2024 Asia-Pacific Community Meeting

Safeguarding Your Boat So You Don’t Get Hooked

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PCI Security Standards Council

Who has heard of the FIDO Alliance?

Who has heard of 'Passkeys'?

Who knows what 'Phishing' is?

What is the FIDO Alliance?

The FIDO Alliance is an open industry association with a focused mission:

Reduce the world's reliance on passwords

To accomplish this, the FIDO Alliance promotes the development, use and compliance with standards for authentication and device attestation.

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The FIDO Alliance works to fulfill its mission through…

Technical Specifications

Define an open, scalable, interoperable set of mechanisms that reduce the reliance on passwords

Industry Certification Programs

Ensure interoperability, security and usability of products, services and components

Market Adoption Programs

Promote the use of FIDO globally to drive adoption and education

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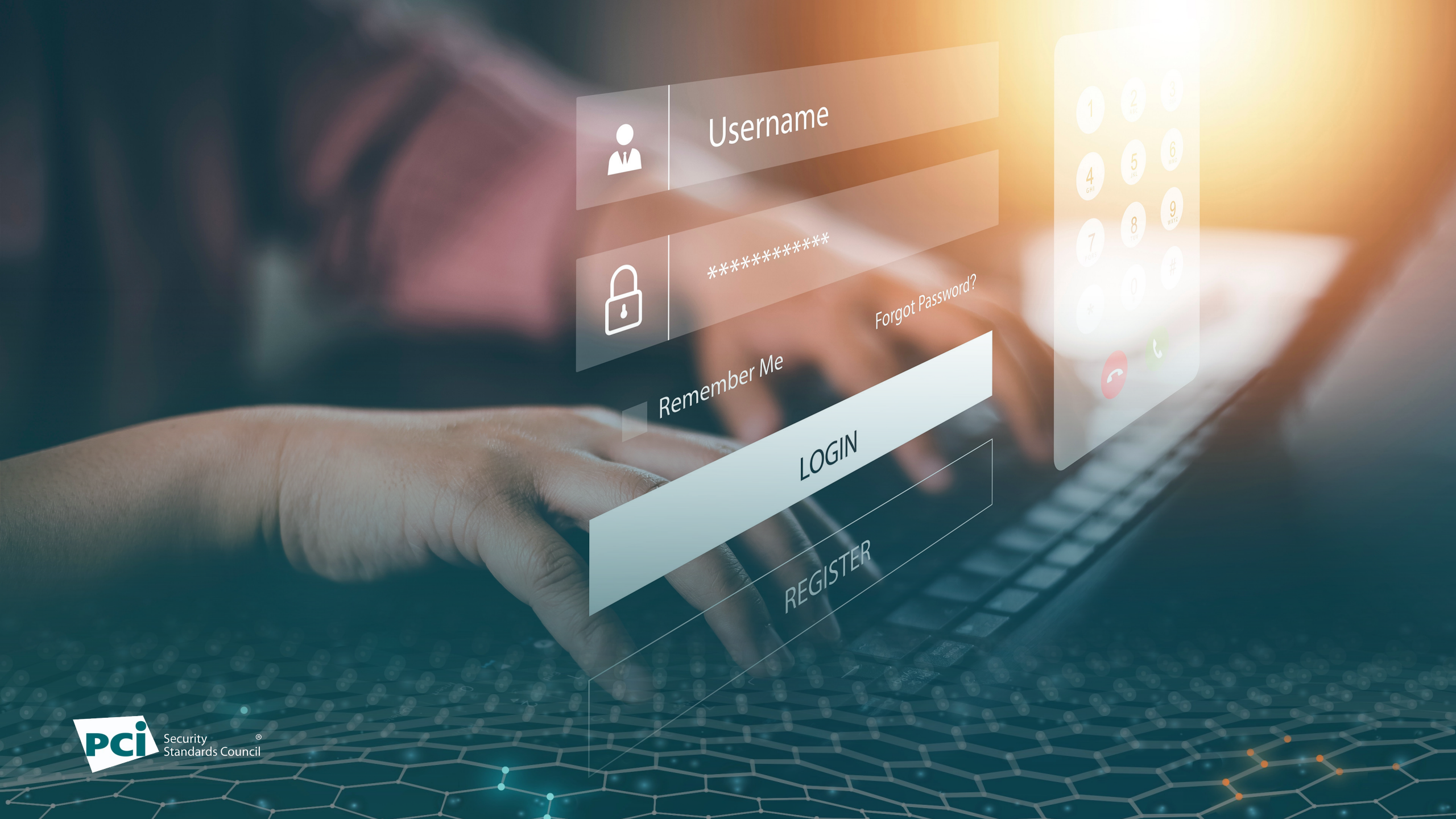
"On the Internet, nobody knows you're a dog."



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The Foundation of Authentication is Fundamentally Flawed

When our primary factor is passwords → and 2FA & MFA are no longer secure…

81%

of hacking-related breaches are caused by weak or stolen passwords

(Ping Identity)

43%

Gave up on a purchase because they forgot their password

(FIDO Alliance)

50%

Rise in MFA-related security events in Q1 2024, with 25% involving unauthorized push notifications.
(Thales)

64%

either use weak passwords or repeat variations of passwords

(Keeper)

Easily phished or socially engineered ▲ Difficult to use and maintain ▲ MFA can be hacked

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Generative AI adds fuel to the phishing fire

967%

Rise in credential phishing in particular since Q4 2022

(Slashnext)

1265%

Rise in malicious phishing emails since Q4 2022

(Slashnext)

54%

Of consumers have noticed phishing messages become more sophisticated in last 60 days

(FIDO Alliance)

Multi-Factor Authentication Example

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Attacking Authentication

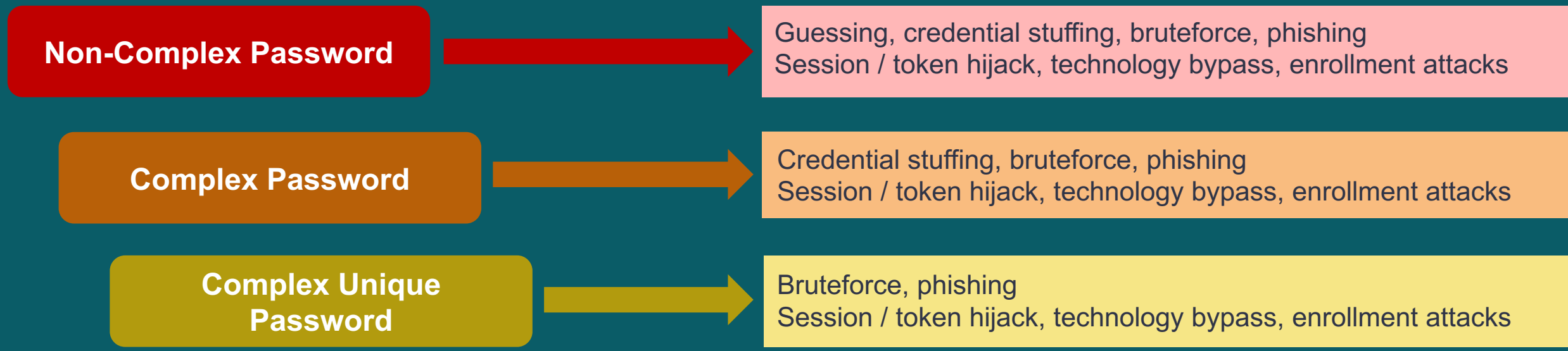
Non-Complex Password → Guessing, credential stuffing, bruteforce, phishing
Session / token hijack, technology bypass, enrollment attacks

Attacking Authentication

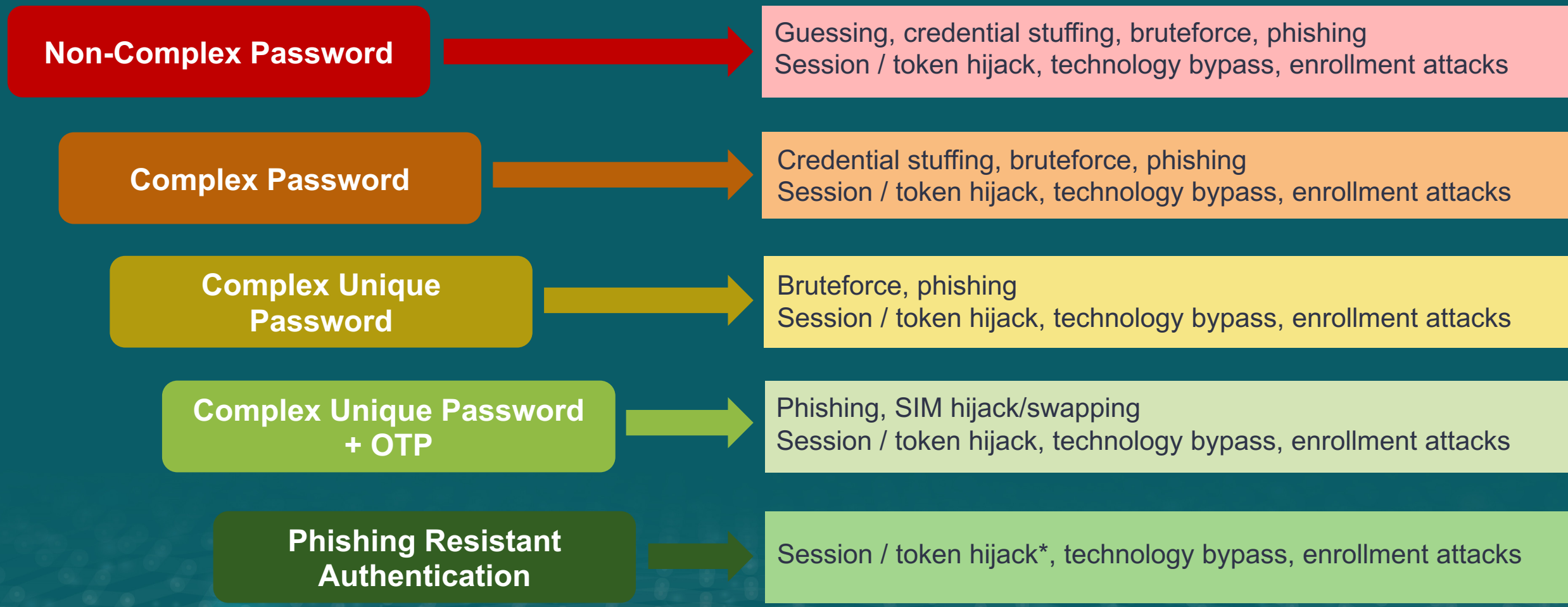
Non-Complex Password → Guessing, credential stuffing, bruteforce, phishing
Session / token hijack, technology bypass, enrollment attacks

Complex Password → Credential stuffing, bruteforce, phishing
Session / token hijack, technology bypass, enrollment attacks

Attacking Authentication



Attacking Authentication



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*Note: Device / session binding, ZTA can help with this

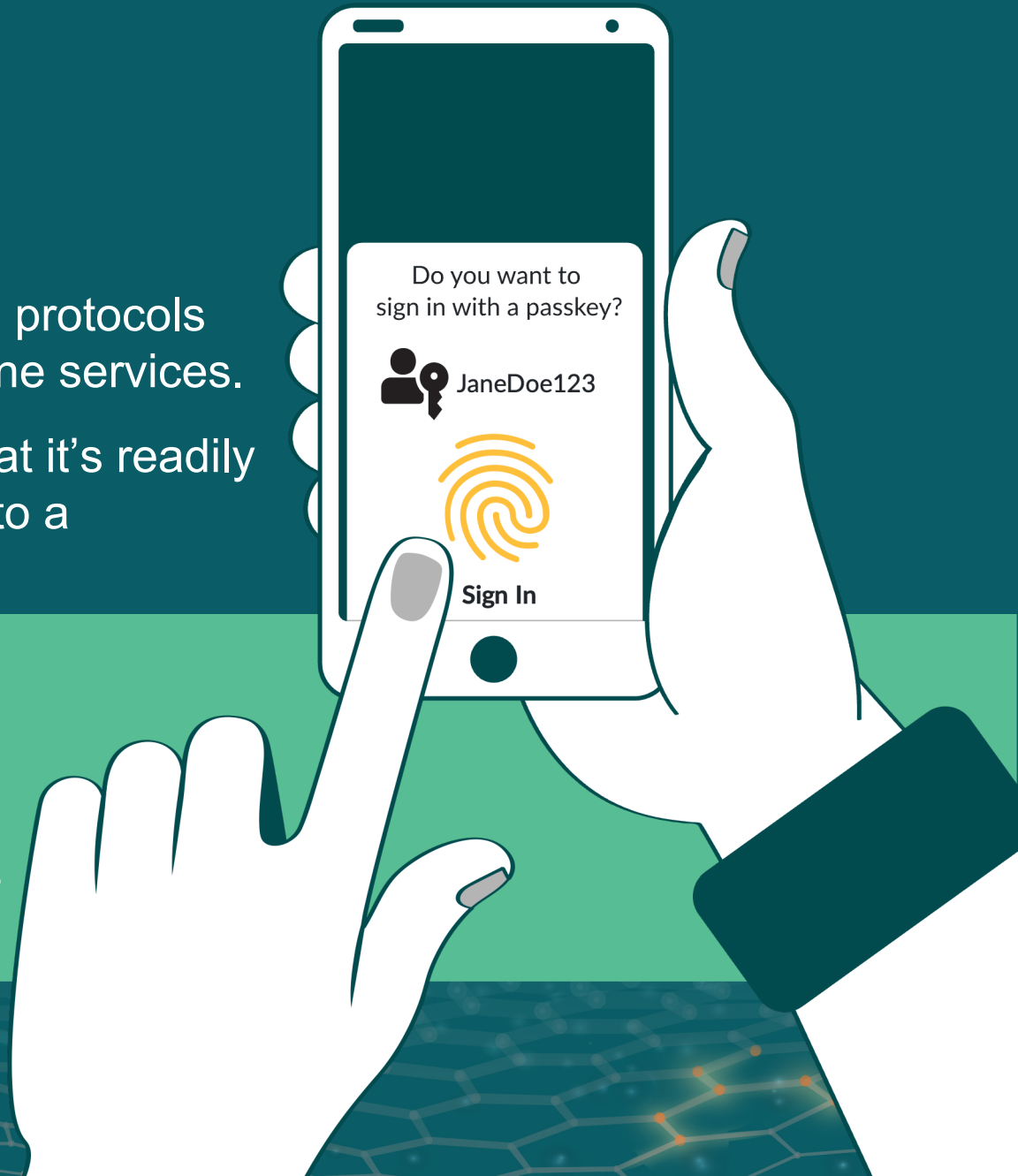
What is a Passkey?

Passkey

/’pas, kē/ noun

Passkeys are a password replacement based on FIDO protocols that provide faster, easier, more secure sign-ins to online services.

A passkey may be synced across a secure cloud so that it’s readily available on all of a user’s devices, or it can be bound to a dedicated device such as a FIDO security key.



4x simpler

Passkeys are 4x simpler to use since they don’t need to be remembered or typed. You just use your fingerprint, face scan, or screen lock to sign in across all your devices and platforms.

Source: Google

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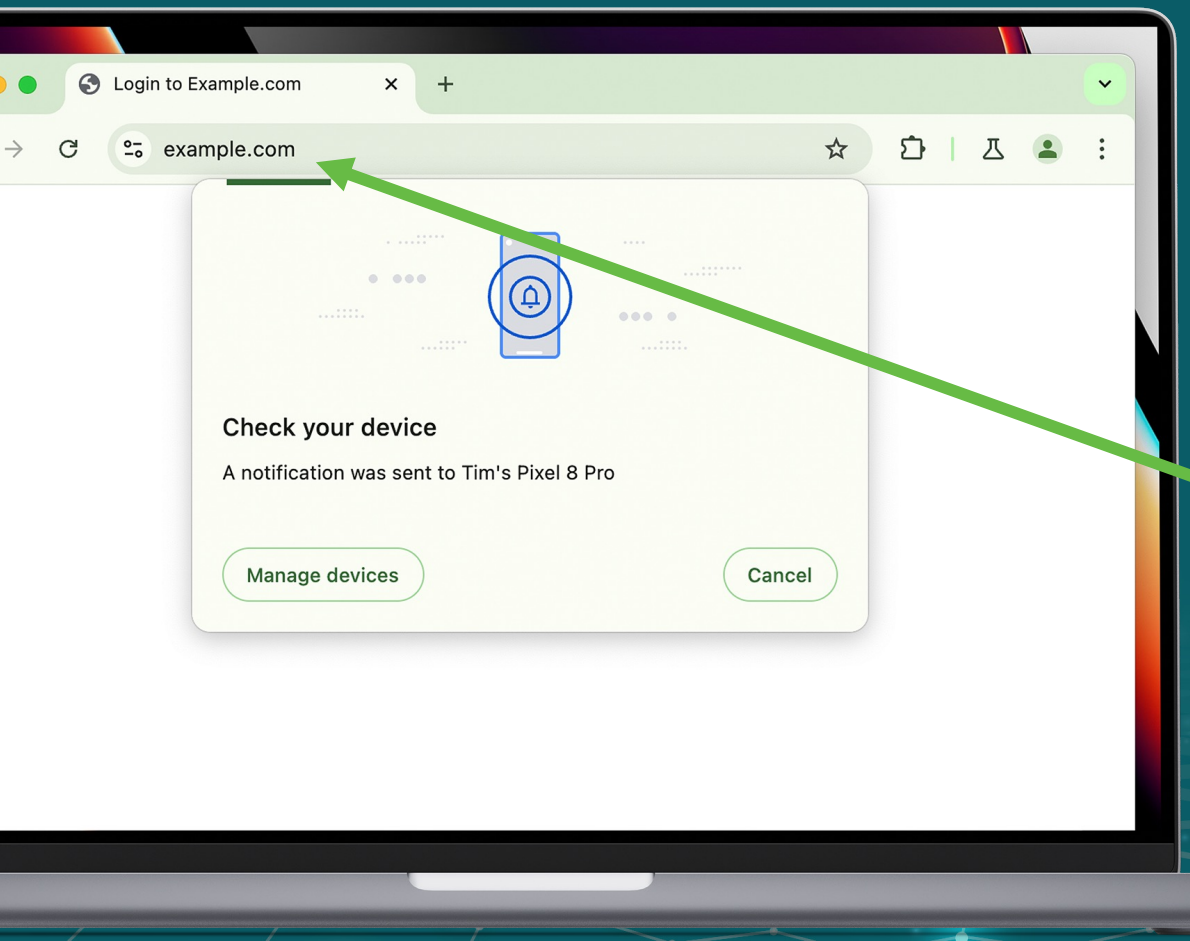
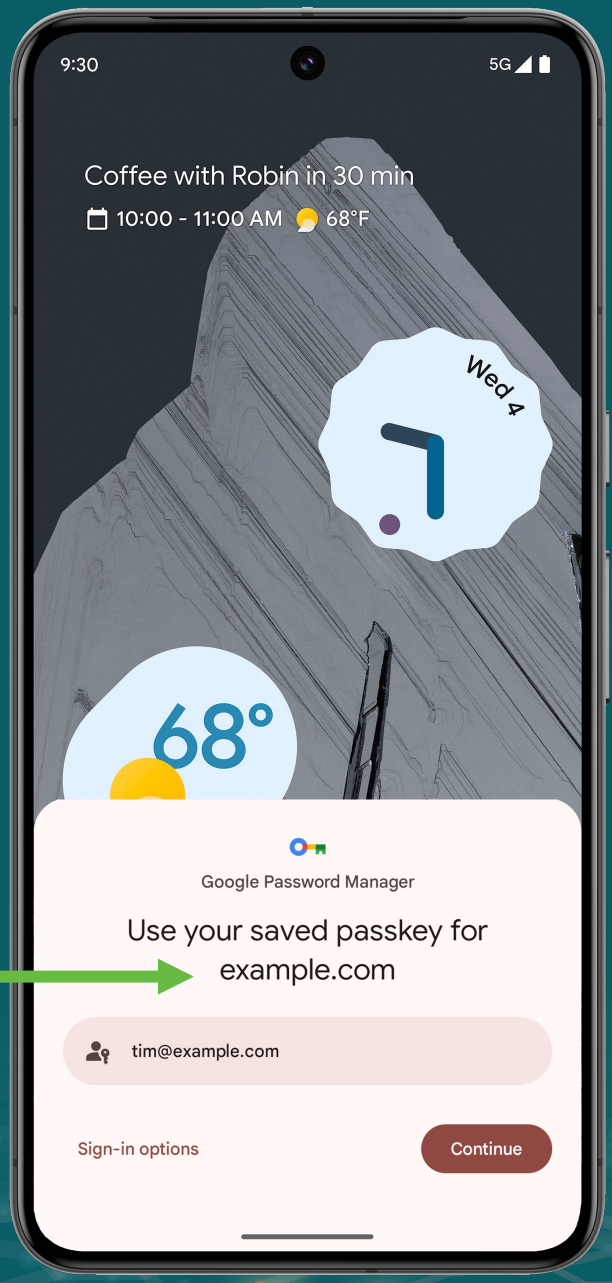
How Does Phishing Resistant Authentication Work?



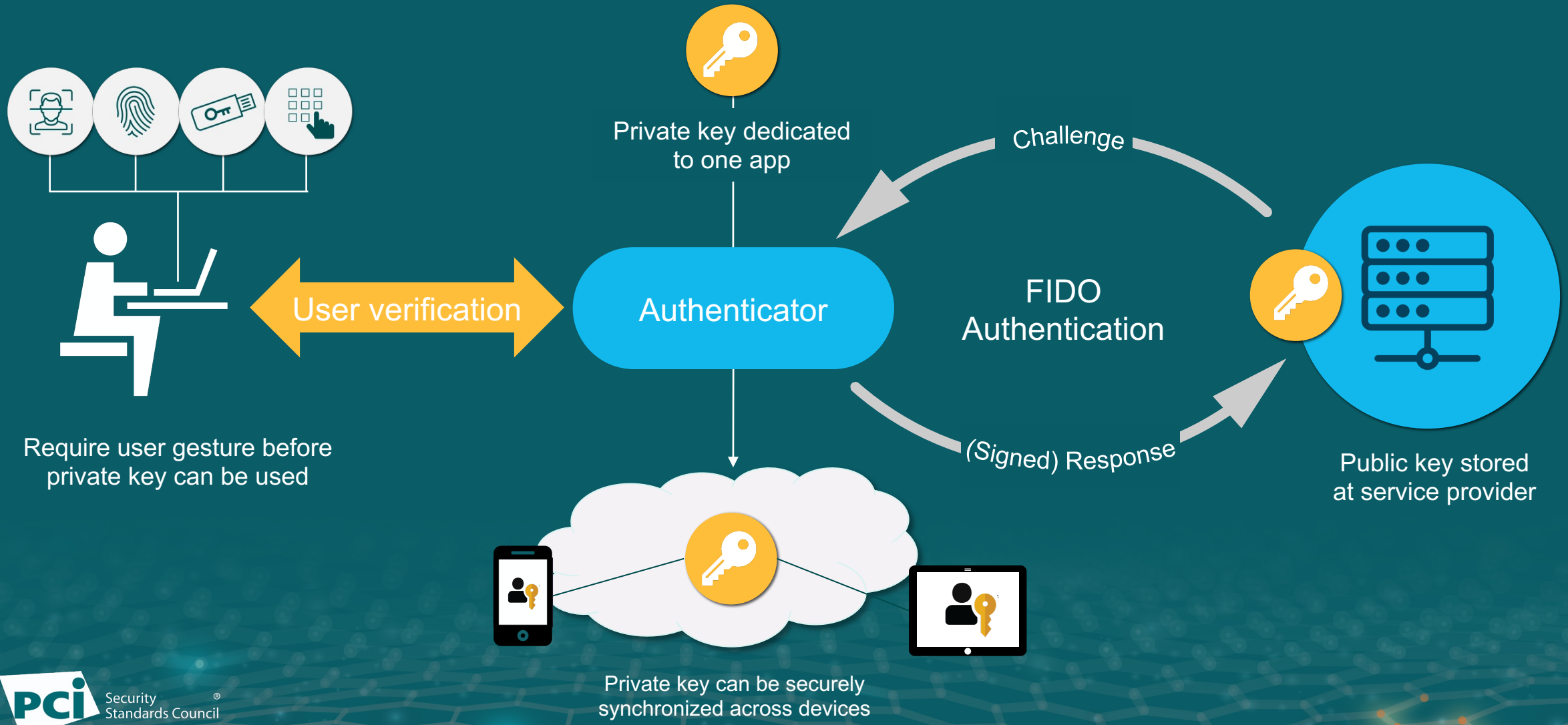
public key cryptography

name binding

(((proximity)))



Same Approach – With New Syncing Capabilities



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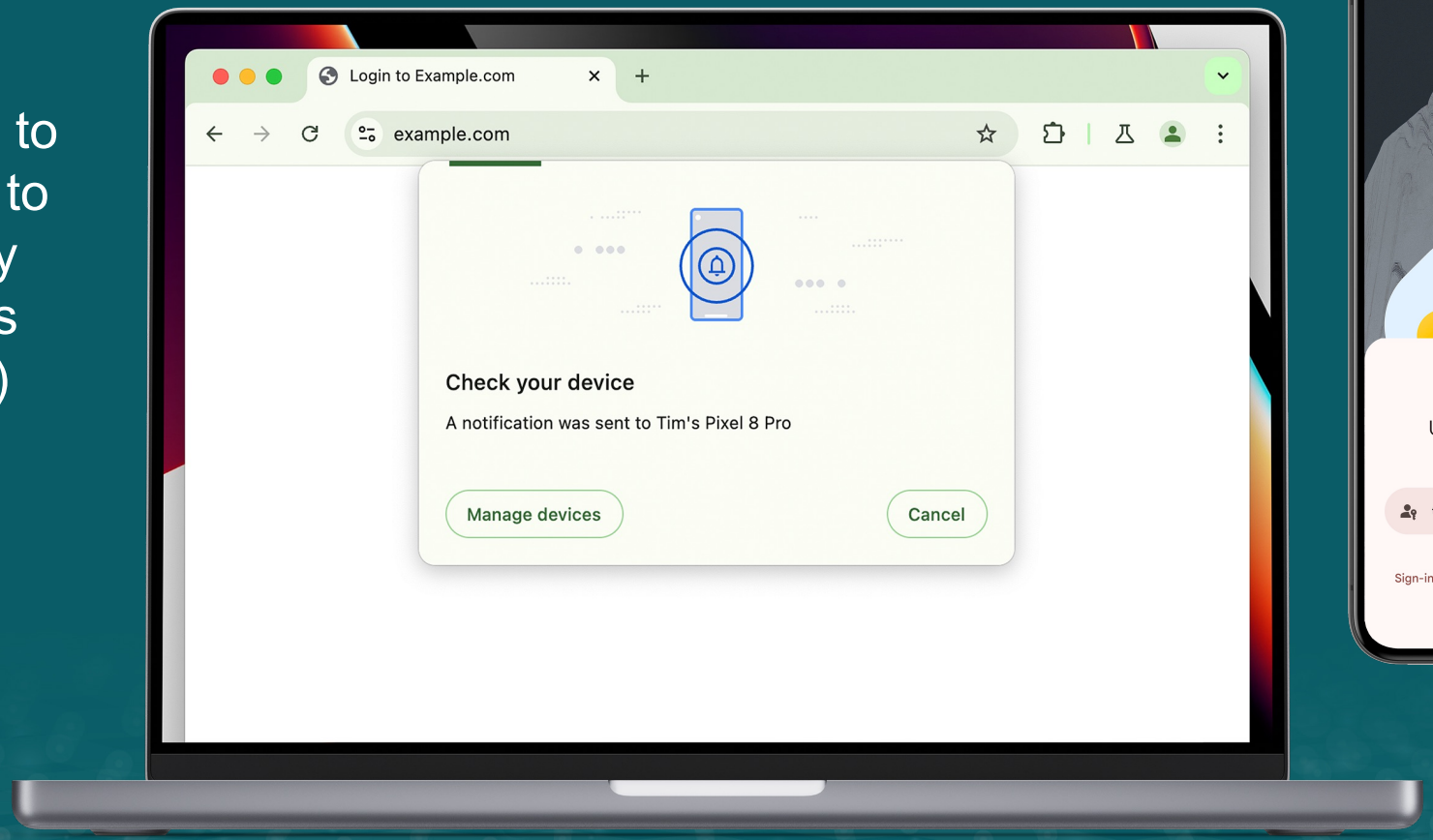
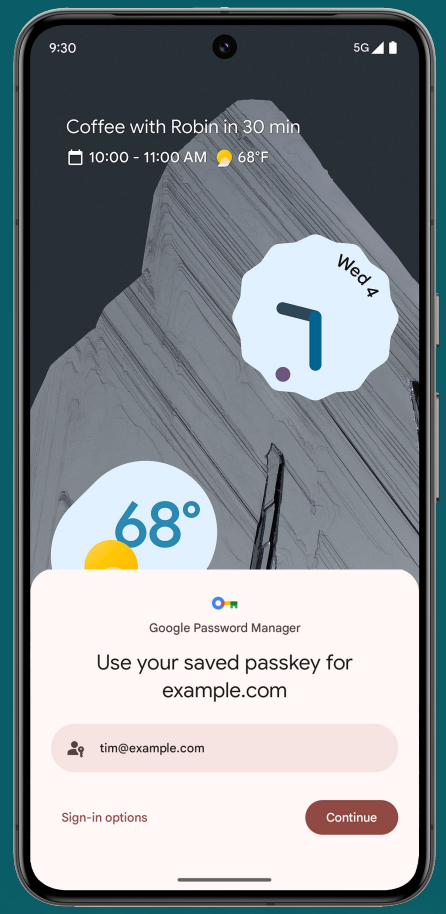
Cross-Device Authentication

Enables passkeys to be used to sign-in to services on nearby devices (as well as on primary device)





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Chrome on Windows

Firefox on Windows

Chrome on Android

Edge on Android

Apps on iOS

Safari on iOS

Chrome on Mac

Edge on Mac

Edge on Ubuntu

Chrome on iOS

Edge on iOS

Apps on Mac

Apps on Android

Chrome on Ubuntu

Safari on Mac

Edge on Windows

Available Today!

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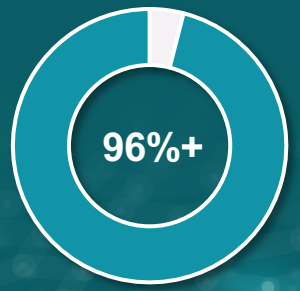
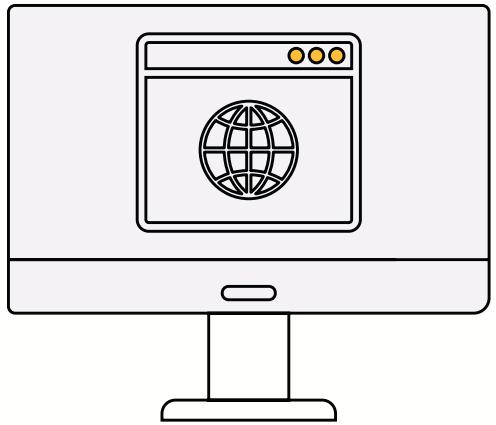
Passkey Adoption by the Numbers

(Since October 2022)

of the world's top
100 websites and services

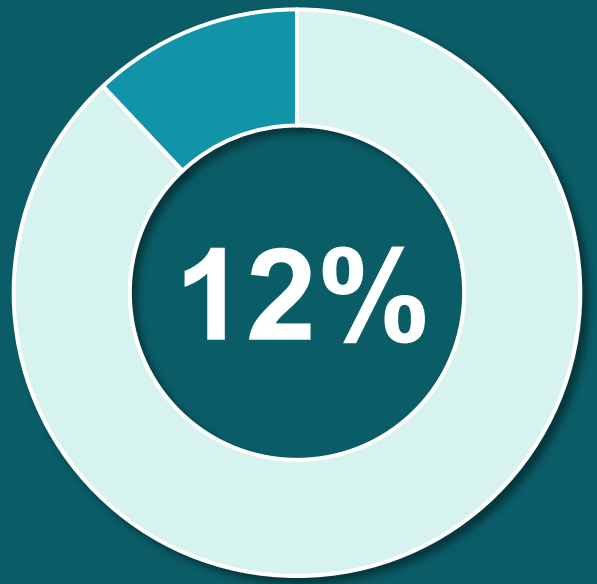


of active
browsers

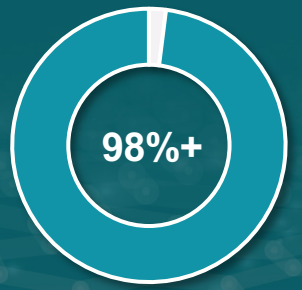


More than **13B**

accounts can now leverage
passkeys for sign in



of the world's top
250 websites and services



of mobile
devices

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Proven Success

TikTok

Within the first few months…

- 97% login success rate
- 14% eligible user adoption rate
- 2% reduction in SMS OTP login

mercari

- Sign-in success rate grew from 67.7% (SMS 2FA) to 82.5% — over a 21% improvement
- Authentication time decreased from 17s (SMS 2FA) to 4.4s – nearly 4x faster

Google

- 4x improvement in sign-in success rate (vs passwords)
- ½ the sign-in time
- 400M+ accounts have used passkeys
- 1B+ sign-ins with passkeys

AIR NEW ZEALAND

- 30% opt-in in first 24 hours
- 4.7x improvement time to complete & improvement in success rate
- 50% reduction in abandonment rates
- Reduced account recovery calls and call center attacks

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PCI DSS and Phishing-Resistant Authentication

PCI DSS Requirement	Interpretation
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It is *NOT* a requirement of PCI DSS that all factors are authenticated prior to indication of success of any one factor

Recommendations

- 12-character password requirements are coming (April 2025)
- MFA for all non-console access is coming (April 2025)
- Ideally, replace passwords with phishing-resistant authentication where you can (then no need to worry about 12-character passwords or MFA for non-admin access!)
- Secure your enrollment and authentication reset processes
- Consider the security around your authentication – enrollment, reset, auth tokens, OTP delivery
- Most auth uses cryptography, so keep PCI DSS 12.3.3 in mind!

Where Do I Find Out More?

fidoalliance.org/passkeys

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Thank you!

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