



FIDO Overview

Dr. Rolf Lindemann, VP Products, Nok Nok

Background

- **About Dr. Rolf Lindemann**

- Author & contributing editor of multiple FIDO specs; FIDO board member
- Frequent speaker at industry events
- Helped regulators across the globe with modern authentication
- VP Products at Nok Nok

- **About Nok Nok**

- **Deep domain expertise in FIDO next-generation authentication**
 - Original inventor of FIDO and co-founder the FIDO Alliance
 - Thought leader in customer authentication with proven track record
- **Proven deployed passwordless solution**
 - 100s of millions of deployed users
 - Billions of authentications
- **Proven technology with innovations based on the real world**
 - Servers deployed globally at scale



Passwords are the #1 Cause of Fraud



Protect Your Customers

86% of organizations had at least one user try to connect to a phishing site.

Passwords and OTPs can be phished.

\$4.91M average cost per Phishing breach makes it the costliest breach.



Passwords lead to Friction



Create Account

Password Requirements:

- A lowercase character
- An uppercase character
- A special character
- A numeric character
- An alphabetic character
- A minimum of 8 characters

Email Address

Password

Verify New Password



Simplify the Customer Journey

25% of people stop when asked for a new password

58% of consumers have abandoned carts due to difficulty signing in

With 30 secs. on average, password authentication is slow and has low success rate of 14%

FIDO Alliance Work Streams

FIDO Authentication
(2013)

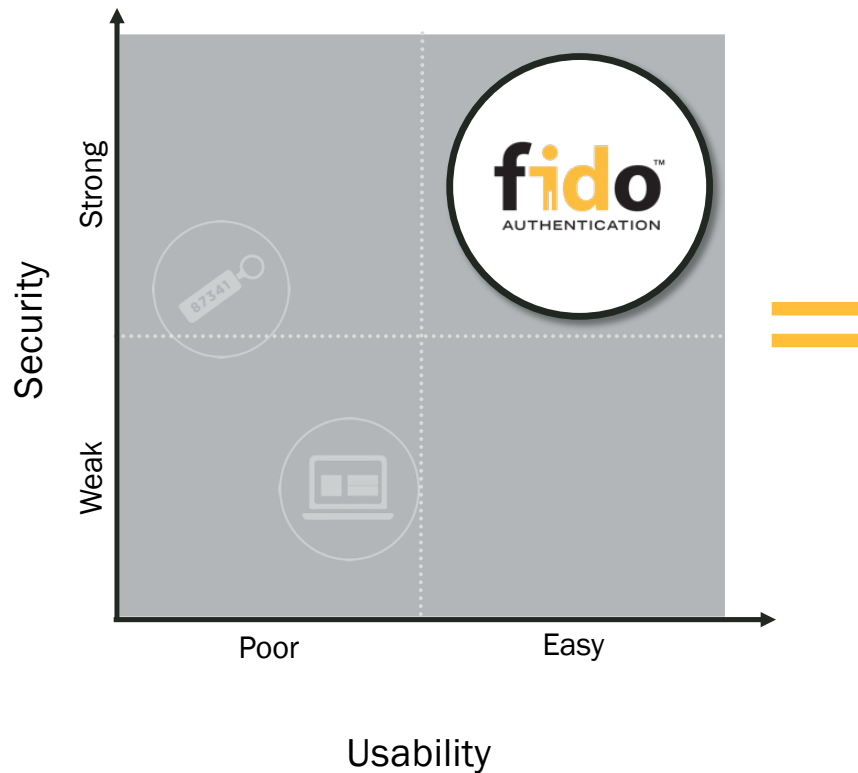
FIDO Device Onboarding
(2019)

Identity Verification &
Binding
(2019)

Automate secure device onboarding to
remove password use from IoT

Strengthen **identity verification** assurance to
support better account recovery

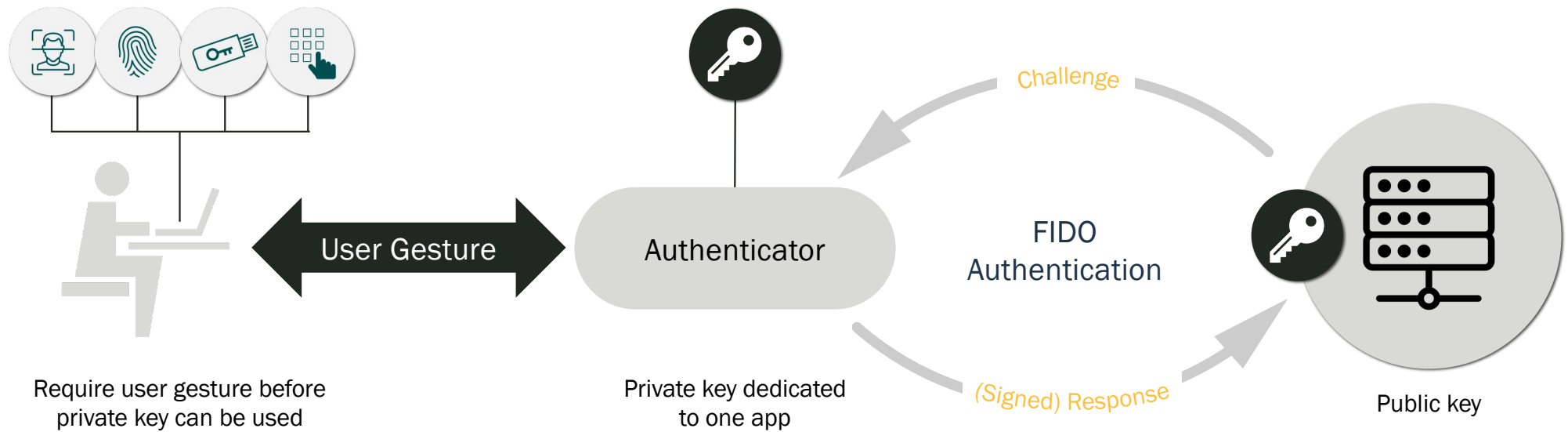
Industry Imperative: Simpler and Stronger



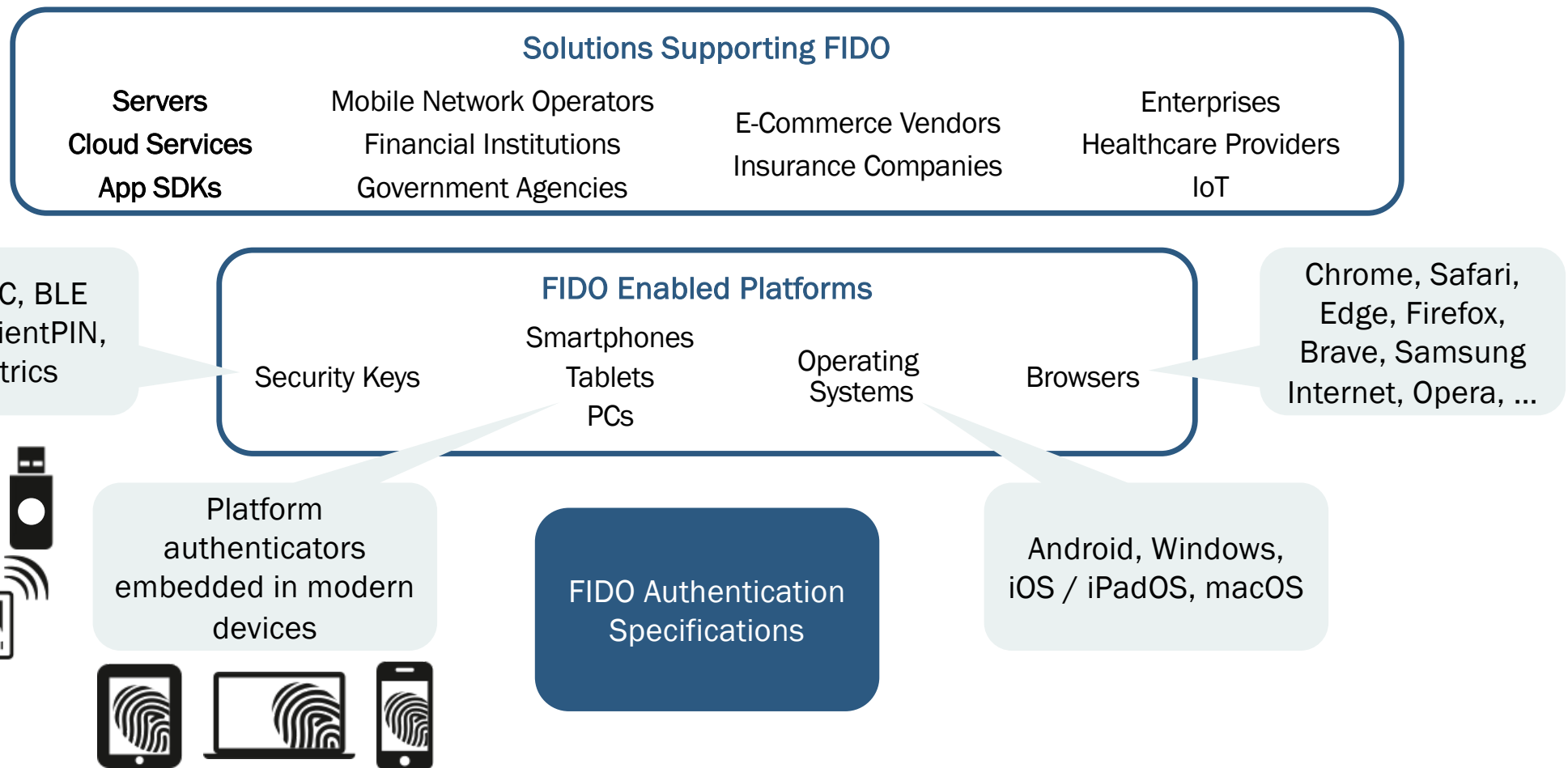
Open standards for simpler,
stronger authentication using
public key cryptography

Single Gesture
Possession-based Authentication

FIDO Authentication: How it Works



FIDO Ecosystem



Brief FIDO History (Authentication)

First version of FIDO
authentication spec

Passwordless Experience

Second Factor Experience

2014



Support for **passwordless phishing-resistant MFA** in **native apps** using **platform authenticators**



Support for **phishing-resistant MFA** in **web apps** using **Security Keys** as second factor.

Brief FIDO History (Authentication)

Passwordless in Web Apps
Passwordless for Security Keys
Security Keys for Native Apps

2018
2019



Support for passwordless phishing-resistant MFA in native apps using platform authenticators & Security Keys



Support for passwordless phishing-resistant MFA in web apps using platform authenticators & Security Keys

Brief FIDO History (Authentication)

Phone as “Security Key” Biometric Security Keys

2020



Support for passwordless phishing-resistant MFA in native apps using platform authenticators (on-device & cross-device) & Security Keys.



Support for passwordless phishing-resistant MFA in web apps using platform authenticators & Security Keys w/o and with biometrics

Brief FIDO History (Authentication)

Passkeys



2022
2023



Support for passwordless phishing-resistant MFA in native apps using platform authenticators (on-device & cross-device) & Security Keys. Support for synced passkeys.



Support for passwordless phishing-resistant MFA in web apps using platform authenticators & Security Keys w/o and with biometrics. Support for synced passkeys.

Passkeys Quickly Ramping Up 2 Weeks After Launch

Passwordless

passwordless

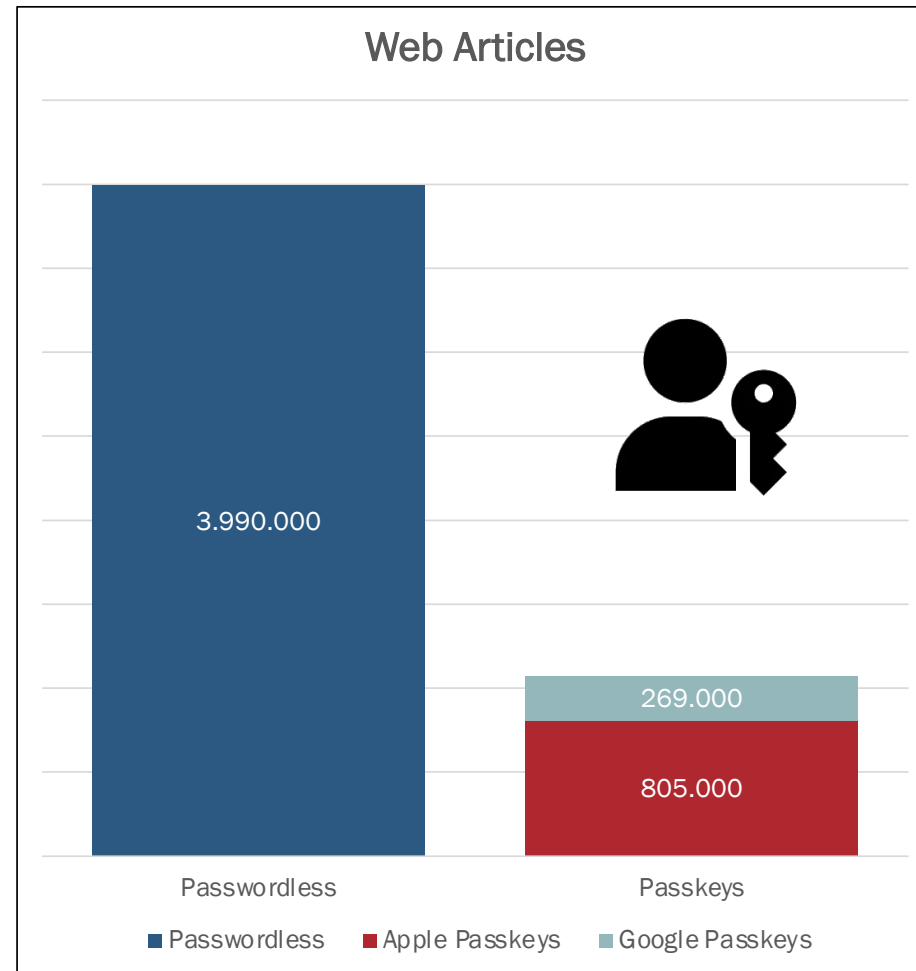
[All](#) [News](#) [Images](#) [Videos](#)

About 3.990.000 results (0,55 seconds)

Passwordless technologies:

- OTP
- Behavioral Biometrics
- Device Fingerprinting
- Passkeys

Web Articles



Passkeys

apple passkey ios 16

[All](#) [Shopping](#) [Images](#) [\[](#)

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google passkey developer preview

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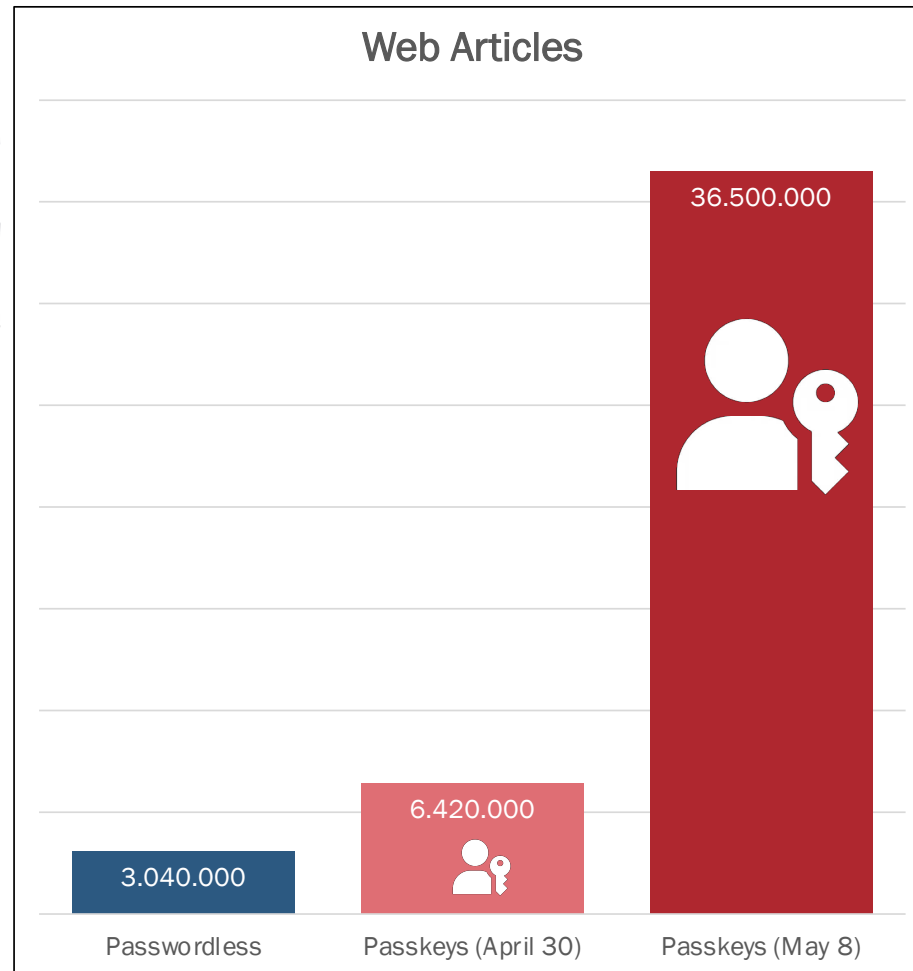
Microsoft to launch late 2023

Passkeys Clearly Dominating Passwordless May 2023

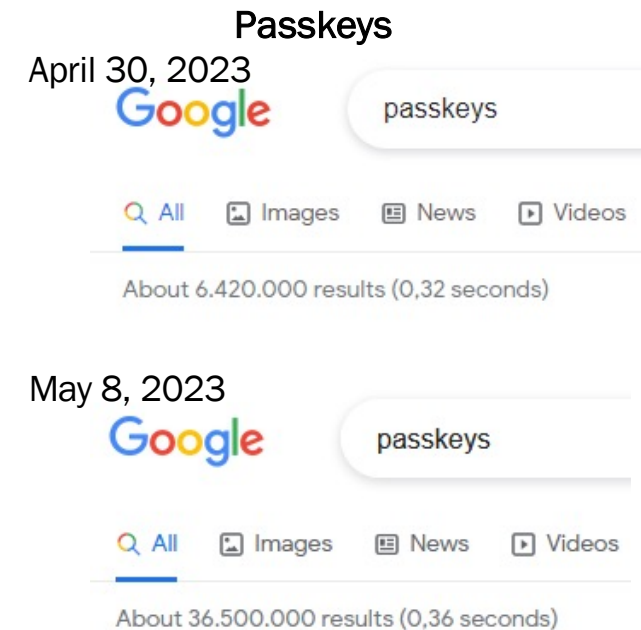


Passwordless technologies:

- OTP
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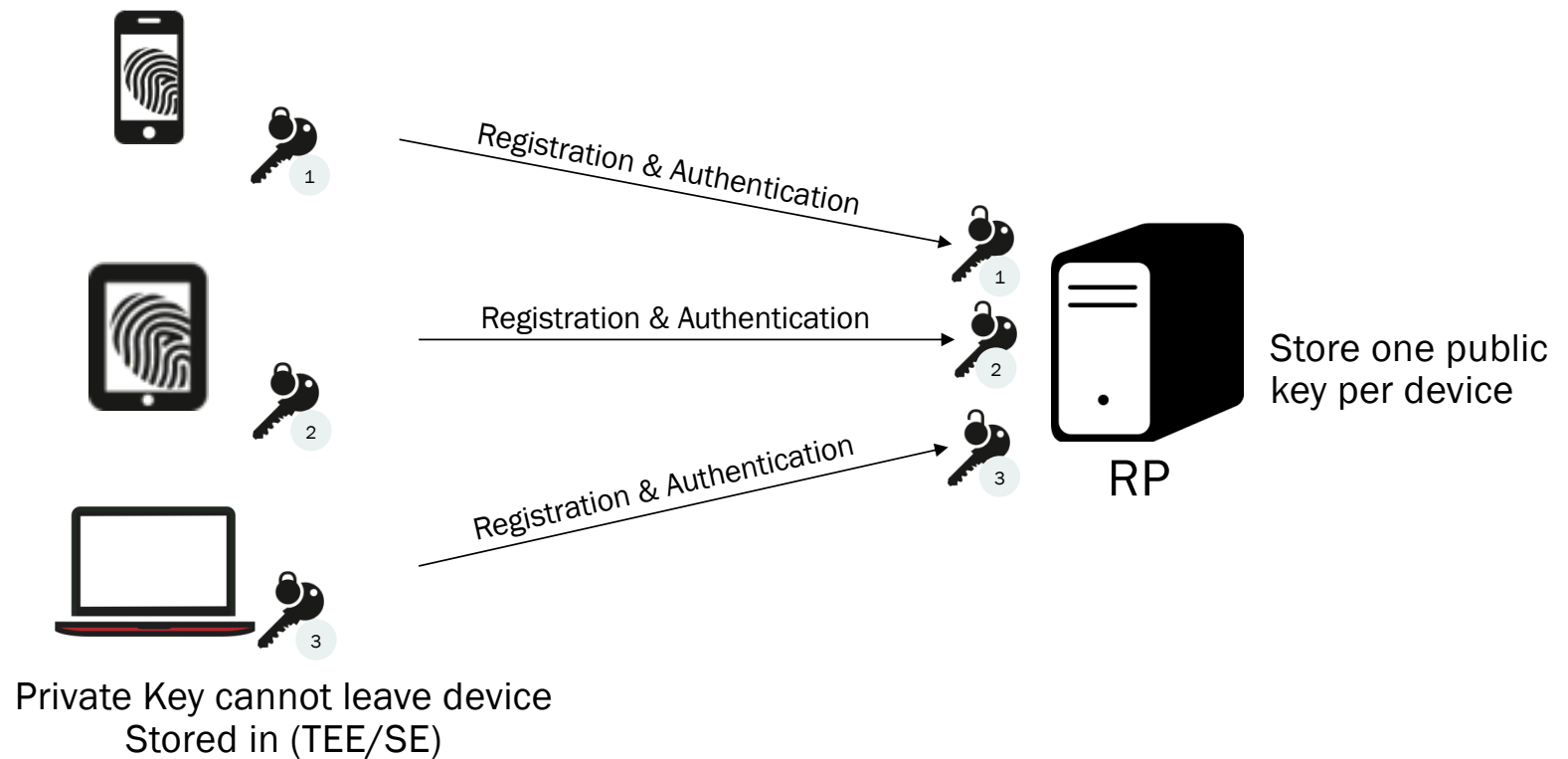


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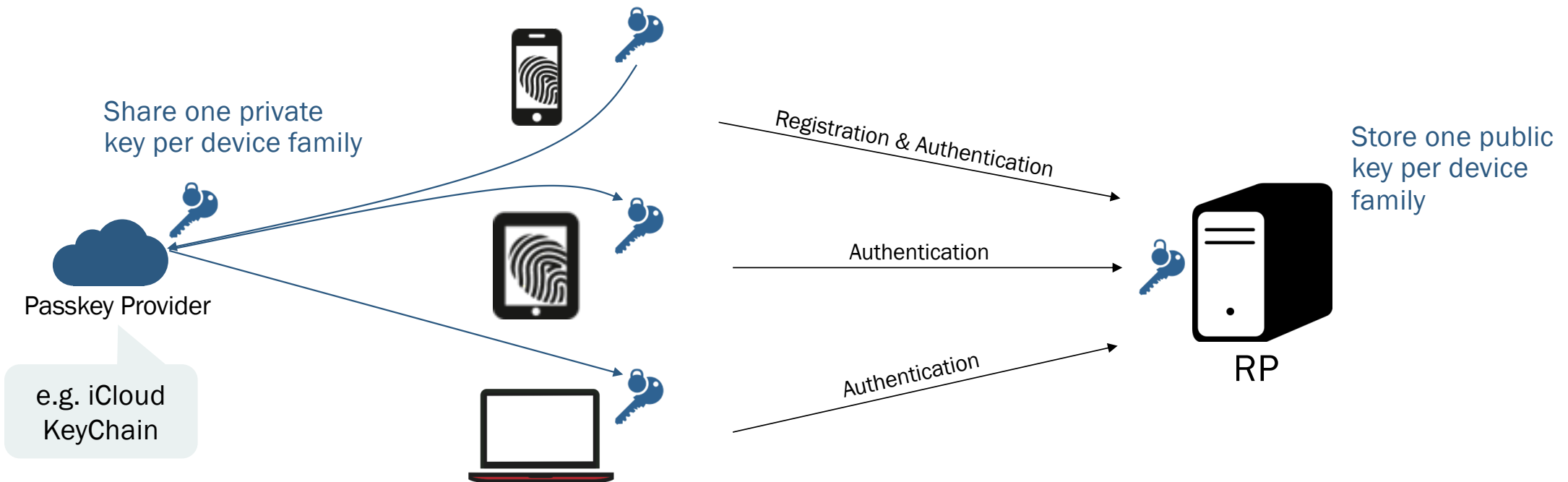


Apple devices are enabled,
Google launched preview,
Microsoft expected late 2023

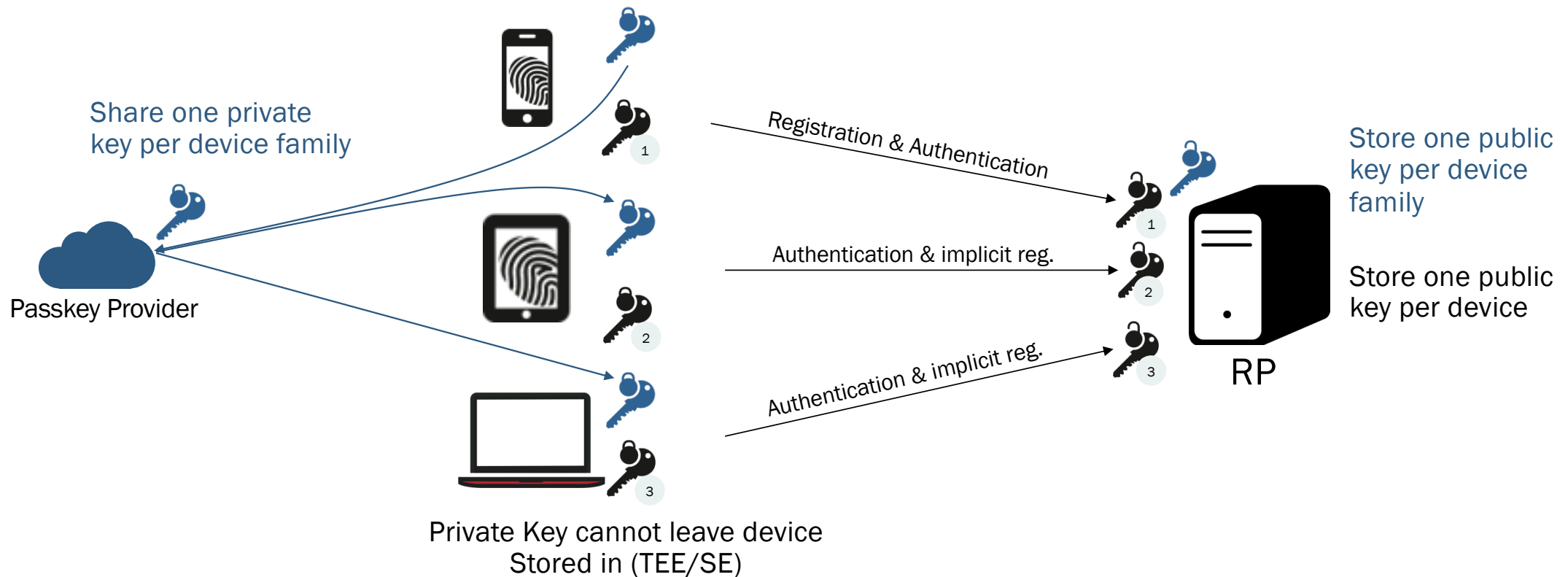
Before Passkeys: Device-bound Keys



Passkeys: Synced Keys



Passkeys: Synced Keys & Device-bound Keys (DPK)



Why are Passkeys Significant?

Common Term & Icon



Passkey

Easy to Use

Synced keys can be used on any devices – similar to passwords
... but more secure than passwords & nothing to remember

Simple Device Migration

RPs only interested in password-level security don't need step-up verification on new device

RPs interested in more control can trigger step-up verification on a new device

Growing Number of FIDO Deployments...

BBVA

TARGET

Boursorama

CVS
Health

NTT
docomo

Google

mastercard

verizon

ebay

T-Mobile

GitHub

Microsoft

YAHOO!
JAPAN

Dropbox

intuit

LOGIN.GOV

NHS

LINE Pay

GEMINI



nok
nok

Talk to us if you consider deploying FIDO / passkeys...

THANK YOU

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