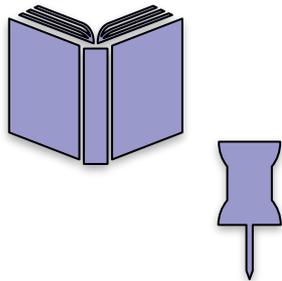# Passkeys and 2FA

Claudio Cannizzaro, 21.01.2025

Agenda

- 2FA Fundamentals

- What are Passkeys

- What's new in B-Fabric

- Demo

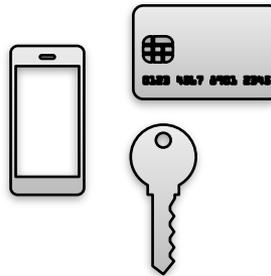# 2FA Fundamentals

Knowledge

"something only the user knows"

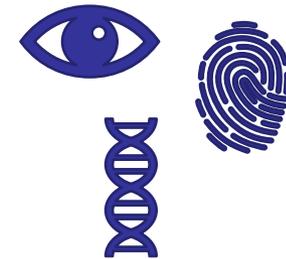- **Passwords**
- **PINs**

Possession

"something only the user has"

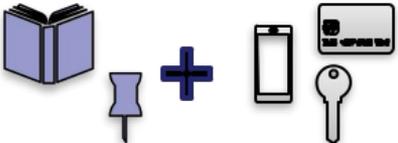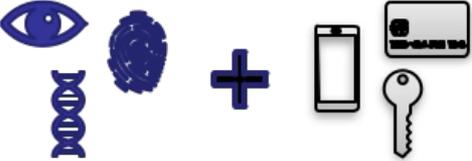- Security Key
- Your Phone
- Authenticator Apps

Inherent

"something the user is"

- **Fingerprint**
- **Face**
- **DNA**

Common 2FA Combination

	Examples
	ATM, UZH/ETH Email Login, Paying with Card (over a certain number)
	Paying with the Phone, Unlocking phone, Passkeys, Banking App
	Online Banking (browser with phone confirmation)
	Rarely used in practice
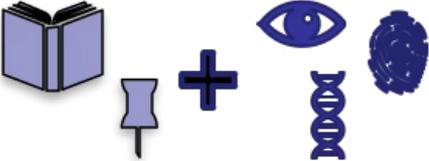
What are Passkeys?

Cryptographic Key Pair

Private   Public

Official Icon

Why Passkeys?

https://fidoalliance.org/wp-content/uploads/2026/01/FIDO-Membership-Overview.pdf
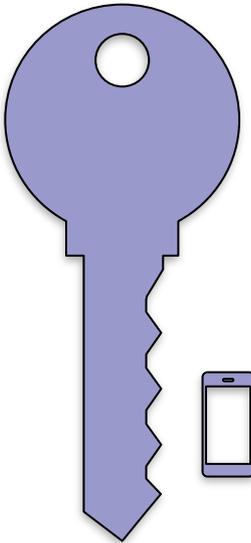
The foundation of authentication is fundamentally flawed

When our primary factor is passwords…

77% — Hacking-related breaches involve stolen credentials
(Verizon)

42% — Gave up on a purchase because they forgot their password
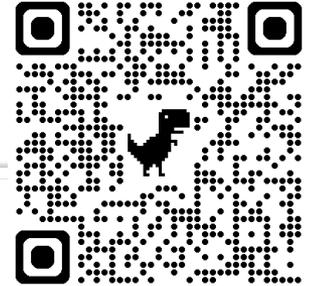(FIDO Alliance)

76% — Rise in direct financial loss from successful phishing attacks from 2022-2023
(Proofpoint)

78% — Use the same password for more than one account
(Forbes)

Easily phished or socially engineered, difficult to use and maintain

6   © FIDO Alliance 2025

Two Different Types of Passkeys

Device-Bound

Synced

How do Passkeys work?

How Passkeys Work - Youtube@Computerphile

User verification

Require user gesture before private key can be used

Private key dedicated to one app

Your biometrics never leave your devices!

FIDO Authentication

Challenge

(Signed) Response

Public key stored at service provider

Private key can be securely synchronized across devices
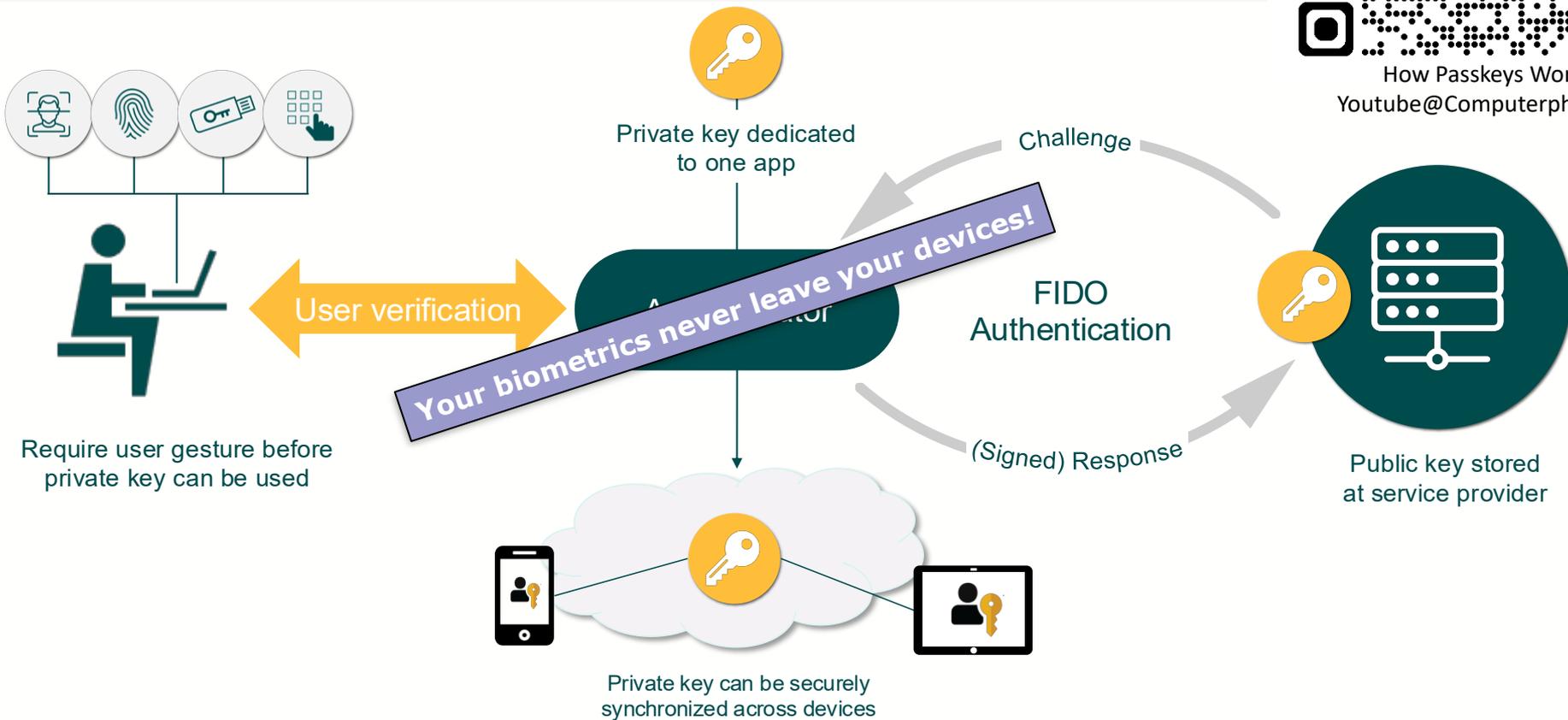
Why Passkeys?

Phishing resistant

Leak proof

Simple & Fast

Fake sites cannot trick you

Server breaches cannot expose your credentials

Just use Fingerprint/Face

Who Does Passkeys?

Backed by 300+ global tech leaders

Browser/OS

Implements

fido ALLIANCE

Writes Specifications

WebAuthn

Publishes Webstandard

Passkeys

Chrome on Windows · Firefox on Windows · Chrome on Android · Edge on Android · Apps on iOS · **Available** · Safari on iOS · Chrome on Mac · Edge on Mac · Edge on Ubuntu · Chrome on iOS · Edge on iOS · **Today!** · Apps on Mac · Apps on Android · Chrome on Ubuntu · Safari on Mac · Edge on Windows
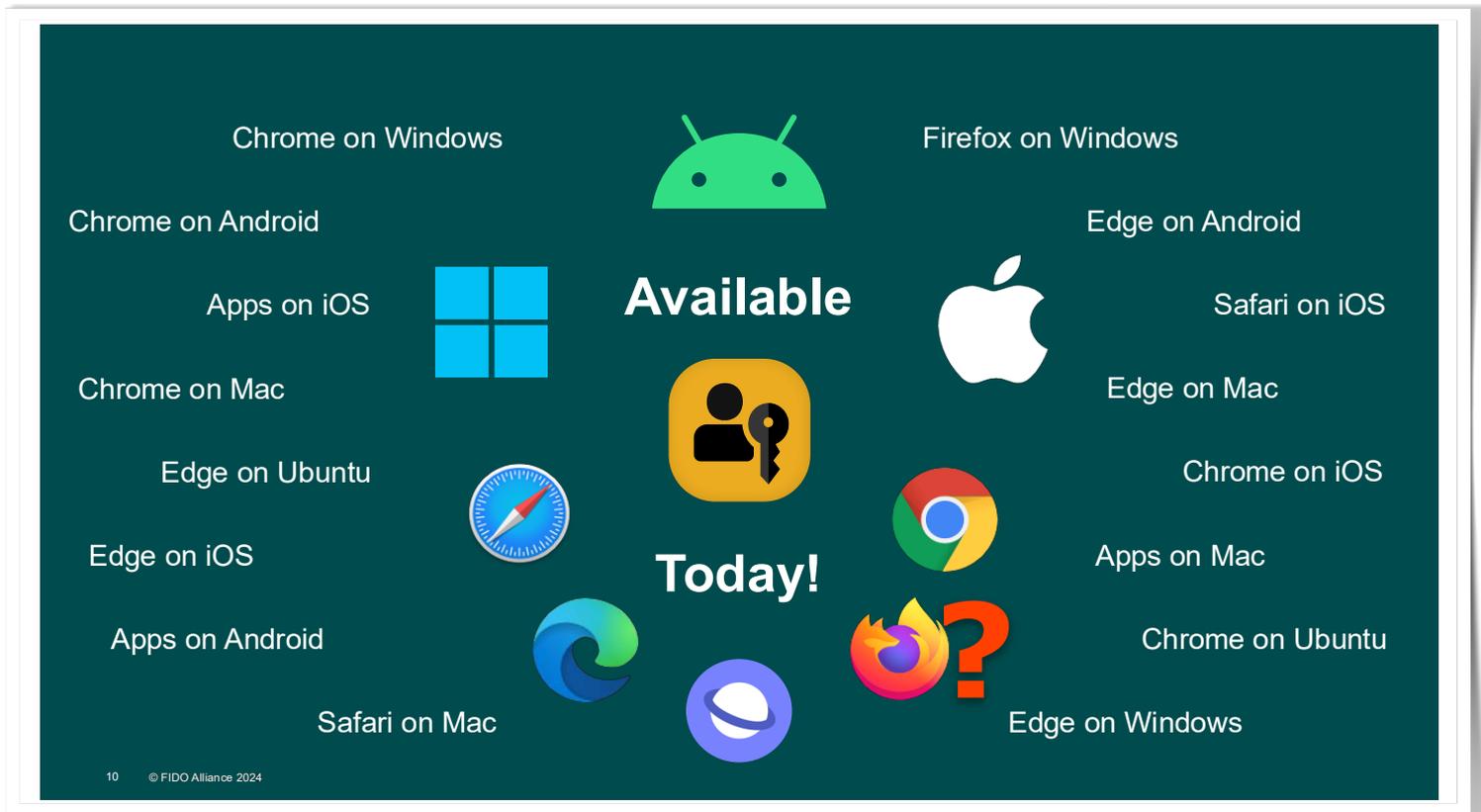
What's Coming To B-Fabric?

- B-Fabric will support:

  — Authenticator Apps

  — Recovery Codes

  — Passkeys

Demo Time: Device Bound

Demo Time: Password Manager

Demo Time: Cross-Device Authentication

Questions

➡ 2FA is currently optional, but we encourage you to use Passkeys

AI Comment Composer

Integrated in B-Fabric

Comment Composer 🪄

- What?

    – Use AI to improve your Comments

    – Similar to Apple Intelligence

- Why?

    – Mentioned at Retreat

    – AI warm-up

- Where?

Comment Composer 🪄

Add Comment

Parent	Order 36884
Internal	☐
Subject	Enter space or a character sequence and select an already existing subject or input a new one ▾
Comment Template	▾
Comment	

Context menu:
- ⊘ Proofread
- ⊕ Translate to English
- ♡ Friendly
- 🗄 Professional
- ⊖ Concise
- ⧗ Working on it
- 🏷 Suggest Subject
- ↺ Undo Last Change

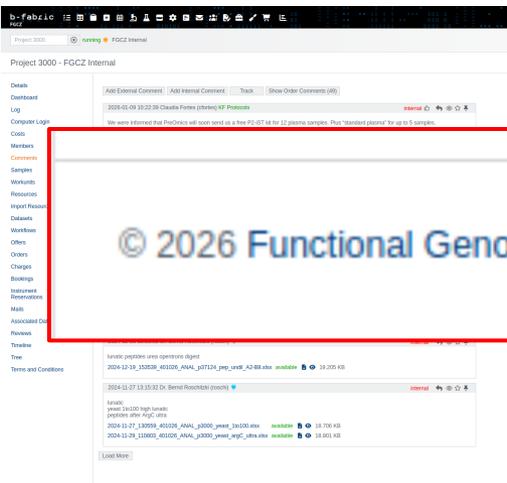|	
Attachments	+ Add
Workunits	Enter space or a character sequence and select an item ▾
Send Email Notification **Yes**	☑ [Requester, Contact, BudgetOfficer, Member] ☑ [Coach, CoachBackup, Bioinformatician, ServiceTrack...]
	☑ Requester ☑ Contact ☑ BudgetOfficer ☑ Member ☑ Coach
	☑ CoachBackup ☑ Bioinformatician ☑ ServiceTracker ☑ ServiceTypeTracker

Context: Your message

Context: Your message
+ 10 most recent comments
+ Reply To

Comment Composer 🪄✨

- Why not just use ChatGPT?

  – Privacy

  – It's right there

  – Integration creates opportunities

- Disclaimer

  – Our local LLM is 10-20 times smaller than ChatGPT

Your turn!

- Try it out on: https://fgcz-bfabric-test.uzh.ch/bfabric/

- Two Issues have been opened. Will send you the link.