

Identity Management as a Service

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Agenda

- Motivations
- Cloud Based Solutions
- Local Centric Solutions
 - The OffPad.
 - Use Cases
- Conclusion

Motivation

- Consumer Space .
 - Users of online services accumulate so many **online identities** and related passwords that it quickly becomes a **usability challenge** to manage them securely.
 - Different requirements for Authentication **Assurance Levels**.
- Enterprise Space
 - Sensitive data being exchanged over non enterprise approved channels.
 - Different requirements for Authentication **Assurance Levels**.
- BYOD .
- BYOA.

Cloud Based Solutions: CloudEntr

- Using the cloud is great for your businessUntil it's not.
- **Your Employees Live in the Cloud; Their Security Should, Too.**
- CloudEntr brings simplicity and security to your cloud-based business applications and data.
 - ❖ Single Sign On
 - ❖ Password Manager
 - ❖ Access Management
 - ❖ Mobile
 - ❖ 2FA

Cloud Based Solutions

- Everyone's already glued to their smart phones.
- CloudEntr OTP Mobile turns those phones into authentication hardware devices. People simply open the app and press a button to complete their two-factor login

Cloud Based Solutions

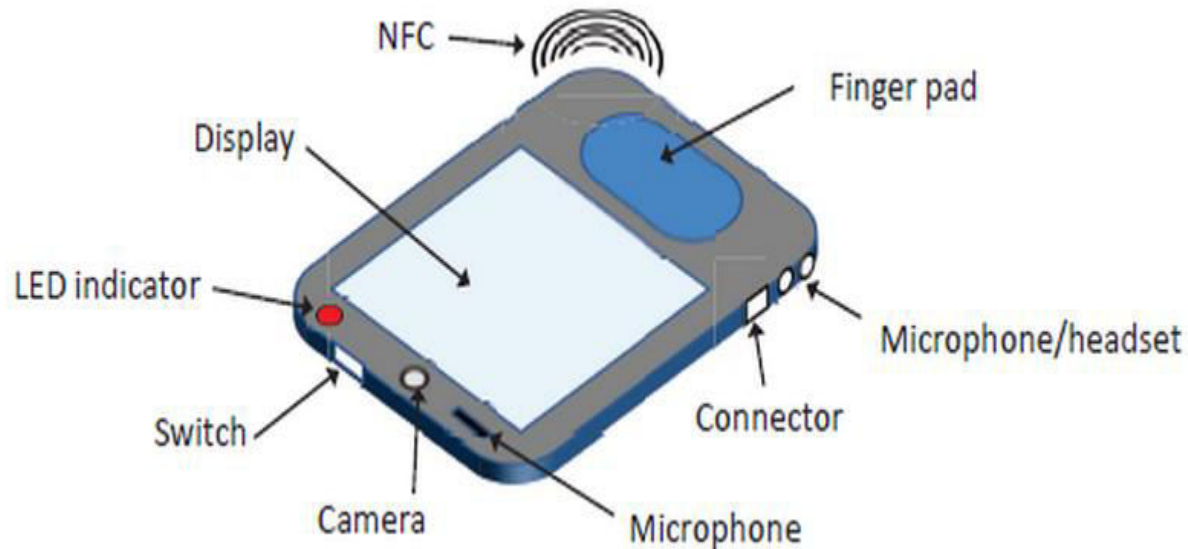
- Targeted audience>>>> SMB
- RoadMap>> Integration with On Premises Solutions And Social Connects

Questions about Cloud Based Solutions

- Data Sovereignty.
- Obscurity of the internal mechanisms ensuring the privacy of the keys.
- Cognitive Authentication
- Compromised User System

Hence....The Offpad

- OffPAD = Offline Personal Authentication Device)
 - *a trusted device to support the different forms of authentication that are necessary for trusted interactions (i.e. User authentication, server authentication)*



The OffPad

- <https://www.offpad.org/>
- The business partners:
 - [TazTag SAS](#), France (mobile secure hardware device manufacturer), project leader
 - [TellU AS](#), Norway (system provider and software development)
 - [Vallvi AS](#), Norway (business development in the security sector)
 - All business partners are R&D-performing SMEs.
- The academic partners:
 - [GREYC Lab](#), [E-Payment and Biometrics](#) research unit from [Ensicaen](#), France
 - The [University of Oslo](#), Norway (The Security and Usability research units at the [Institute of informatics](#))

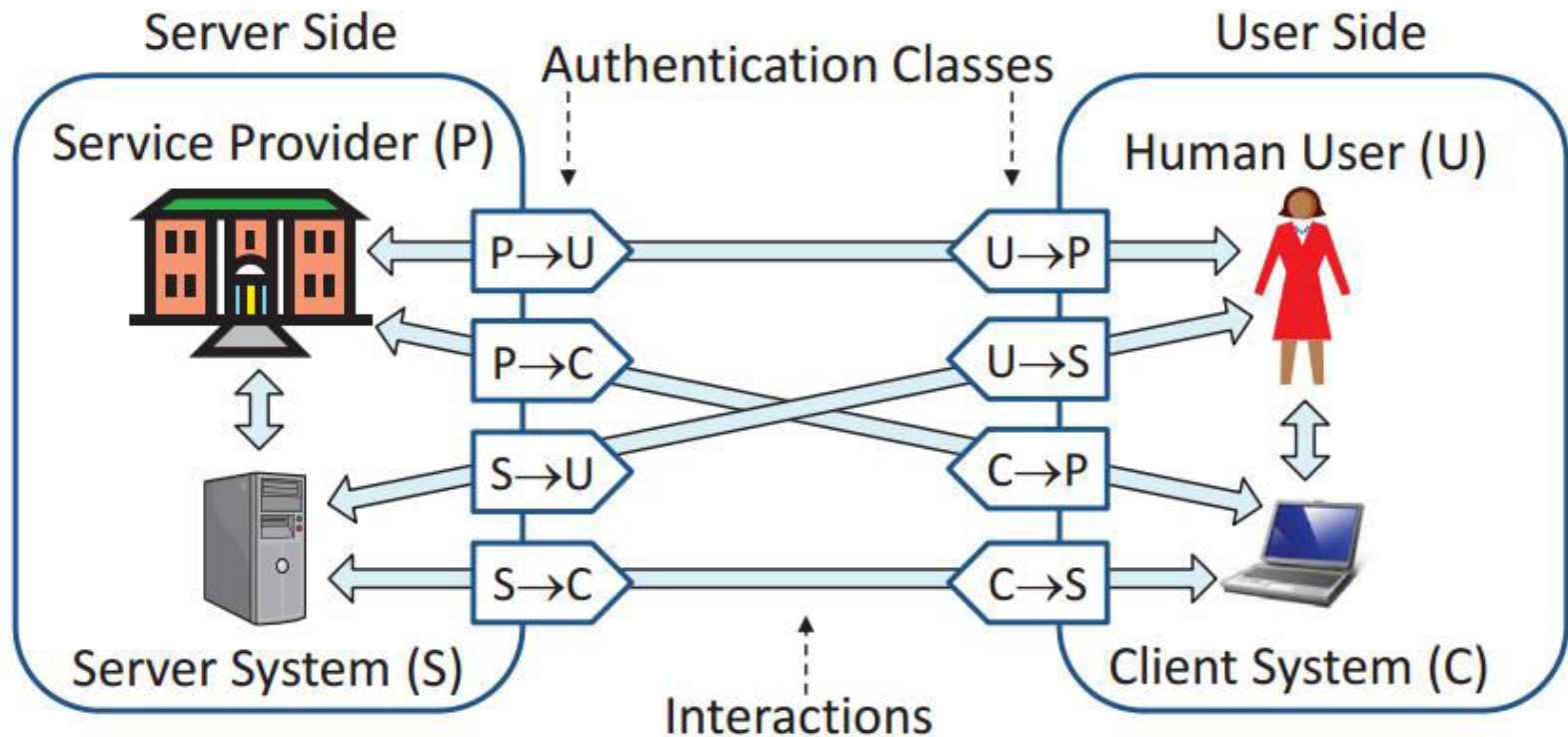
The Offpad

Strong **multilateral authentication** even in situations of compromised client platforms.

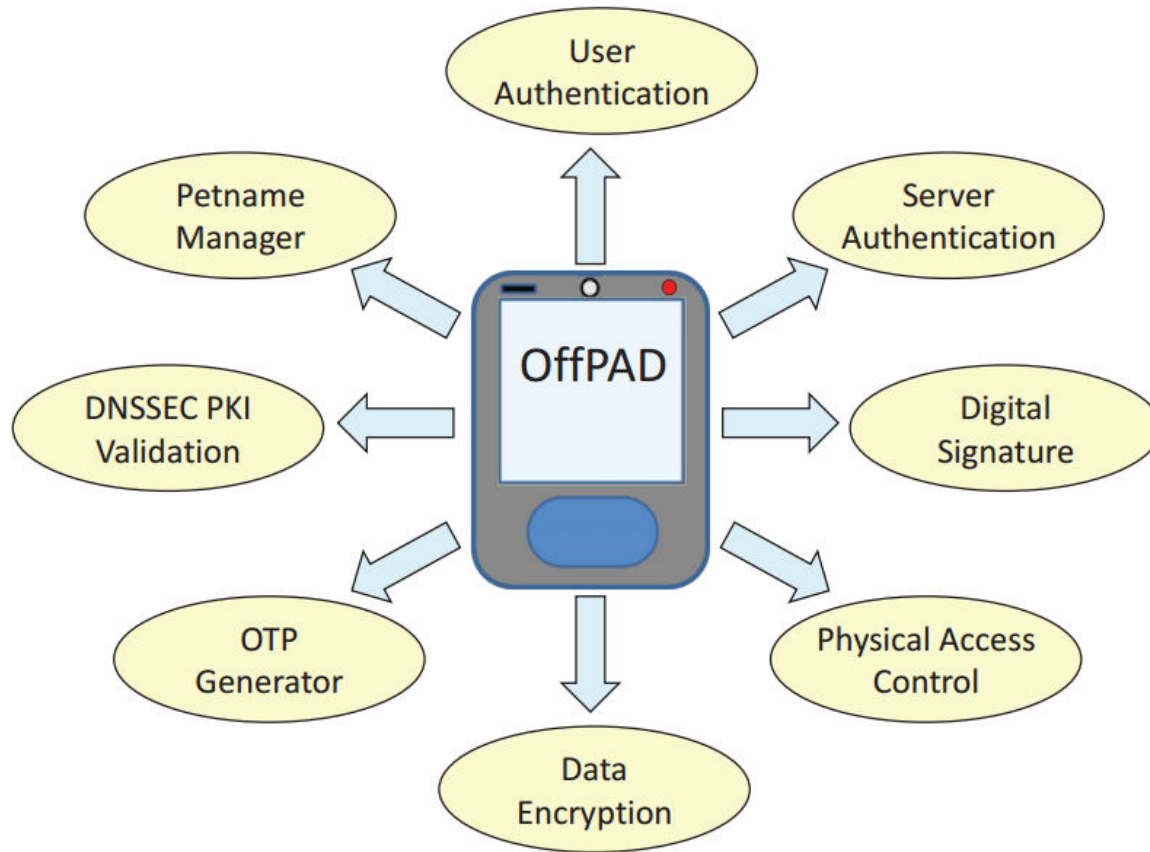
Local **user-centric** identity management (= locally on the user side in the client-server architecture)

- ⇒ It enables secure and user friendly management of digital identities and credentials locally on the user side
- ⇒ It **improves the user experience** (located on the user side) and **strengthen security**
- - The OffPAD supports **mutual authentication** (i.e. authentication of both user and service provider identities) and can in addition support data authentication

Authentication Scenarios

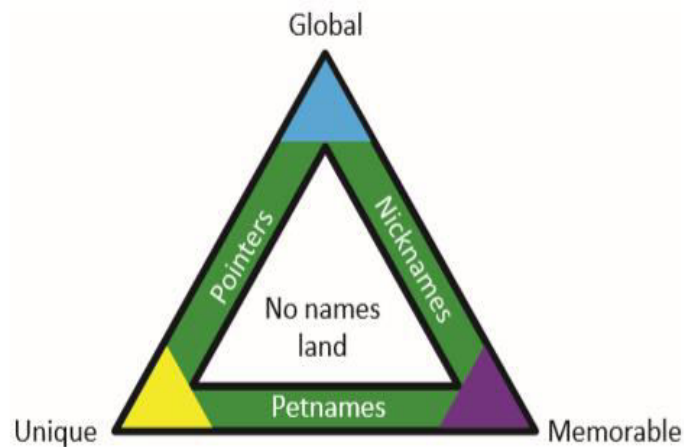


Use Case Scenarios



Server Authentication using Petname System

- multiple ways for an attacker to lure a victim to access a fake website with phishing attacks , even if the user tries to inspect the server certificate



PetName

- The petname system allows the user to associate server identities with personally recognisable identifiers such as a logo, name or tune, which are called petnames
- the Petname system can be implemented on an OffPAD, validating the service being accessed, combined with DNSSEC

OTP generator

- An OTP
 - A dynamic password, typically combined with a static password for authentication to an online service. The OTP is generated as a function of a secret string of bytes and either a timestamp or a counter value.

OTB > One Time Biometric

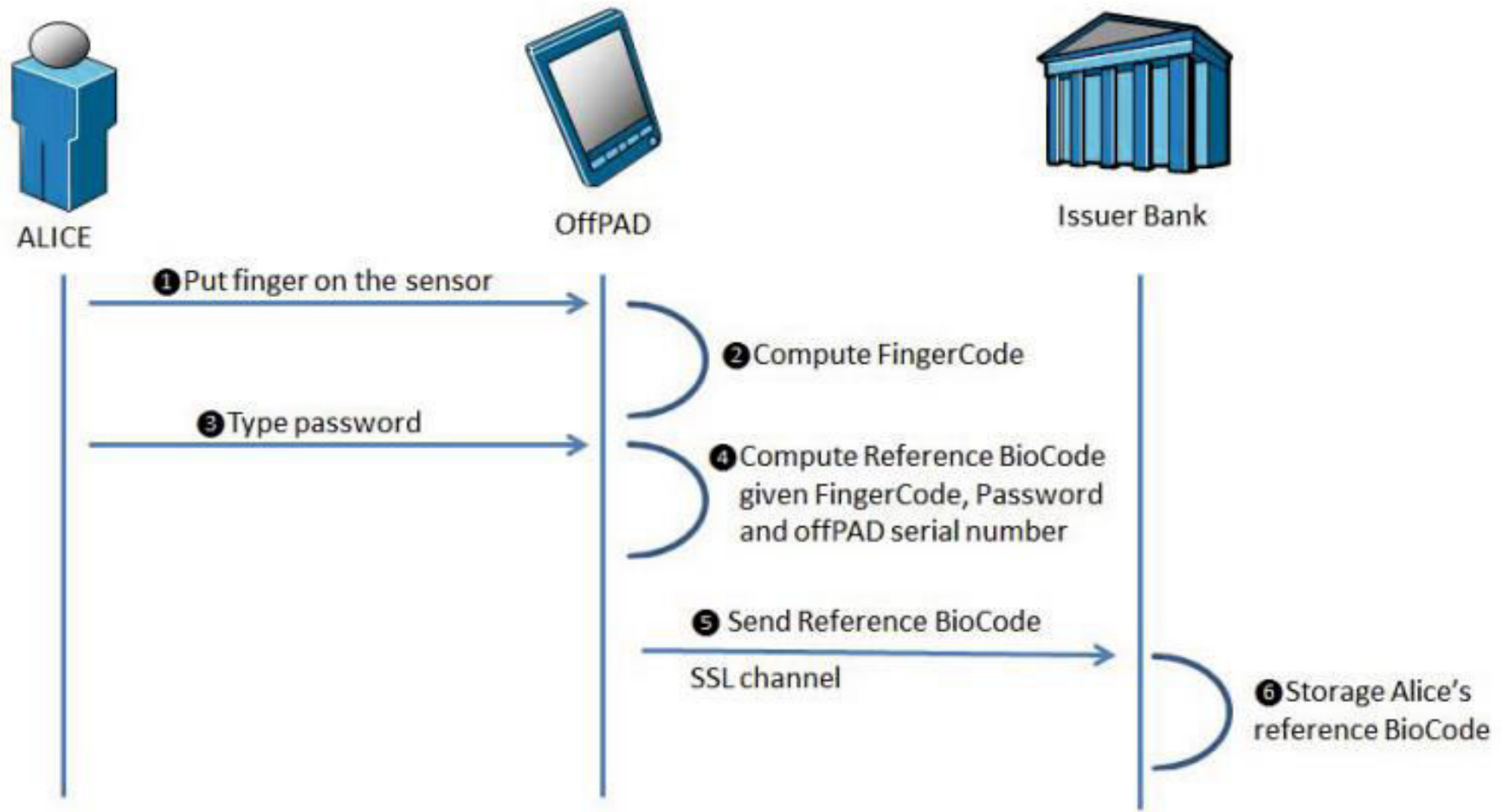


Fig. 4. Enrollment step

OTB Enrollment

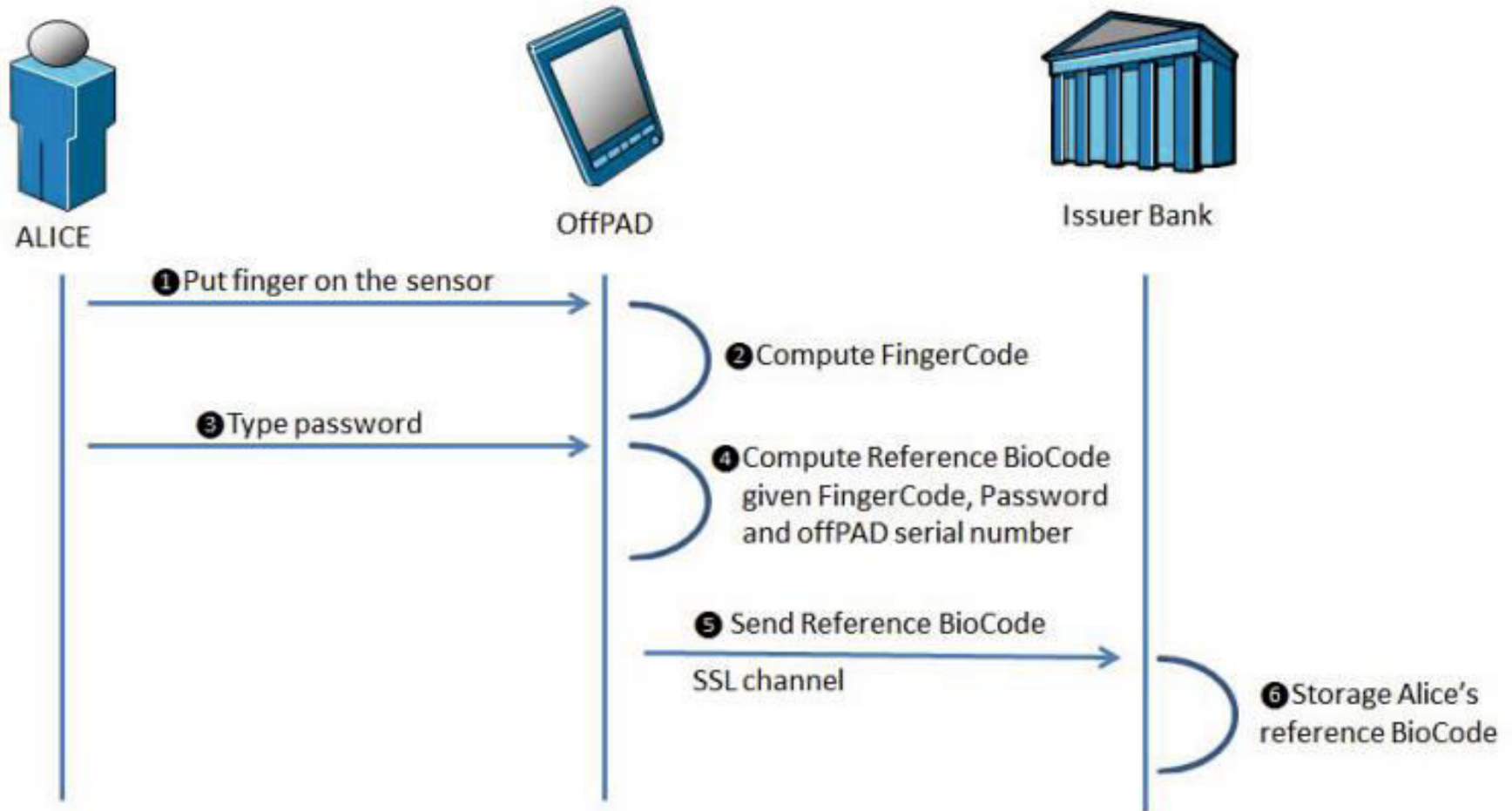
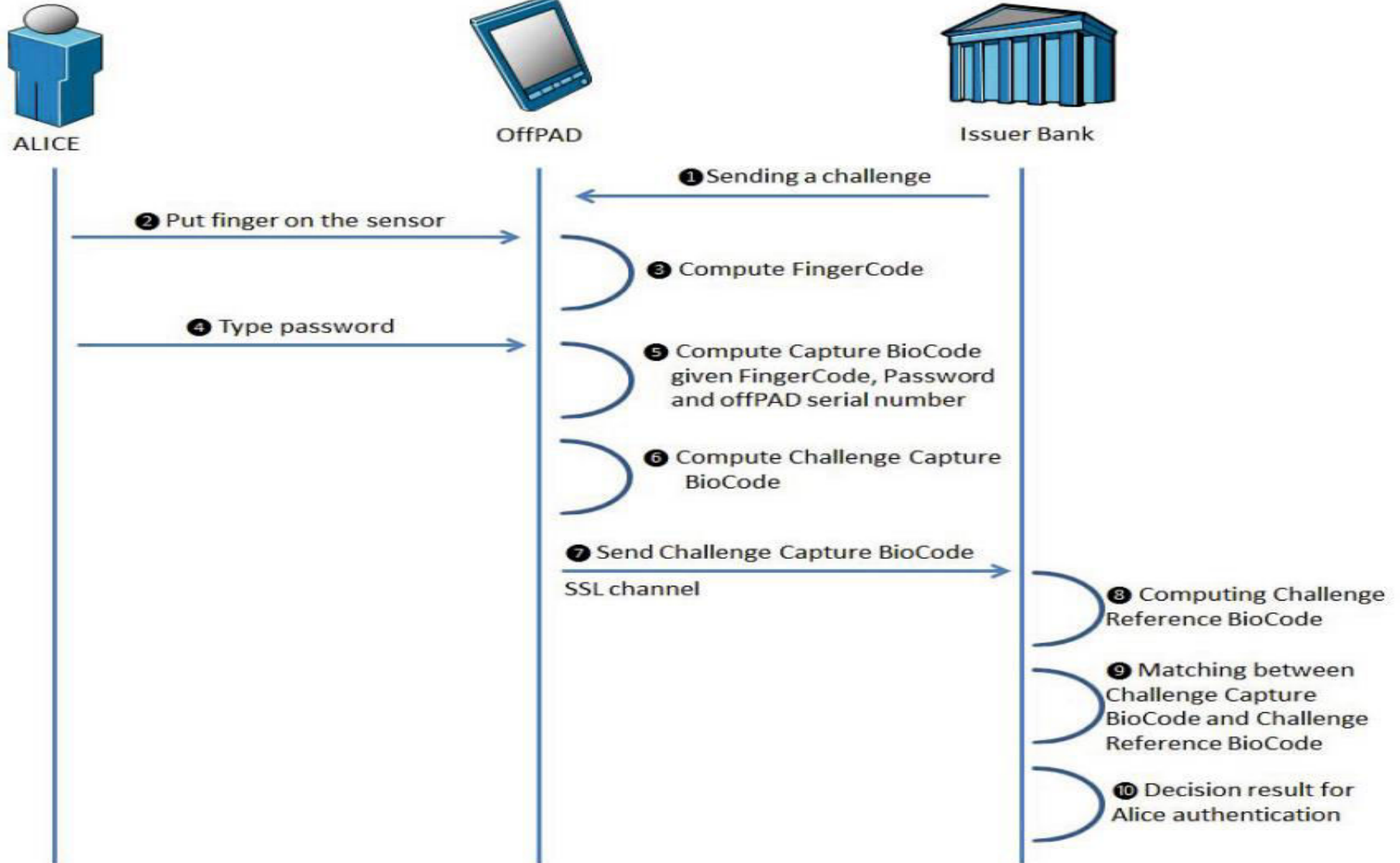


Fig. 4. Enrollment step

OTB Authentication



Conclusion

- Bring your Own Identity Management Solution
- Standardization of industry specific solutions?

References

- <http://www.cloudentr.com/>
- <https://www.offpad.org/>
- A. Jøsang and S. Pope. User-Centric Identity Management. In Andrew Clark., editor, Proceedings of AusCERT 2005, Brisbane, Australia, May 2005.

Thank you

