



Giesecke & Devrient's FIPS 201 - PIV Solution Presentation

**NIST PIV Implementation Workshop
June 28, 2005**

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Giesecke & Devrient

Presentation Agenda

- G&D Corporate Information
- G&D's Perspective on FIPS 201 – PIV
- G&D's PIV Solution
 - The Complete Solution
 - Cards
 - Software
 - Services
 - Roadmap
- Questions



G&D Corporate Information

■ The Giesecke & Devrient Group of Companies:

- Founded 1852
- Consolidated group revenue \$ 1.5 billion
(\$730M from Card Solutions)
- Workforce 7,337
- Privately-held, profitable, and growing organization



G&D Corporate Information

■ G&D's Main Business Units

- Card Systems and Solutions
- Banknotes and Currency Printing and Processing

System Banknotes

Business Unit 1



**Banknotes
Security Paper
Product Security
Brand Protection**

Business Unit 2



**Currency Automation
Banknote Processing
Systems**

System Cards

Business Unit 3



**Smart Cards for
Payment, Industry
and Government**

Business Unit 4



**Systems and Solutions
for security in E-Government,
E-Business, Telecommuni-
cations, ID Systems**

G&D's Perspective on PIV

- G&D's Commitment:
 - Qualifying a new smart card OS
 - Testing and validation
 - Working with industry partners

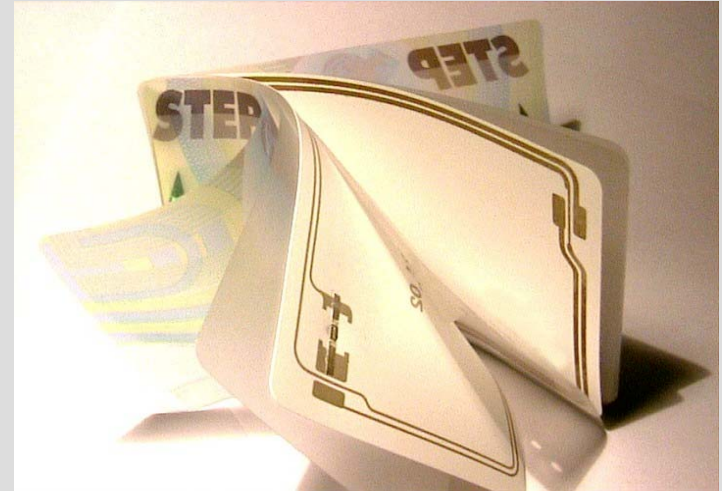
- Merits of FIPS 201
 - Leveling of the playing field
 - Building on previous initiatives



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G&D's Perspective on PIV

- Contactless Technology Issues
 - Current contactless implementations are not compliant to PIV II requirements
 - Hybrid vs. Dual-interface



G&D's Perspective on PIV

- Challenges ahead: evolving requirements



G&D's Perspective on PIV

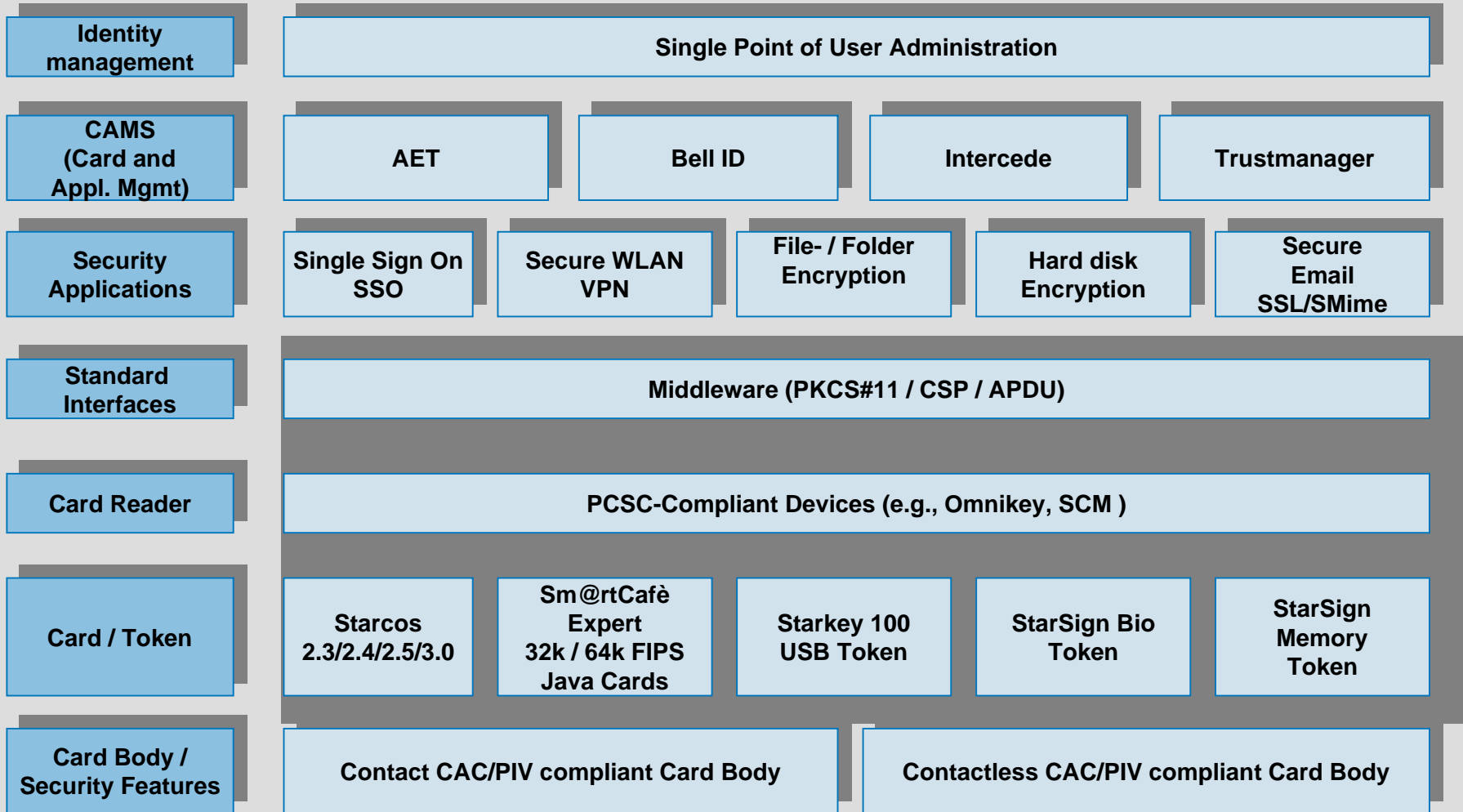
- Business Concerns

- Business case and major investments
- Commitment from the Government to purchase
- “If we build it, they will come?”



“Field of Dreams”

G&D's PIV Solution: a Complete Solution



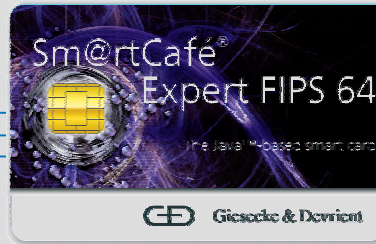
G&D's PIV Solution: Sm@rtCafé[®] Expert FIPS 64

Sm@rtCafé[®] Expert 64 combines the benefits of innovative developments on one platform

Cost efficiency

Decision security

Future-proof



Investment protection

Flexibility

Technological leadership

Features:

- 16-bit microcontroller
- 68 KByte EEPROM (64KB avail.)
- Java Card[™]2.2
- Global Platform 2.0.1'
- Logical channels
- 2048-bit RSA key generation
- DSA key generation
- Enhanced garbage collection
- HW random number generator
- FIPS 140-2 Level 3 validation with card manager
- FIPS 140-2 Level 2 validation with DOD CAC Applets v.2
- Delegated management
- DAP Verification
- Security domains
- GSC-IS v2.1

G&D's PIV Solution: Sm@rtCafé® Expert 3.x

The Java Card™ solution for maximum flexibility.

Sm@rtCafé® Expert 3.0 available now:

- Java Card™ 2.2.1
- Global Platform 2.1.1
- Dual interface (ISO 14443 Type A)
- Highest-level security
- Capacity of up to 64 KB EEPROM
- Multiple security domains
- Delegated management



G&D's PIV Solution: Software

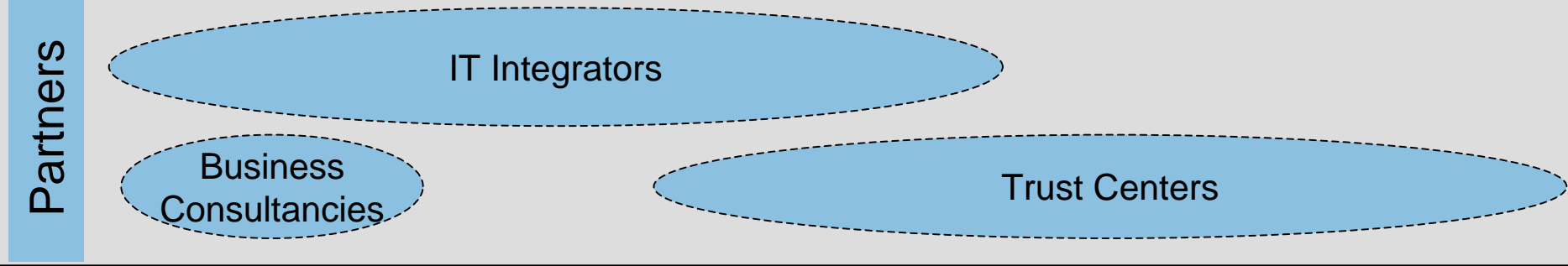
- Compatible with any PIV-compliant applets and middleware
- G&D's PIV Demonstration Package (Q3/05)
- FIPS 140-2 validation
 - Development and testing
 - Compliance testing by lab
 - Review by NIST CMVP
- FIPS 201 validation



G&D's PIV Solution: Services



G&D	<ul style="list-style-type: none"> • Strategic goal • Needs Analysis • Regulatory environment • Business case • Time & Budget • Pre-Pilot 	<ul style="list-style-type: none"> • IT & Mgmt training • Standards and legacy systems • Applications definition 	<ul style="list-style-type: none"> • Hardware and software selection and upgrades • implementation • Technology and partner selection • Definition of processes 	<ul style="list-style-type: none"> • Smart card manufacturing • Application development • Customisation • Integration into existing infra-structure 	<ul style="list-style-type: none"> • Application deployment & integration • Process roll-out • Real-time and post-pilot analysis 	<ul style="list-style-type: none"> • Outsourced services • Training (users) • Upgrade
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G&D's PIV Solution: Roadmap

	PIV – I Compliant Products	PIV – II Compliant Products (Gen. 1)	PIV – II Compliant Products (Gen. 2)
Cards	Sm@rtCafé Expert FIPS 64 + Mifare DESFire	Sm@rtCafé Expert FIPS 64 + Sm@rtCafé Expert 3.0	Sm@rtCafé Expert 3.x
Applets	CAC Applets	PIV Applet v.1.0	PIV Applet v.2.0
Availability	Now	2005	2006



Questions



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