
Biometric Application Programming Interface for Java Card™



NIST/Biometric Consortium
Biometric Interoperability, Assurance, and
Performance Working Group
&
Biometric Task Force, Java Card Forum



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Java Card Forum

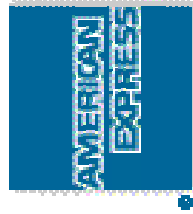
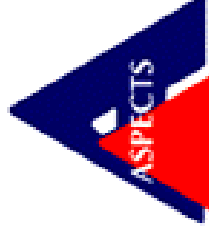
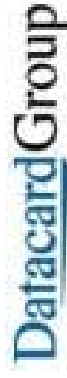
- ◆ Started by smart card manufacturers (Gemplus, Schlumberger, Oberthur, ...), now joined by
- ◆ major smart card issuers (Visa, Citibank, American Express, ...), and
- ◆ major smart card chip manufacturers (ST, Hitachi, NEC, ...), to

promote open specifications for Java Card

www.javacardforum.org



Java Card Forum



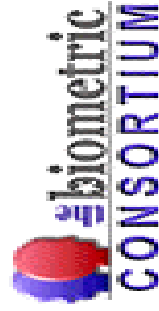
HITACHI



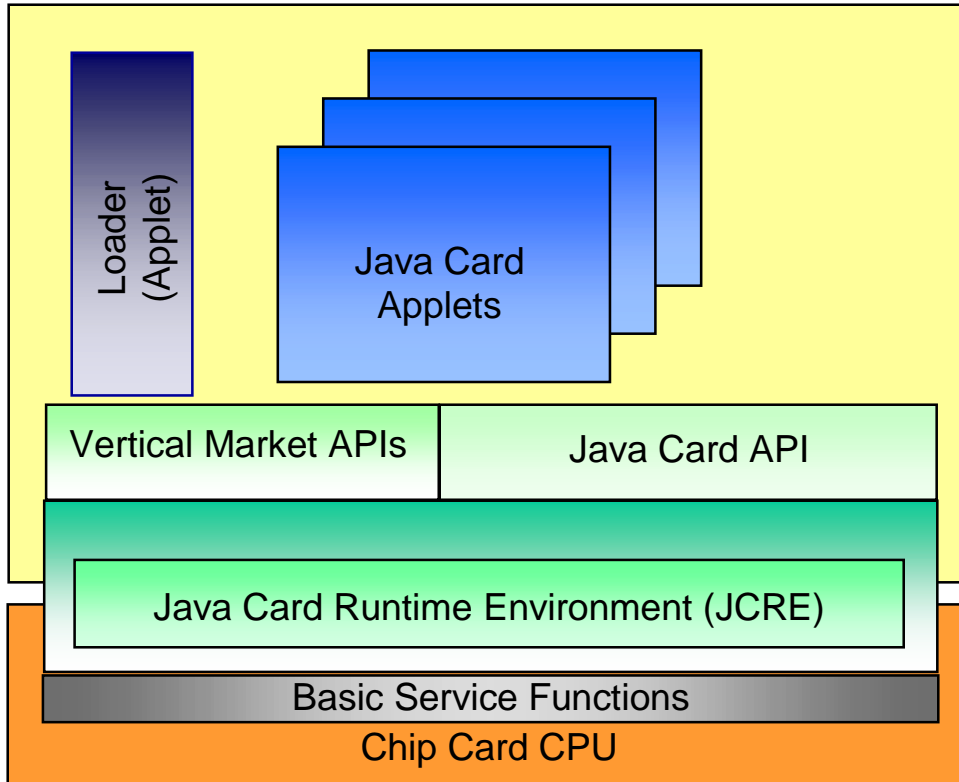
Schlumberger



NEC



Java Card : Java in a Smart Card



- ◆ Subset of the Java programming language
- ◆ Adapt to the smart card memory model
- ◆ Simplified API's

Biometric API for Java Card

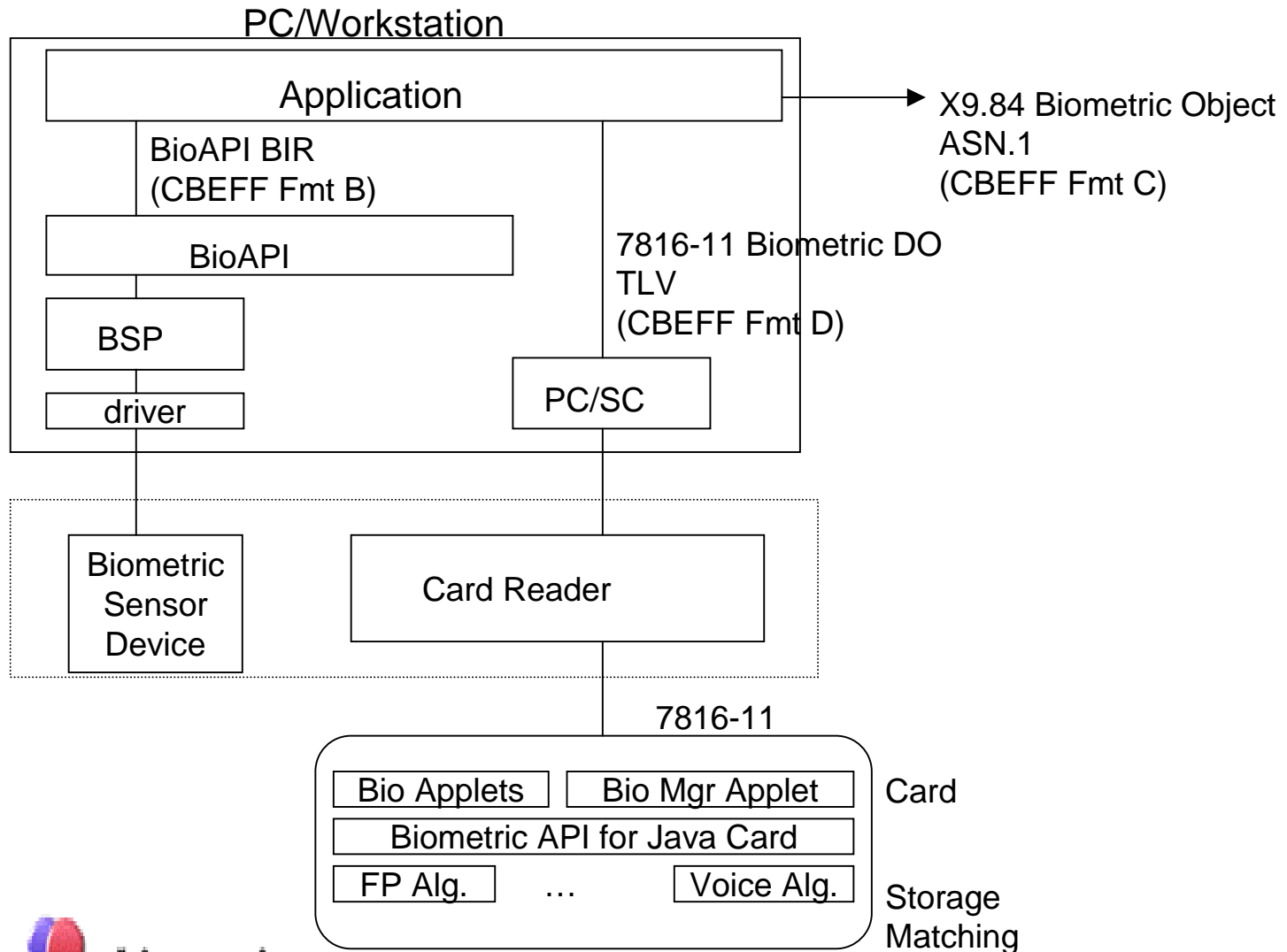
Goal : Facilitate match on card

Use Java Card for

- ◆ Enrolling, Managing the Biometric data securely
 - ◆ Data stored in the card
- ◆ Making the comparison and granting rights
 - ◆ No sensitive information sent off card



Interacting Standards 'big picture'



Biometric API for Java Card

◆ Requirements

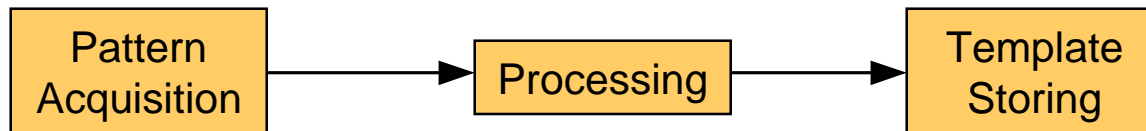
- ◆ Enable efficient match on card
- ◆ Multiple templates, multiple biometrics
- ◆ Enable different applet implementation styles
- ◆ Promote existing exchange formats – CBEFF
- ◆ Similar look & feel and security of Java Card API (PIN/OwnerPIN)
- ◆ Respect existing features of Global Platform (Shareable Global PIN/CVM)



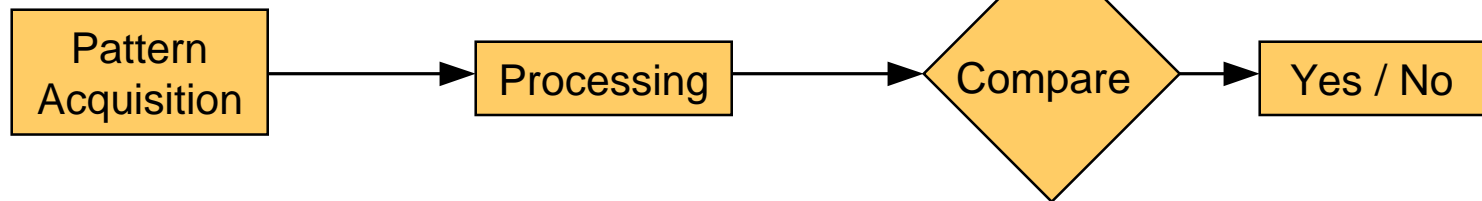
Match On Card Architecture - I

◆ 2 Phases:

◆ Registration, Enrollment



◆ Verification, Matching

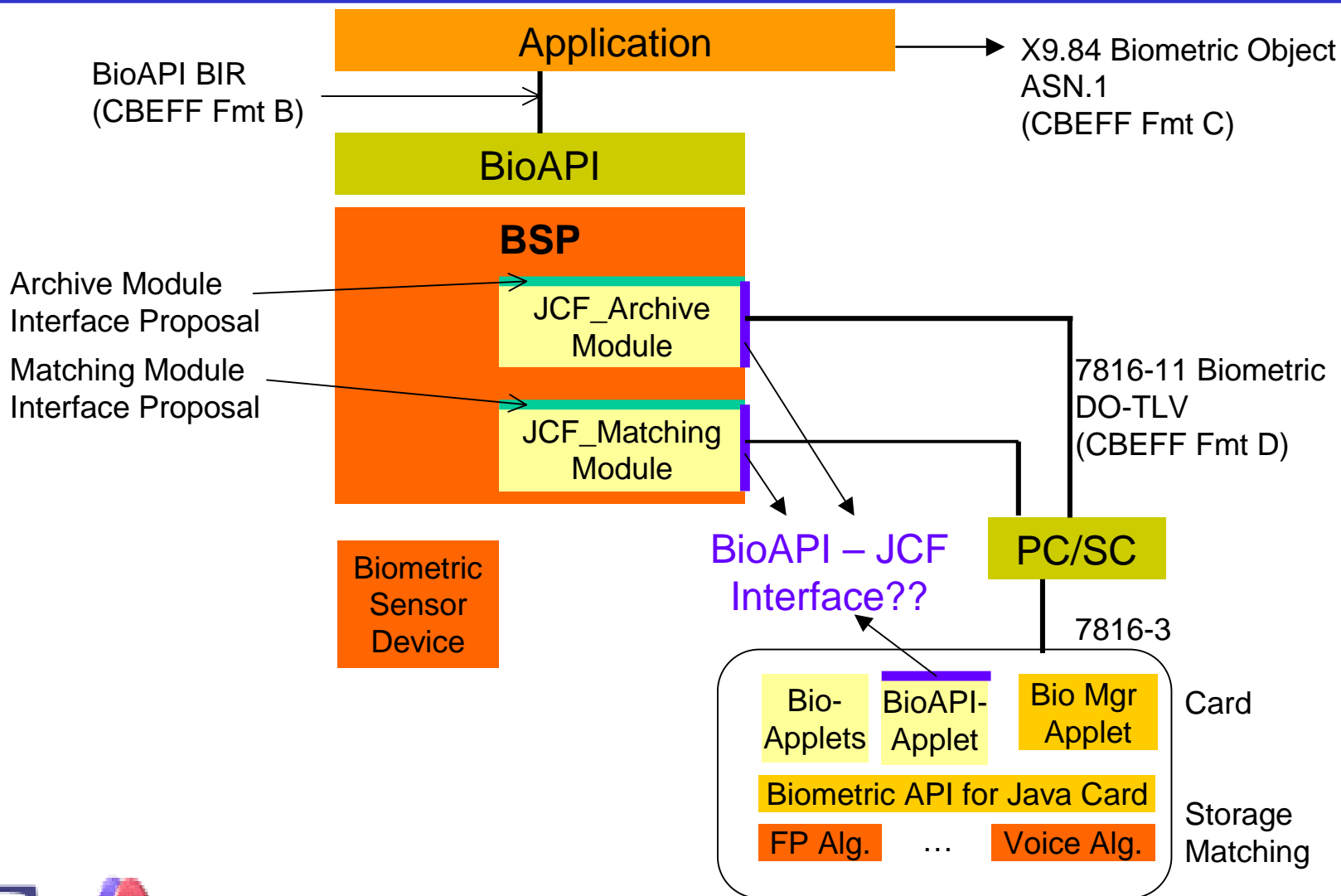


What do we specify?

- ◆ An on card API
 - ◆ To enroll biometric data
 - ◆ To match biometric data
 - ◆ To manage counters



Interacting Standards 'big picture'



Where we'd like to go?

- ◆ NIST to adopt this as a specification published by the NIST/BCWG
- ◆ Possible submission of the specification to INCITS/M1 for further standardization as a ANSI/INCITS standard



Biometric API for Java Card

- ◆ Overview
- ◆ On card API
 - ◆ A Template Factory : BioBuilder
 - ◆ Template Enroll & Match Interfaces : BioTemplate, OwnerBioTemplate, SharedBioTemplate
 - ◆ Exception : BioException



Match On Card architecture - II

- ◆ Enable different applet implementation styles

