Biometrics used as an access control rule for applets provides:

- **Flexibility** to add much needed access control rules (ACR) to the current ones in use.
- **Reuse** capability through the sharing of biometrics controllers and ACRs.
Architecture

JavaCard Runtime

Security Domain

Access Control Applet

PIN, Secure Channel, External Authority

OP Domain API

Access Controller Applet

Access Controller Applet

Access Controller Applet

Bio Access Controller Applet

Access Controller Applet

Access Controller Applet

Access Controller Applet

Transport

Access Control

PKI Applet

GC Applet

Other Applets

Bio Action Applet

Access Control

Access Control

Access Control

Access Control

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Three major components:
1. Access Control Applet
2. Biometrics Controller Applet
3. Biometrics Action Applet
Two Phase Process

Preparatory Steps
1. Load Access Control Applet (Card Issuer)
2. Load Bio Template (Card Issuer)
3. Load Bio Action Applet (Card Issuer)
4. Register Bio Action Applet Access Control Rules (Bio Vender Software)

Action Steps (Bio Unlocks Door)
1. Card inserted in Bio Lock
2. Bio Lock signals for Bio Capture and transmits to Access Control Applet (ACA)
3. Access Control Applet compares captured bio to stored bio on card and set the access control state for bio controller
5. Bio Action Applet checks access control rule in ACA.
6. ACA state is determined to Yes and tell Bio Action Applet.
8. Door opens
Phase One: Preparation

Preparatory Steps

1. Load Access Control Applet
2. Load Bio Template
Phase One: Preparation

Preparatory Steps

3. Load Bio Action Applet
4. Register Bio Action Applet
   Access Control Rules
Phase Two: Usage

Action Steps (Bio Unlocks Door)

1. Card inserted in Bio Lock
2. Bio Lock signals for Bio Capture and transmits to Access Controller Applet (ACA)
3. Access Control Applet compares captured bio to stored bio on card and set the access control state for bio controller
Phase Two: Usage

Action Steps (Bio Unlocks Door)

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Summary

**Flexibility** to add much needed access control rules (ACR). **Reuse** capability through the sharing of biometrics controllers and ACRs.