SMART CARD BASICS

THE CARD

Contact

BENEFITS

- Ability to perform a secure transaction
- Increase security of credentials through authentication, data encryption, and physical contact with reader

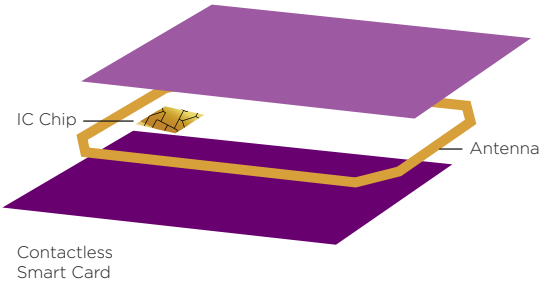
TECH SPECS

- Most common smart card type
- Electrical contact points on the chip's exterior
- Points are physically contacted by a device inside the reader

APPLICATIONS

- Used globally in the financial industry to perform credit card and debit card transactions
- Government agencies: badges with contact chips increase logical access, including dual authentication
- Higher education payment cards and logical access, such as time and attendance, cafeteria meal plans and library priviledges

Contactless



BENEFITS

- Fast, easy and secure
- Secure, card and device are embedded with multiple layers of security
- Capabilities for future expansion

TECH SPECS

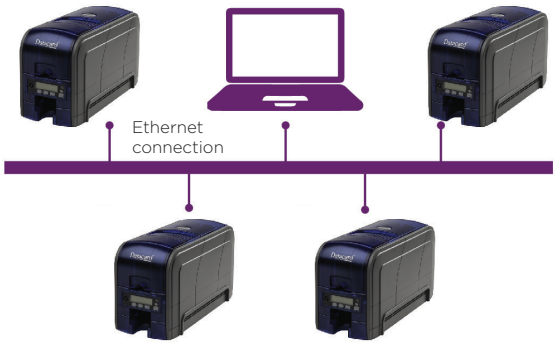
- Communicates using radio frequency (RFID)
- Facilitated between an antenna in the card and a proximity coupler in the reader
- Card held up to the exterior of the reader at a certain distance

APPLICATIONS

- Read-only: proximity card for building access
- Read-write: physical access and logical access, secure network logon, digital signature, encryption of IT infrastructures
- Transportation, digital enterprises, retail, education, financial, identity authorization

SMART CARD BASICS

CONNECTIONS



TECH SPECS

- The printers are part of a network that can be accessed by any PC residing on the network
- Through the network, all commands are sent to the smart card module and printer from the PC

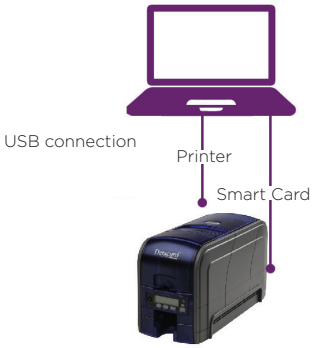
BENEFITS

- Provides a more secure network environment
- Allows for encryption of card personalization data that is sent over the network
- Complete experience for the end user

APPLICATIONS

- Typically used in financial issuance of credit and debit cards
- Allows customers with a campus environment seamless and secure communication across their network
- Often used in education markets and corporations issuing credentials

Loosely coupled solution



TECH SPECS

- Printer has two connections to the PC
- "Printer" connection delivers commands for card movement, magnetic stripe operation, and printing
- "Reader" connection is exclusively designed for smart card reader/chip commands
- Termed "loosely coupled" because the printer and reader connections operate independently

BENEFITS

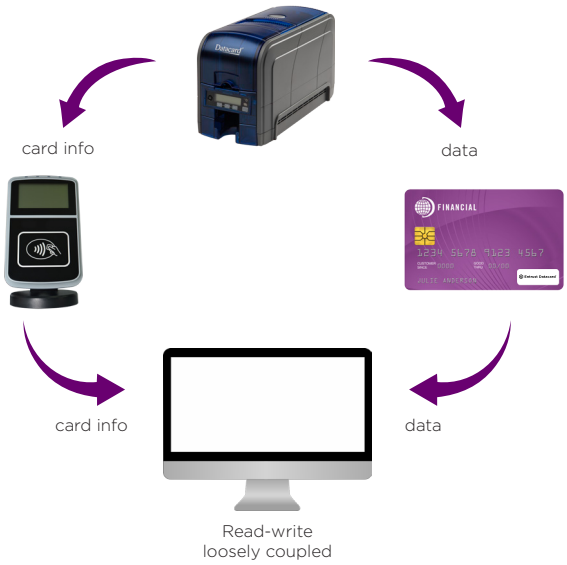
- Local access where networking is not possible
- Ability to be backwards compatible with previous applications using Entrust Datacard™ loosely coupled encoders

APPLICATIONS

- Required for customers interested in issuing ID credentials in various vertical markets
- Ideal in remote distributed issuance applications

SMART CARD BASICS

CARD AND READER INTERACTION



CREATING A SMART CARD

1. Printer encodes or reads data on the smart chip and reports it back to the PC
2. During encoding, the card's personalization information is also reported to the reader
3. The reader knows to correspond that information to the data encoded
4. The reader reports card information to the PC

USING A CONTACTLESS SMART CARD

1. Card is held up to a reader that supports it
2. Antenna inside the card communicates with a proximity coupler inside the reader via radio frequency (125 kHz or 13.56 mHz)
3. Data encoded onto the chip is transferred to the reader from a certain distance

USING A CONTACT SMART CARD

1. Card is inserted into a contact reader
2. Electrical points on the chip are contacted by a device inside the reader
3. Data encoded onto the chip is transferred to the reader

SMART CARD BASICS

SPECIFICATIONS AND STANDARDS

REQUIREMENTS AND COMPLIANCES

- Entrust Datacard ensures that all of its products meet globally implemented industry standards
- PC/SC (Personal Computer/Smart Card) compliant couplers prvided by Entrust Datacard include Identive (SCM), Duali, and Gemalto

EMV CAPABILITIES

- Entrust Datacard offers a wide range of encoders as an option to our card printers
- All of these printers are capable of creating cards for an EMV application
- Entrust Datacard provides a complete EMV card solution in the market, including hardware, software, supplies, and service

SOFTWARE SPECIFICATIONS

- Card personalization is controlled by a PC connection, using a driver for encoder or Software Development Kit (SDK)
- Driver for encoder is a user interface installed on the PC; best suited for non-automated, low-volume card production
- Other existing custom-made software applications require SDK as a tool to communicate with the reader
- Entrust Datacard™ Software Suite includes native support for specific card technologies

J. O'Brien Co.

Above. Beyond. Secure.™

Entrust Datacard™