Smart Card Technology

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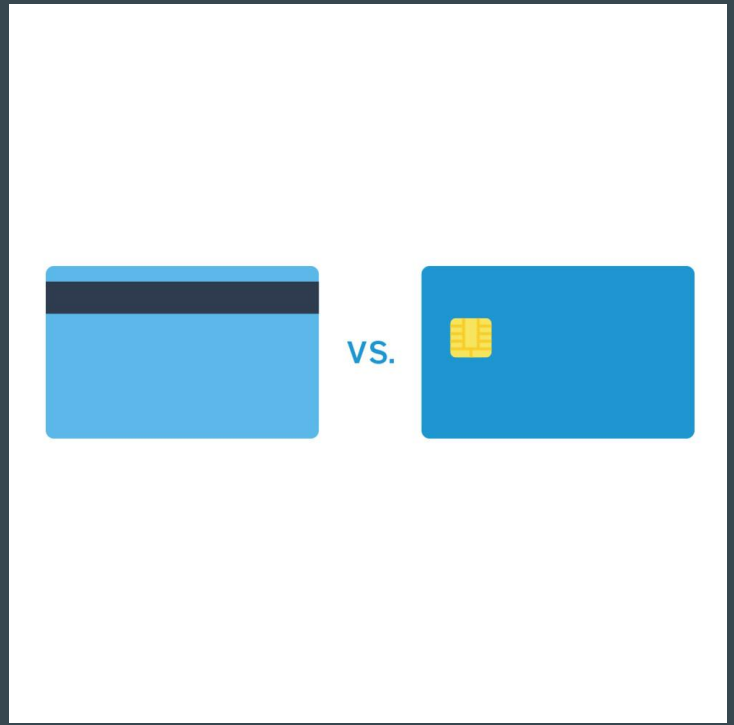
Background

- Successor to magnetic stripe cards
- Contains microprocessor, memory, and I/O interface
- Performs authentication on microprocessor, rather than terminal



Applications

- Credit/Debit Cards
- ID Verification and Access
- SIM cards

Security

- MAC - message authentication codes
- Supports SHA-1, MD2, MD4, MD5 hashing algorithms
- Supports DES, 3DES, AES, blowfish, or IDEA secret key algorithms

Vulnerability

- Flaw in RSA library by German chipmaker Infineon
- Obtain private key via public key
- Generating keys since 2012

Project

- Answer to Reset (ATR) - first response from smart card
- Application Protocol Data Units (APDU)
- Send APDU command to get card information

References

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