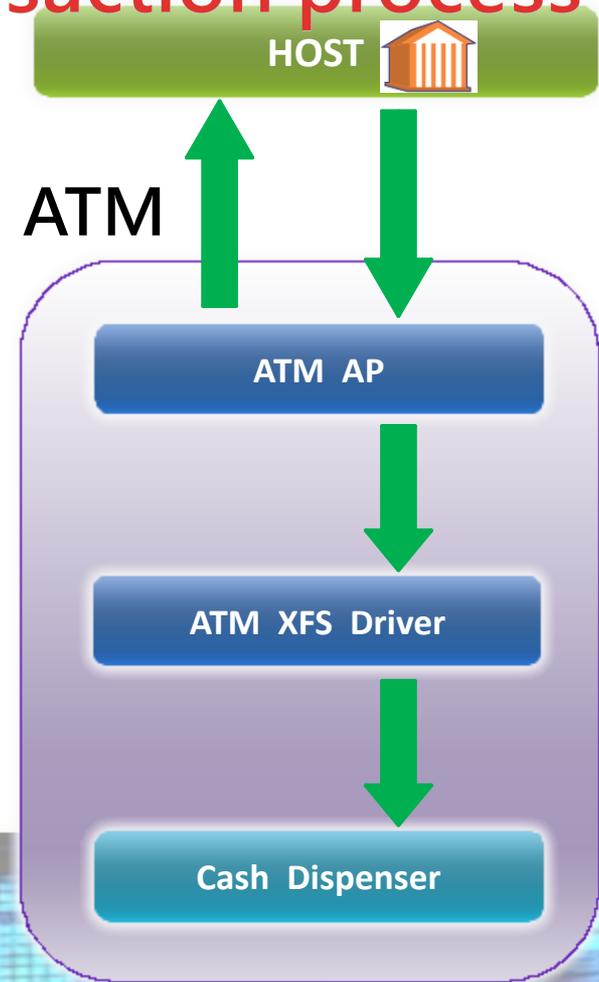
Cerberus Guard

ATM SECUR SOLUTION



Nowadays ATM withdrawal Transaction process

1. ATM AP launches withdrawal transaction command to Host
2. After the Host is authorized, reply to ATM AP issuing
3. ATM AP start XFS Driver
4. XFS Driver command to Dispenser starting works.



The weakness

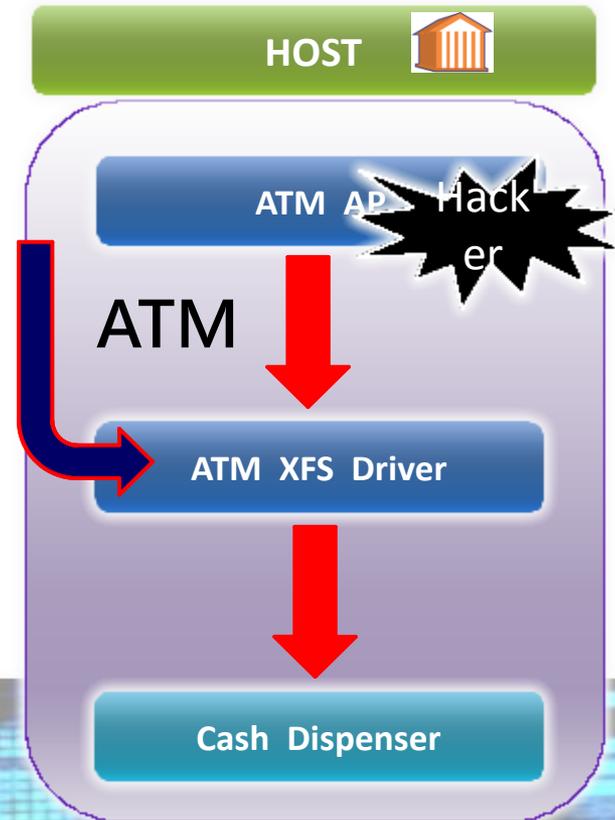
1. XFS Driver is open standards, easy to programming for hacker .
2. While the hacker invades, can activate the note-issuing directly.
3. The ATM cannot ensure that each note is authorized by the HOST center.
4. Hacker command Dispenser continuous issuing, the ATM can not interrupt it.
5. Hacker Camouflage Command to Cash DISPENSER issuing note, host can't detect it.



Hacker Bogus attack Path

1. Hacker Program implement to ATM AP
2. Hacker program enable the XFS Driver
3. XFS Driver command to Dispenser issuing

Hacker Replay the above action and the dispenser consecutive issuing-notes, Host Center server and ATM host can not actively detect the stolen collar, nor any warning.



Cerberus Guard Secure ATM Solution



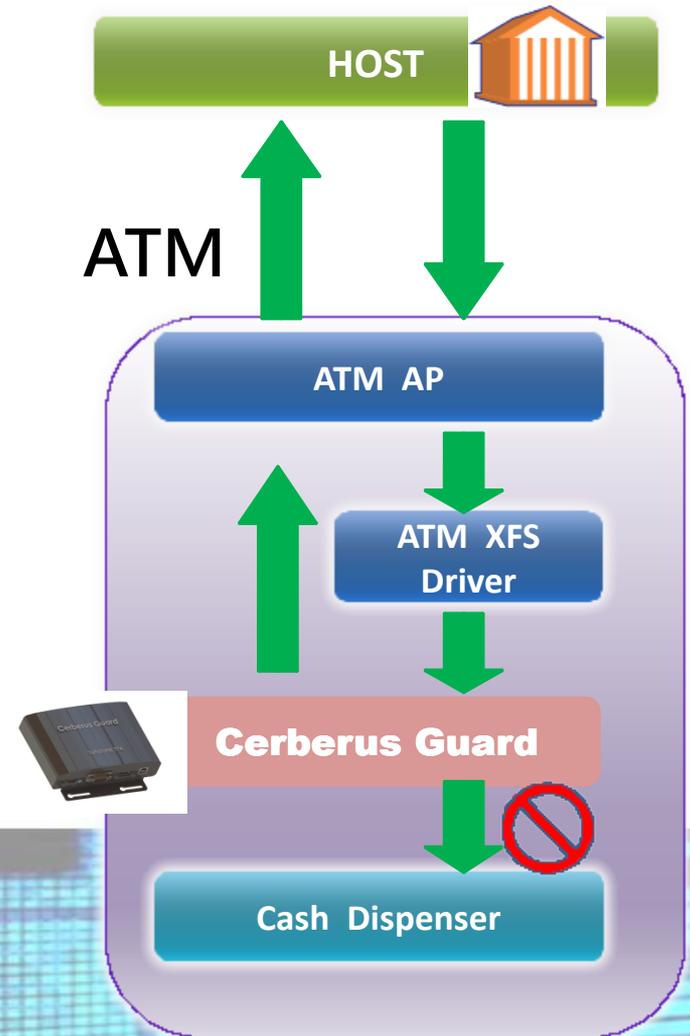
1. **Secure Hardware 3DES/ AES/RSA Encryption , FIPS140 standard**
2. **Cerberus Guard protect the Cash Dispenser**
3. **HSM Hard ware Secure Module Cryptography** Secure the transaction /Command data Confidentiality、 Authentication、 Integrity、 Non-repudiation
4. **Cerberus Guard Algorithm to generate security token for** ATM transaction

- 5. Secure Token diversify and Authorized by HOST & Cerberus Guard, protect ATM AP**
- 6. THE ATM will be Authorized by the Secure Token and then it will initial the XFS Driver and command to Dispenser of issuing note**
- 7. Cerberus Guard against the forged command and protect the Host and terminal communication is consistent with authentication & integrity.**
- 8. Ensure that each issuing-note is authorized by the central Host, and that the hacker attack or abnormal commands will be blocked. And interrupt to all terminal or cash dispenser execution and alert ATM and Host on time.**

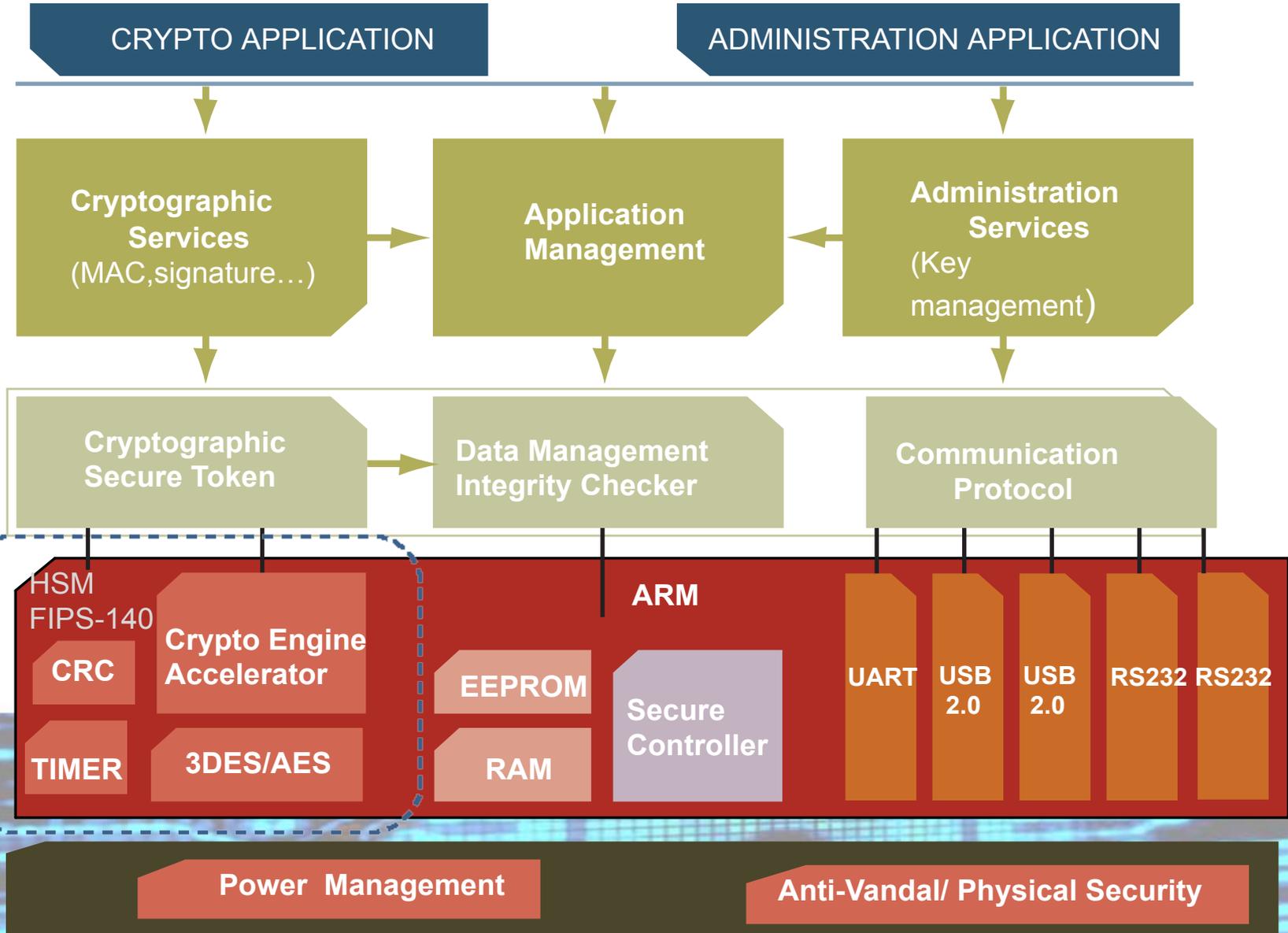


Cerberus Guard Security Process

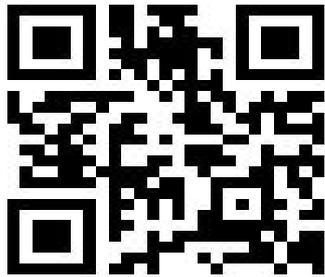
- 1) Cerberus Guard generate Secure Token
- 2) ATM AP launch a Transaction
- 3) Host Reply and authorized ATM AP
- 4) ATM AP initiate XFS Driver
- 5) Validating the **Secure Token**
- 6) Commanding or Obstruct to the terminal /Dispenser
- 7) Alert and reply to Host



Hardware Introduction



Thanks!!



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