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FISC

Introducing Smarty  
the Smart Card Reader



# SmartDisk: A Brief History

- ◆ First Released in 1993
- ◆ First token-based access control and encryption smart token on the market
- ◆ Two-factor access control

1993						
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	



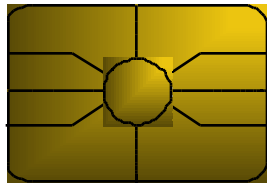
# SmartDisk: A Brief History

- ◆ Implementation of secure smart card technology for secure electronic commerce
- ◆ Awarded GSA bid for Project RX (citizens paperless project)
- ◆ Applied extensive knowledge of smart card technologies to develop Smarty

1996						
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
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# What is a Smart Card?



- ◆ Information stored on circuit

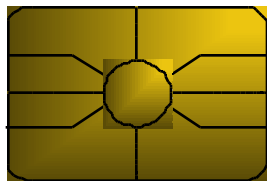
- ◆ *Two basic kinds:*

  - ◆ Intelligent (Non-Sync)

  - ◆ Memory (Sync)



# What is a SVC?



- ◆ Information stored on circuit

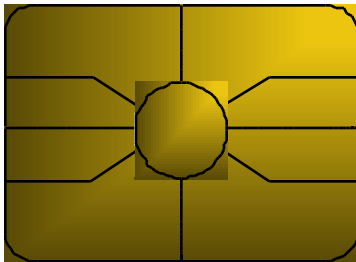
- ◆ *Two basic kinds:*

  - ◆ Debit

  - ◆ Credit



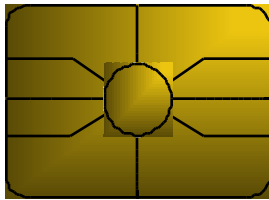
# Standards for Identification Cards



- ◆ International standards org.
- ◆ 7816-3
  - ◆ Transmission protocol
    - ◆ T=0 (Character mode)
    - ◆ T=1 (Block mode)
  - ◆ Electronic signals
  - ◆ I/O rate and clock



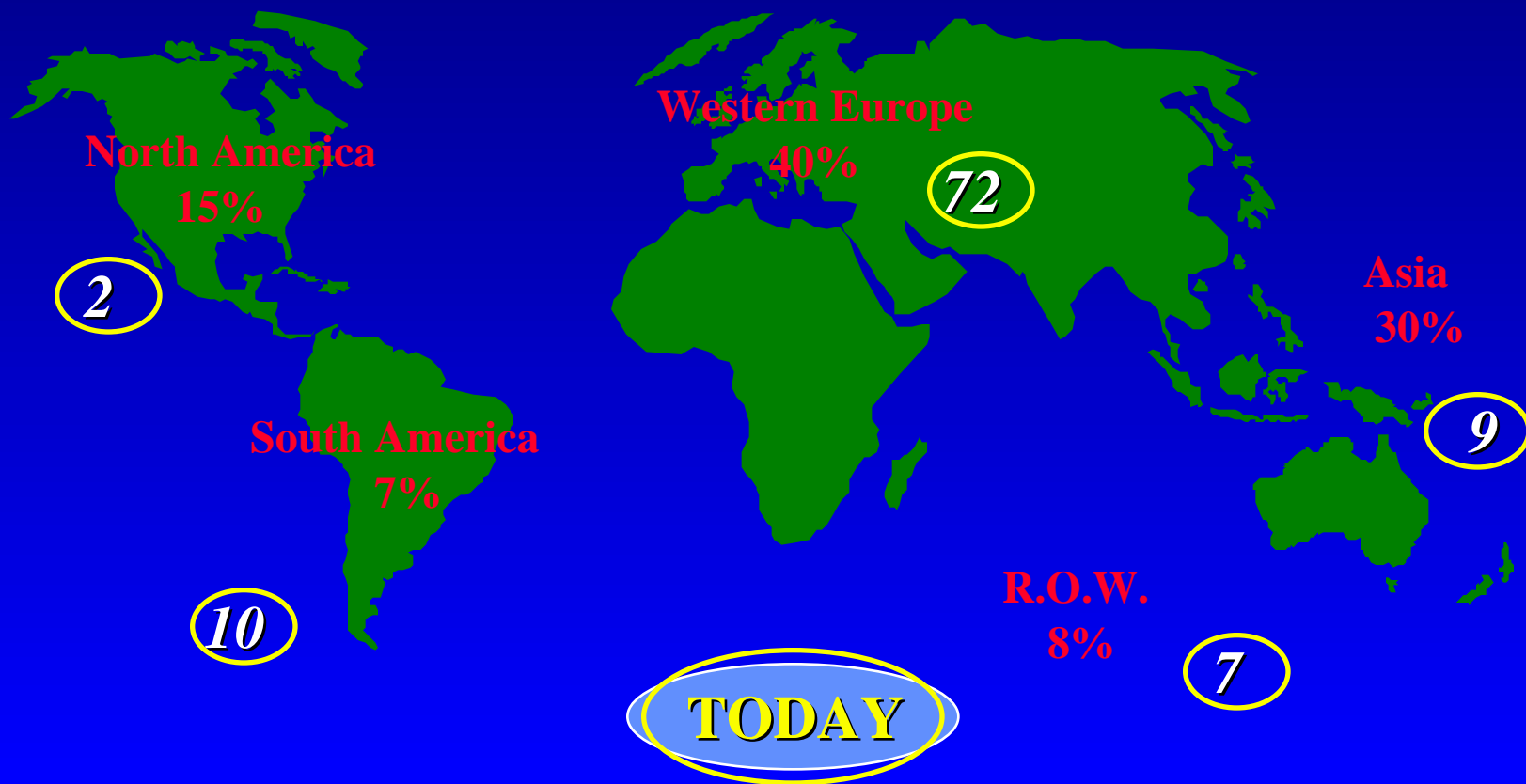
# Why use Smart Cards?



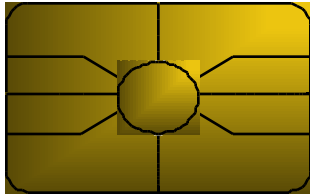
- ◆ **Fraud reduction**
- ◆ **Very hard to counterfeit**
- ◆ **Very hard to alter memory**
- ◆ **3 wrong PINs and your out**
- ◆ **RSA/DES or ? encryption**
- ◆ **Multi-function capability**



# Where Will Smart Cards Be Used (Year 2000)?



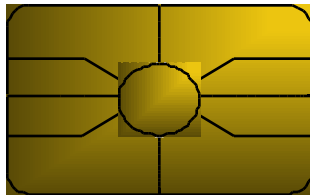
# Some US Activities



- ◆ Payphones - U.S. West (16,000)
- ◆ Atlanta 1996 Olympics
  - ◆ Visa, Southeast Banks
- ◆ Mondex / Wells Fargo Bank
- ◆ Visa Cash
- ◆ MasterCard Cash



# Trends: Technology

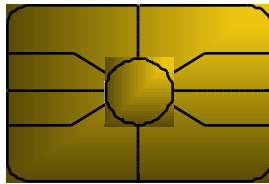


- ◆ **Lower prices**
- ◆ **More Memory (16KB)**
- ◆ **More In-Card security (\$\$)**
- ◆ **Multi-functionality**



# Market Drivers - Stored Value

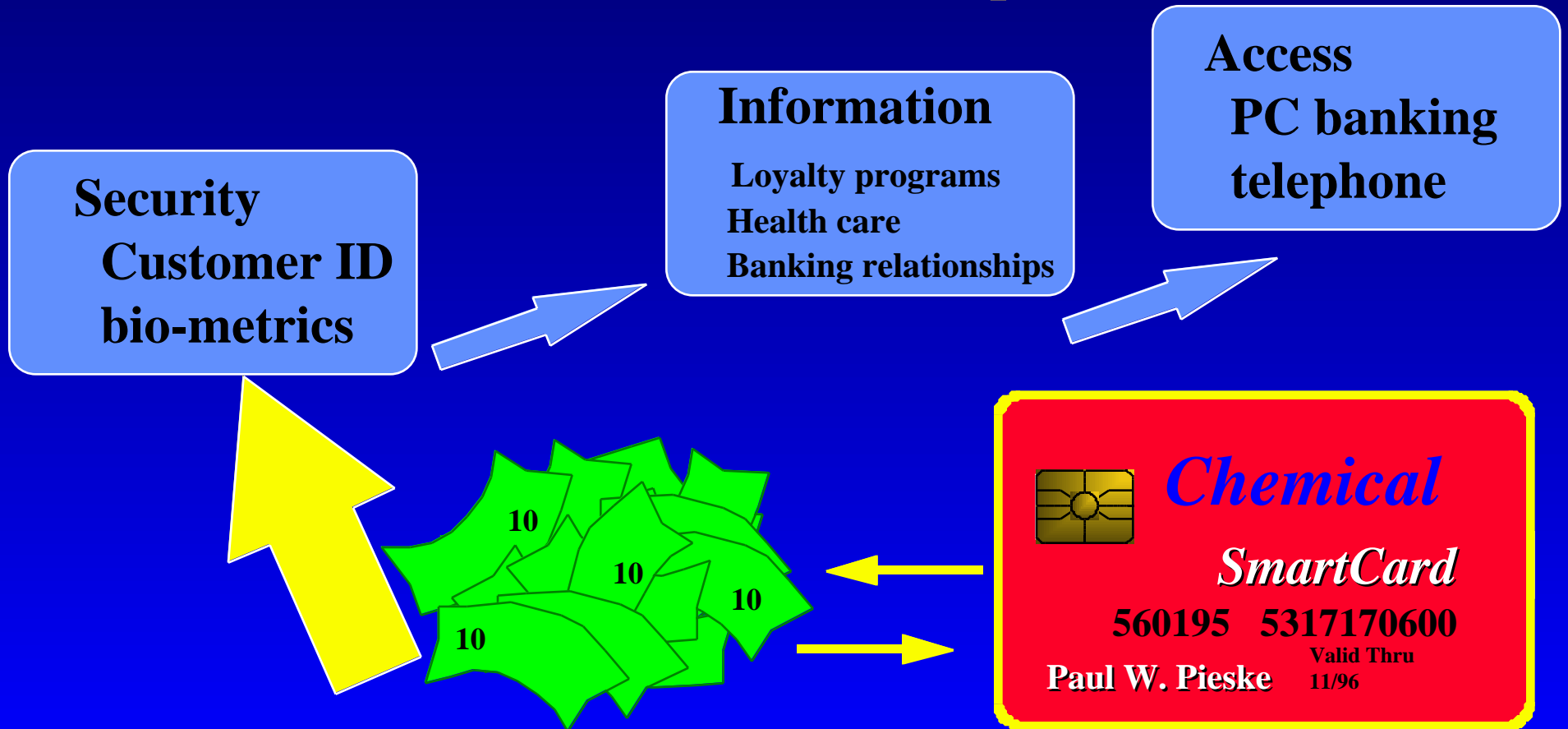
## Stored Value Will Be A Substitute For Low Value Cash Transactions



- ◆ **Consumers:** Recognize convenience
- ◆ **Merchants:** Reducing cash handling
- ◆ **Issuers:** Seeking new revenue sources
- ◆ **Processors:** Deriving new revenue streams

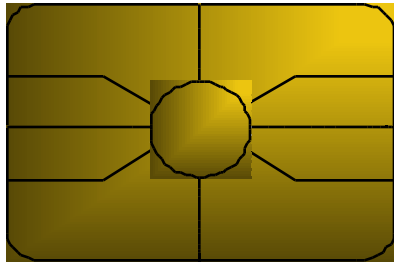


# Chip Cards Will Be The Vehicle to Enhance Functionality With Stored Value As The Foundation Build Upon



# Trends: Markets

## ◆ Multi-application



- ◆ Electronic cash

- ◆ Card based (SVC)

- ◆ Software based (ECASH)

## ◆ Anywhere payments

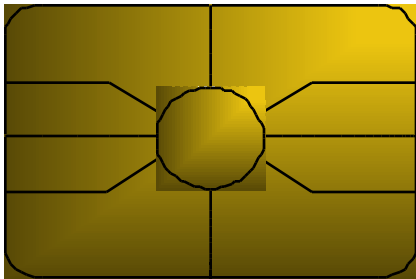
- ◆ Ubiquitous ATM

- ◆ Person-to-person

## ◆ Internet commerce



# Waves of Opportunity



## ◆ Multiple Function

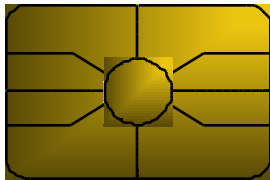
- ◆ Electronic purse
- ◆ Loyalty
- ◆ Health cards
- ◆ Payment systems
- ◆ Citizen card

**50% of US households <65 yrs. are favorable to multi-application cards**



# Vision of the Future

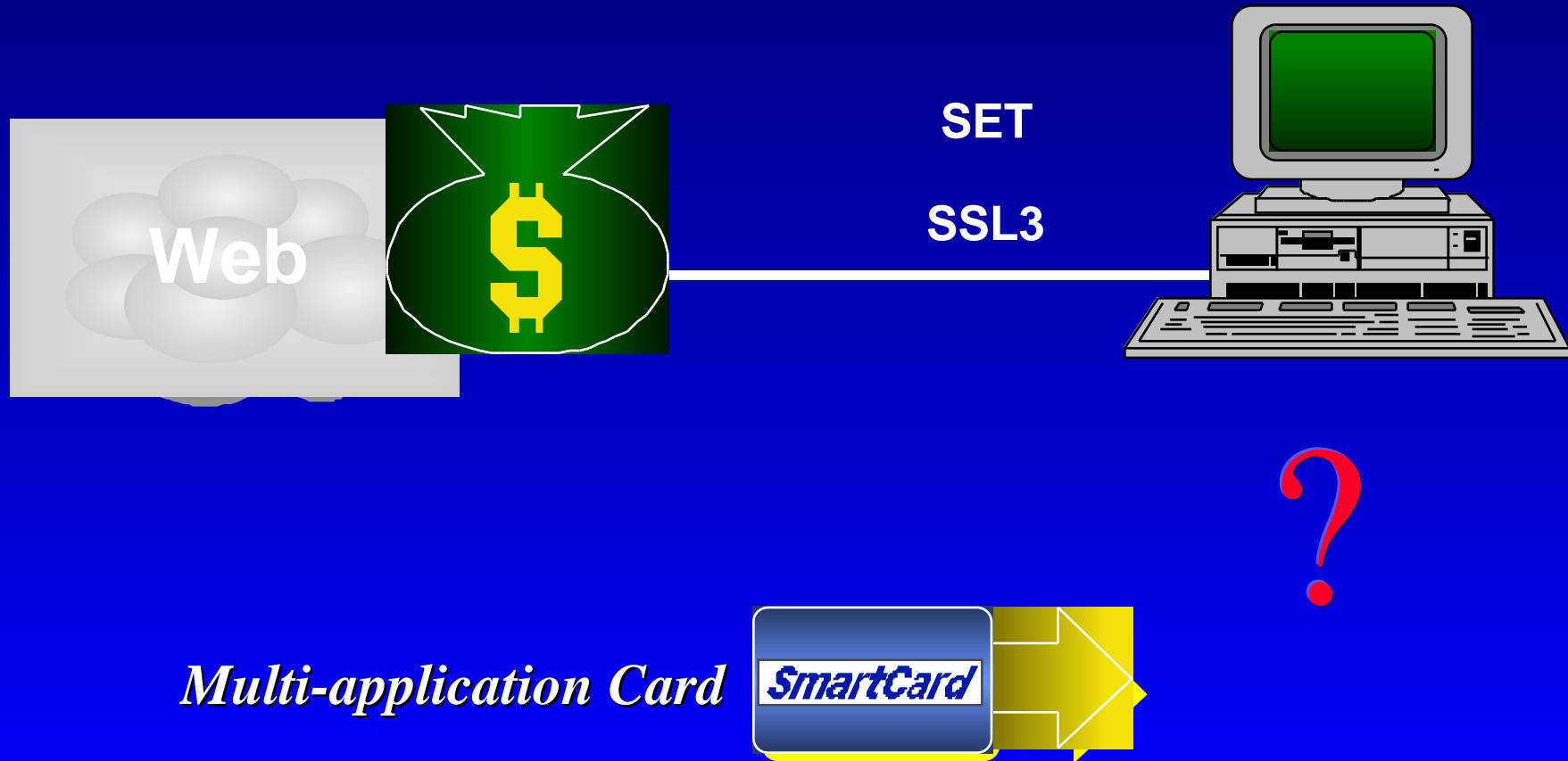
**Smart card is recognized as the  
fourth platform of computing**



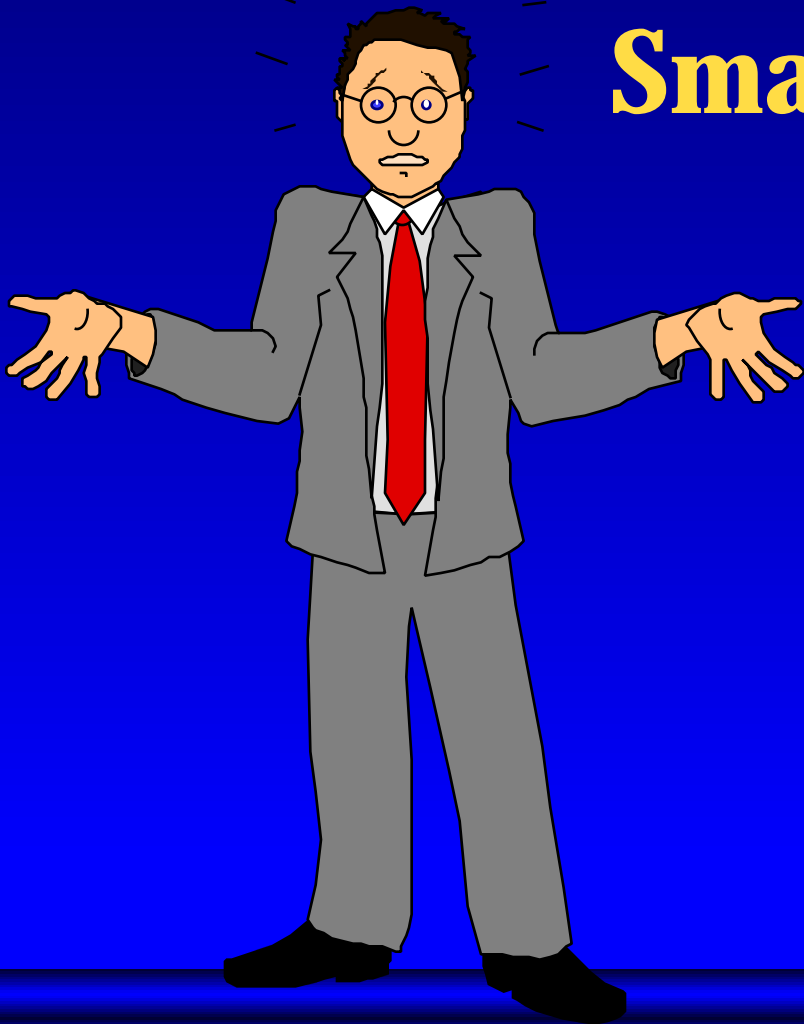
**Smart card is integrated into personal  
computing as the key to secured internet  
commerce and payment**



# The Smart Card is the Key to Secured Internet Commerce



# How Does Information Get Read from and Written to a Smart Card???



# A Device Called a “Reader”



- ◆ Kiosk
- ◆ Hand Held
- ◆ PCMCIA

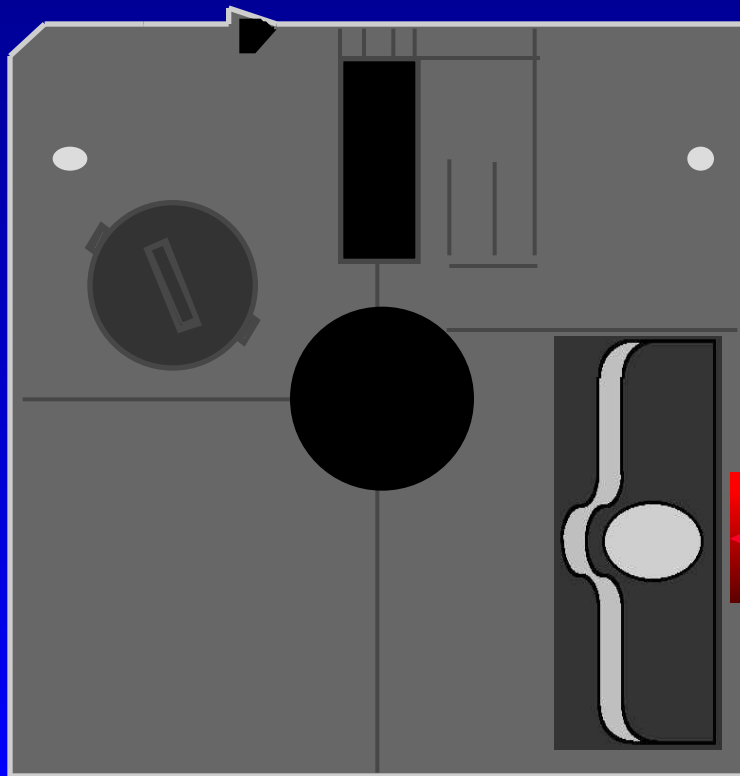


# Main Issues in Implementing a Viable Smart Card Reader

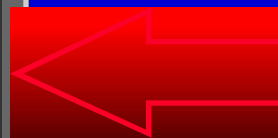
- ◆ Usability - easy to insert smart card
- ◆ Reliability - can you use as a consumer device
- ◆ Performance - delays involved
- ◆ Standards supported - ISO support



# Introducing “SMARTY” the Smart Card Reader

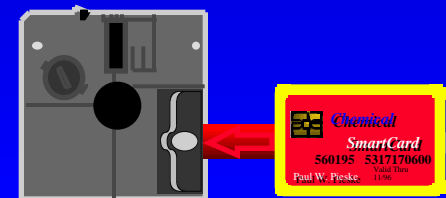


Implementing  
tomorrow's Smart  
Card applications  
**TODAY!**



# “SMARTY” a viable solution

- ◆ Simple to “install” on all desktop and notebooks
- ◆ Fully portable between machines
- ◆ Compact to carry
- ◆ A user-friendly form with no cables or connectors
- ◆ Works with all universal smart cards
- ◆ Implements ISO 7816 standard



# SMARTY - Smart Card Reader

## Features

- ◆ 3.5" floppy diskette form factor
- ◆ Universal smart card support
- ◆ Windows 3.1, 95, NT

## Advantages

- ◆ Enables home and business computer based smart card applications - NOW!
- ◆ Form factor adapts to existing installed base of laptop/desktop devices

## Benefits

**Builds your PC based smart card reader infrastructure NOW!**



# The Smart Card and SMARTY are the Key to Secured Internet Commerce



# THANK YOU



