

Telebiometrics, and applications in Japan

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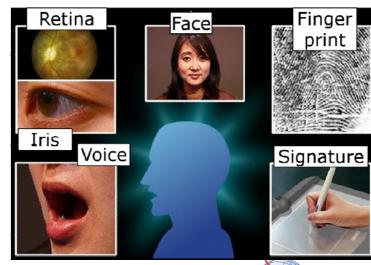
Introduction

- Biometrics is one of Authentication technologies
- Authentication technologies:
 - Knowledge: What you know
 - Password, PIN, etc.
 - Possession: What you have
 - ID card, Smart card, One time password generator etc.
 - Biometric Feature: What you are
 - Fingerprint, Face, Finger-vein, etc.
- These are used to integrate on various application, case by case
 - Credit card(EMV): Smart card and PIN
 - Immigration: IC Passport and Biometrics (Face, Fingerprint, Iris)

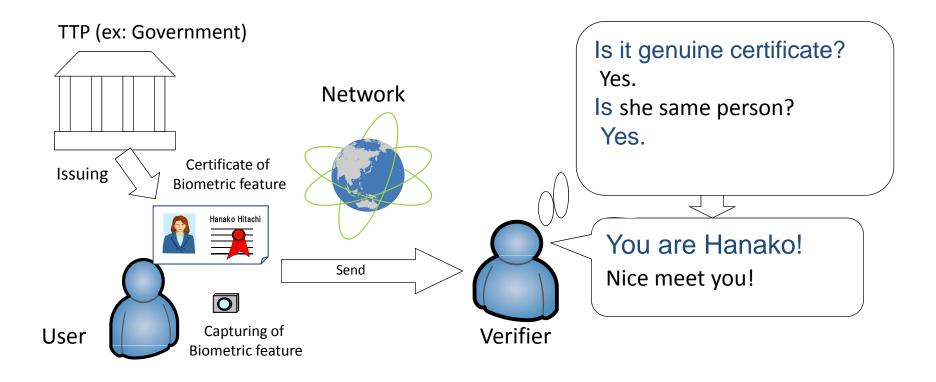


What is Biometrics?

- ISO/IEC JTC 1 SC 37 (Biometrics) defined the term of "Biometrics":
 - automated recognition of individuals based on their behavioural and biological characteristics
- Biometrics has advantages over other authentication methods:
 - Availability (Forgetless)
 - Security (Direct link to the authentication subject)
 - Operation Cost (Operation for Loss/Stolen)



What is Telebiometrics?



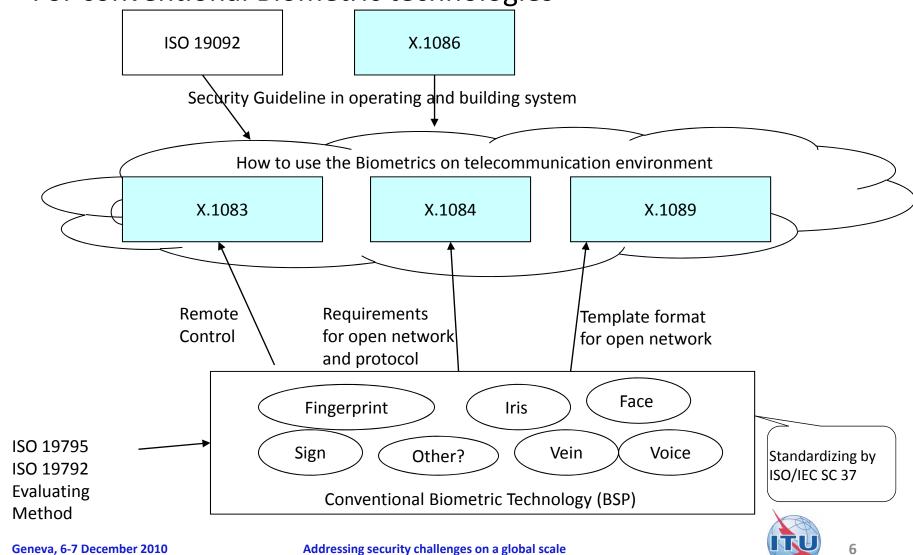
However, there are various security threats on ICT environment.



ITU-T SG 17 Question 9 "Telebiometrics" is standardizing some network authentication model using biometrics, and security requirements for each models.

ITU-T Recommendations on Telebiometrics-1

For conventional Biometric technologies



ITU-T Recommendations on Telebiometrics-2

- For Biometric template protection technologies
 - Biometric Cryptosystem
- Cancelable biometrics X.1086 Amd.1 Security Guideline to operate and to develop system How to use the BTP tech. on telecommunication environment ISO/IEC 24745 X.ott PIE X.1088 PIV And PIR Applied it to the Applied it to the Model Applied it to the Framework protection Mechanism Cancelable biometrics Biometric X.gep Mechanism Cryptosystem **Evaluating** Other? Method Biometric Template Protection Technology

Telebiometrics application in Japan with relationship to ITU-T Recommendations

1. ATM on Financial service

- Japanese Bankers Association released the recommendation (guideline) to avoid fraudulent transactions and to protect customers at Jan. 2005
 - Prevention of ATM Frauds / Card Skimming
 - Smart card implementation
 - Biometric authentication for ATM transactions

2. Logical access control on business application

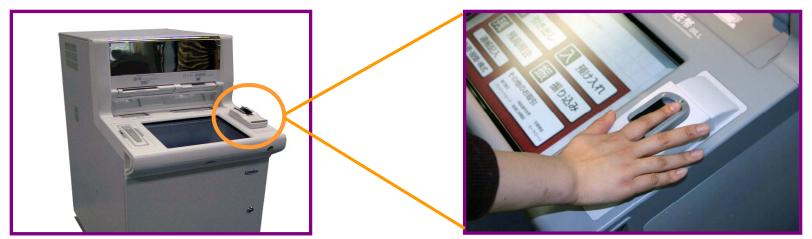
 Increasing to require secure access to customer privacy information on sales department, or integrity of evidence editor, e.g. drug trial, hospital, ...

3. Cloud service

Integration cost is important for cloud application.
 Cancelable biometric authentication service for cloud application have started in Japan at June 2010

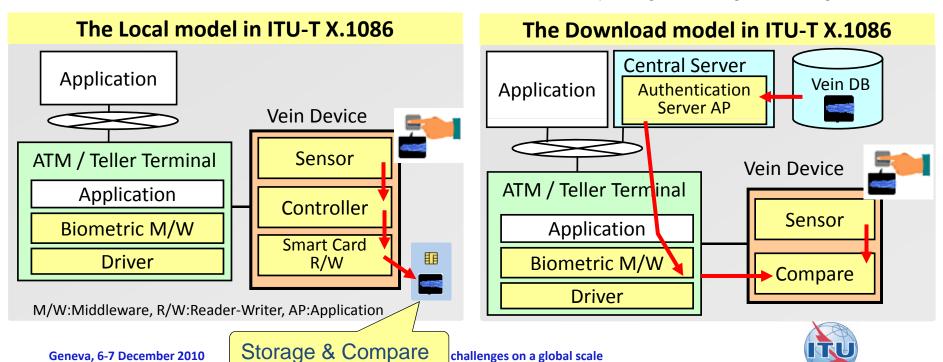


1. ATM application on two ITU-T X.1086 model



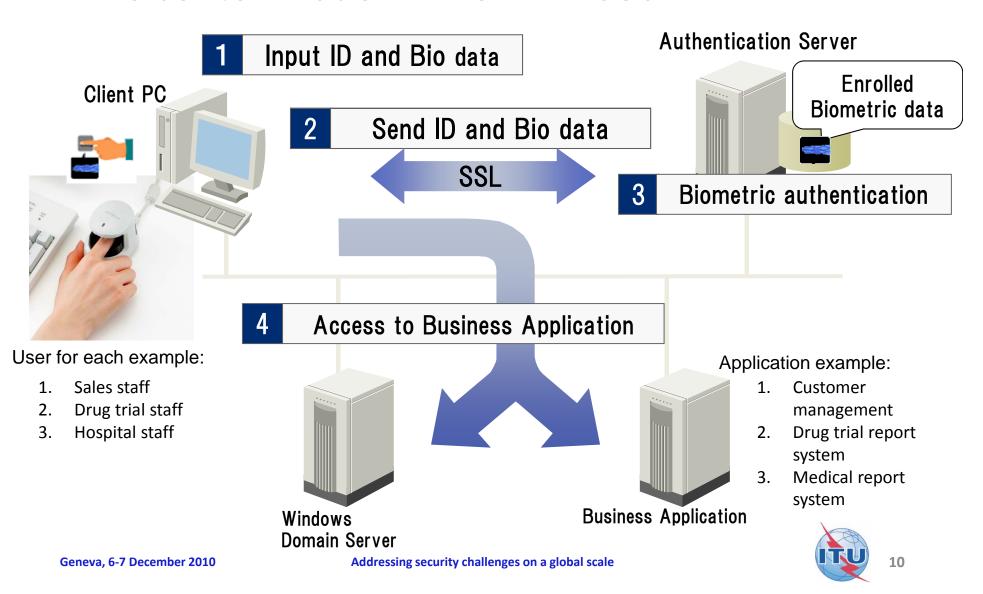
ATM with finger vein authentication

Capturing vein image from finger

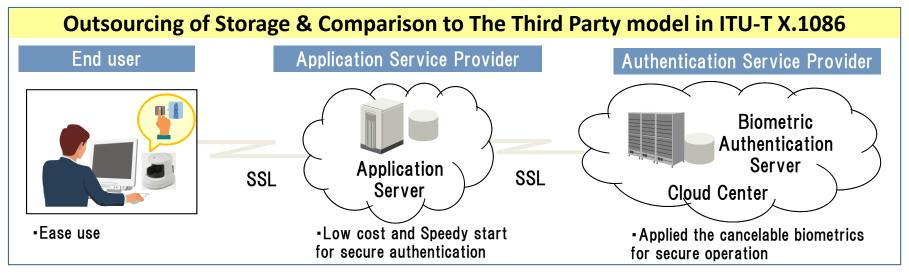


2. Logical access control for Business applications

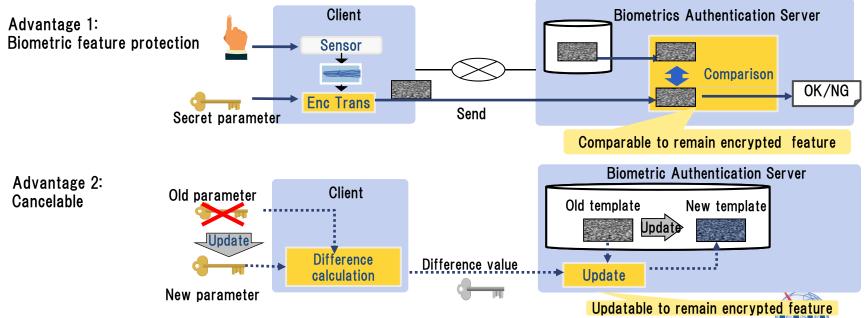
The center model in ITU-T X.1086



3. Biometric authentication as Cloud service







Summary

- ITU-T SG 17 Question 9 is standardizing for secure biometrics authentication on telecommunication
- There are various telecomm. application using Telebiometrics technologies for convenient and secure authentication
- This presentation have introduced Telebiometrics
 Recommendations, and 3 Telebiometrics applications in Japan

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