



Aalto University  
School of Electrical  
Engineering

# S-38.3046 Value Network Design for Internet

Case: Initial Authentication Service  
STOF

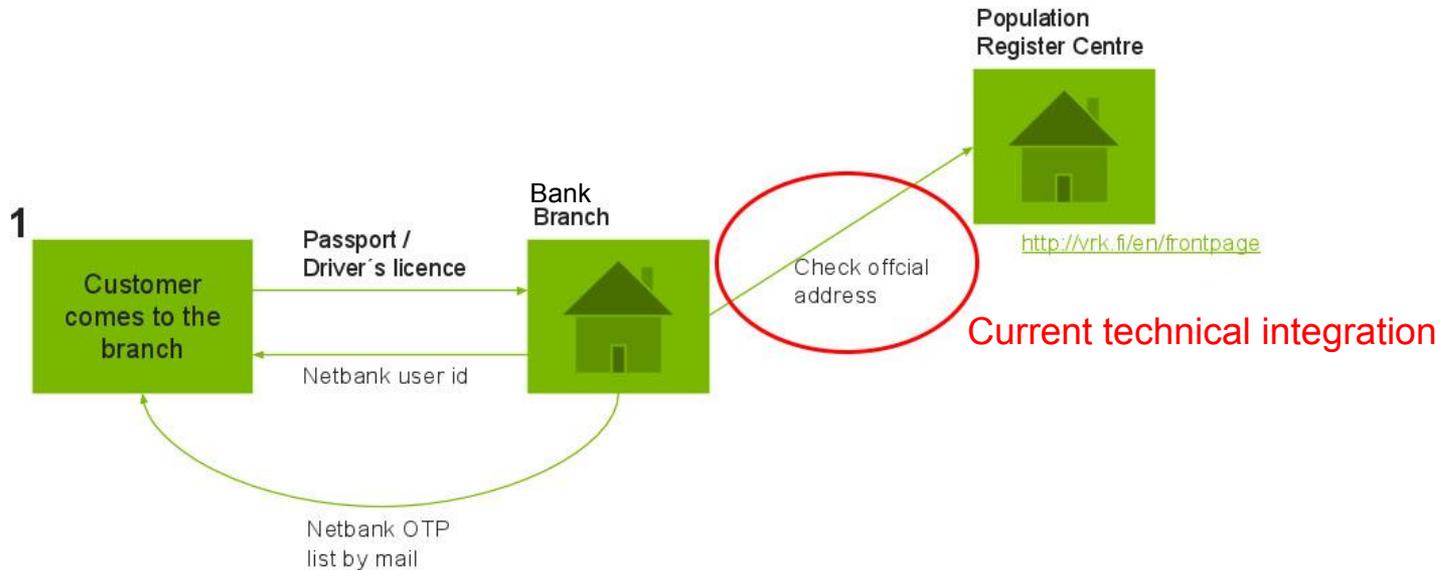
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# Recap for case description

## CURRENT PROCESS - MOBILE



2  
Customer creates mobile netbank credentials using OTP list on paper

Is there other opportunities to get a bank credentials than visit bank office for a person who doesn't have any previous back credentials?

# List of ranked uncertainties

**U1: Can new technologies, software development, allow to avoid a personal contact in a bank to open new bank account?**

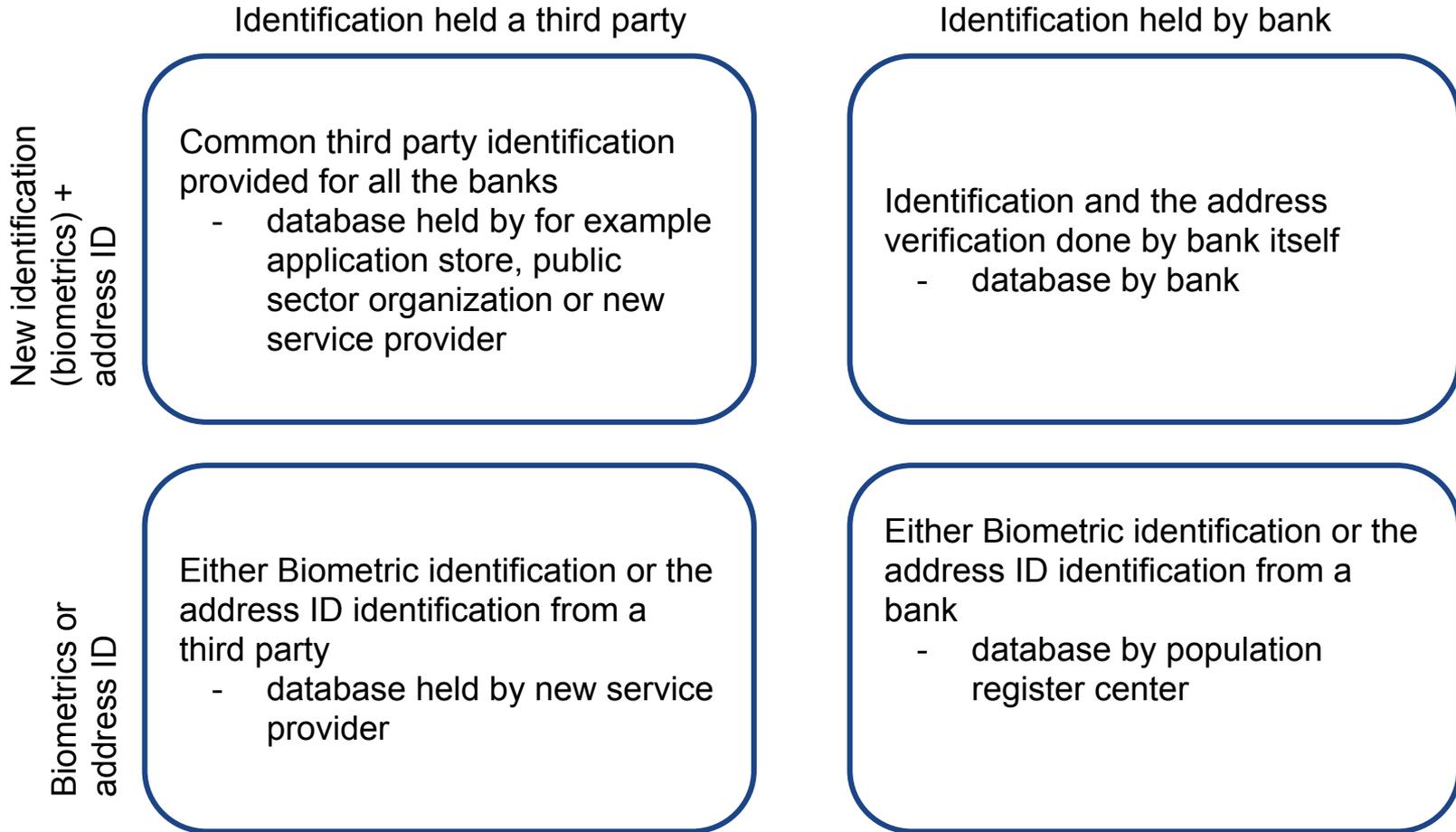
**U2: Will technology of biometrical (ex. voice, retina), behavioral (ex. swiping speed) or physical (ex. heart rate) identification provide new identification methods?**

U3: Can social media services provide stronger identification?

U4: Will open bank APIs provide new needs for bank identification?

U5: Will EU directives like PSD2 (Payment Services Directive) change banking market? Will there be new directives?

# Scenario Construction



# Important roles for Initial Authentication Services

## Actors:

- End user
- S-Pankki
- Population register centre
- Identification database provider

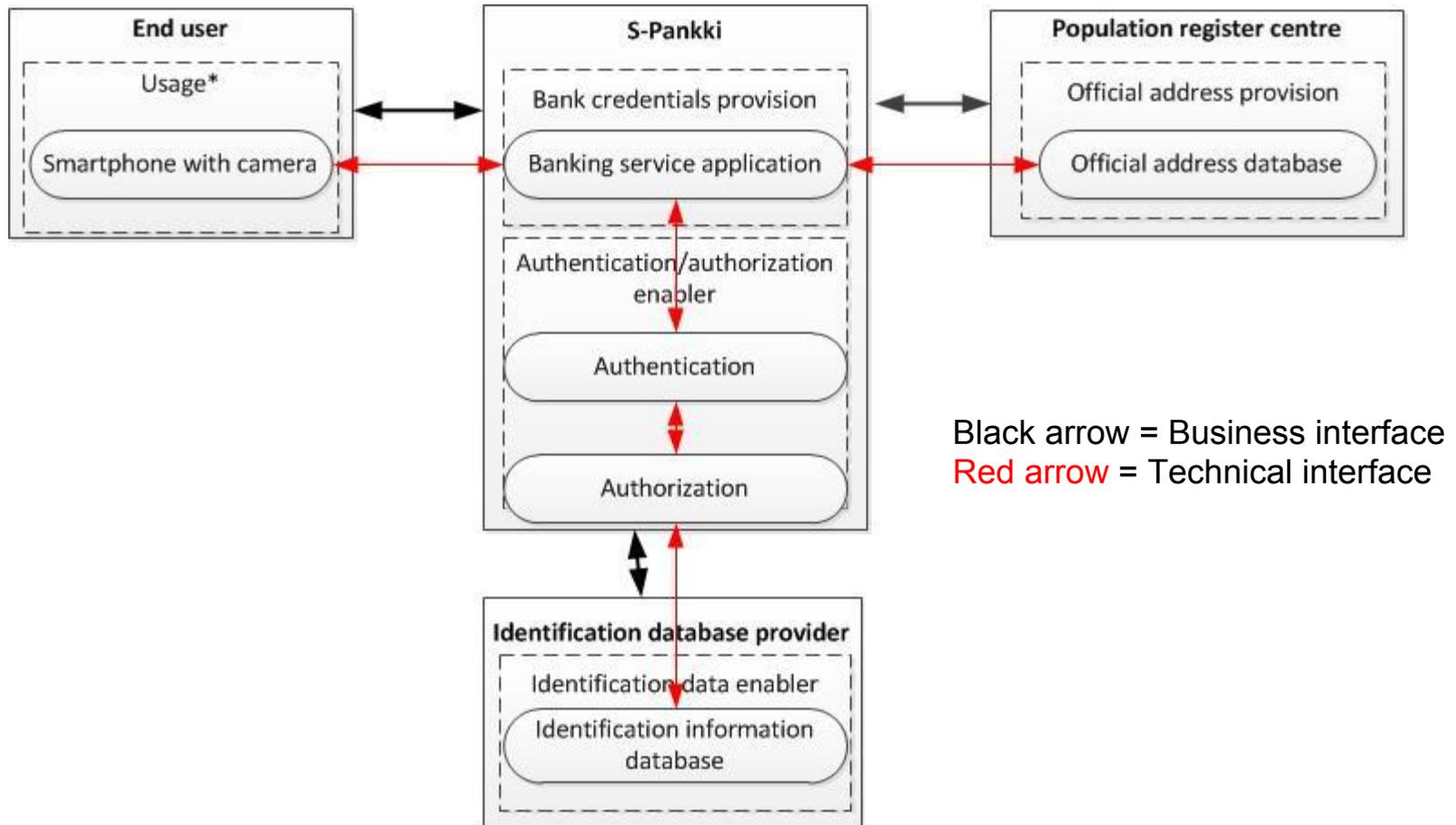
## Business roles:

- Usage
- Bank credentials provision
- Authentication/ authorization
- Identification data enabler
- Official address provision

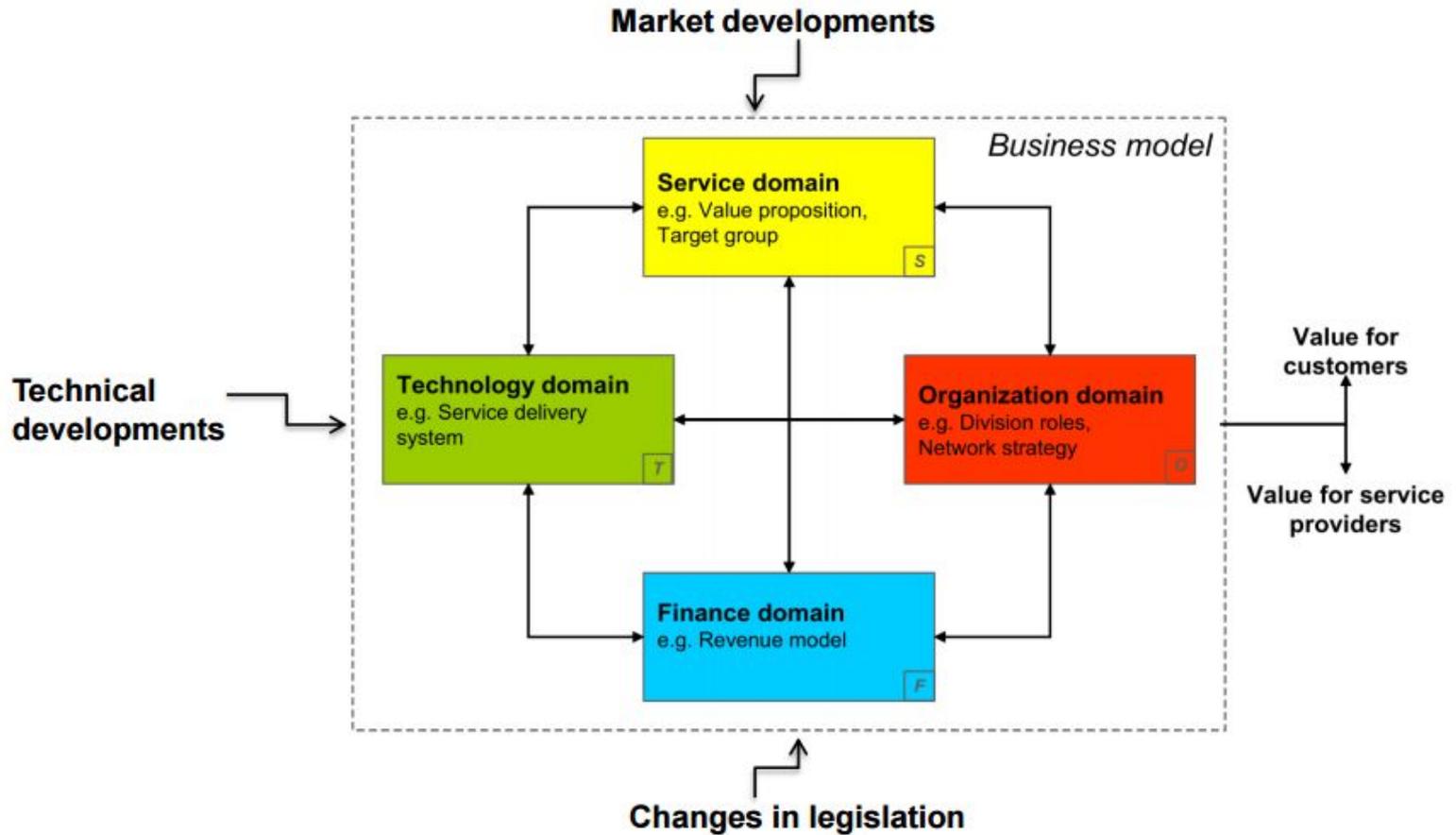
## Technical components:

- Smartphone with camera
- Bank service application
- Authentication
- Authorization
- Identification information database
- Official address database

# Bank driven VNC



# STOF Model



# Critical design issues in service domain

Critical Design issue	Description	Balancing requirements
<b>Targeting</b>	End user without any previous bank credentials	Old or young customers Finnish people or immigrants/ exchange students
<b>Creating value</b>	Quicker way to get bank credentials No queuing in the bank Less bank officers needed Efficiency for bank credential delivery Making use of the technology for smart ways	End user needs for faster service vs technology and security aspects
<b>Branding</b>	S-Pankki has already strong bank image in Finland Branding for the new service is needed	S-Pankki brand vs. identification service brand New service brand vs. old brand
<b>Trust</b>	Trust for the identification and authentication	Security vs ease of use
<b>Customer retention</b>	Service is needed only one -> brand image more important than retention	

# Critical design issues in technology domain

Critical Design issue	Description	Balancing requirements
<b>Security</b>	Data integrity in the database Authentication and authorization information is sent only to identification database Identification service technology is secure Apps/ softwares work correctly together	Privacy vs security Efficiency vs abuse
<b>Quality of Service</b>	Bank software performance The customer is informed about identification service usage	Quality vs costs
<b>System integration</b>	Integration between bank software and identification database provider	Flexibility vs costs
<b>Accessibility</b>	Bank mobile application support for different mobile phone platforms/ cameras	Security vs accessibility
<b>Management of user profiles</b>	New customer information is sent to bank customer database	User involvement vs automatic information flow

# Critical Design issues in organizational domain

Critical Design issue	Description	Balancing requirements
<b>Partner selection</b>	Authentication and authorization in bank software and identification database by partner	One partner vs several partners (for also authorization and authentication)
<b>Network openness</b>	Partnership with one certified identification database provider	Control and security vs wider identification possibilities
<b>Network governance</b>	Governance by bank	Centralized vs distributed governance
<b>Network complexity</b>	Simple network (bank and identification database)	

# Critical Design issues in financial domain

Critical Design issue	Description	Balancing requirements
<b>Pricing</b>	Opening bank account charge Maintenance of the bank account	Free for students vs charge for non-students Free for non-employees vs charge for employees
<b>Investments</b>	Integration costs Investment for authentication and authorization services	End user vs bank vs investors Capital investment vs risk assessment

# Thank you!

Questions, comments or feedback?