



EXPERIMENTAR SENCILLO, AUTENTICACIÓN FUERTE

¿Quién es el Gringo?

- John Bradley
- Yo trabajo en la Oficina CTO de Ping Identity
- Yo soy un autor de OAuth y OpenID Connect
- Yo vivo en Santiago de Chile
- En palabras de mi esposa “Hablar Inglés por favor”

Data breaches are out of control

Anthem now says 78.8M were affected by breach



MORE LIKE THIS

-  Health insurer Anthem discloses customer and employee data breach
-  State-sponsored China hackers suspected in breach
- U.S. states want Anthem to provide quickly to customers
- in [DG Answers](#) → Mitt Romney thinks we need more do you agree?

Simplify IT with the Cisco Unified

JPMorgan Chase Hacking Affects 76 Million Households

by JESSICA SILVER-GREENBERG, MATTHEW GOLDSTEIN and NICOLE PERLROTH | OCTOBER 2, 2014 12:50 PM | 528 Comments



Target Now Says 70 Million People Hit in Data Breach

Neiman Marcus Also Says Its Customer Data Was Hacked

Email Print 71 Comments     

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by PAUL ZIOBRO and DANNY YADRON [CONNECT](#)

Updated Jan. 10, 2014 8:30 p.m. ET



IN 2014...

708 data breaches

82 million

personal records stolen

\$3.5 million

average cost per breach

Enter your login information:

User name:

Password:

OK Cancel

We have a **PASSWORD PROBLEM**

TOO MANY TO REMEMBER,
DIFFICULT TO TYPE,
AND **TOO VULNERABLE**



Re-used



Phished



Keylogged

🔒 Password

Remember me

[Forgot your password?](#)

LOGIN

Adding more authentication
has largely been **rejected by users**

ONE-TIME PASSCODES

Improve security but aren't easy enough



SMS
Reliability




Token
Necklace



Poor User
Experience

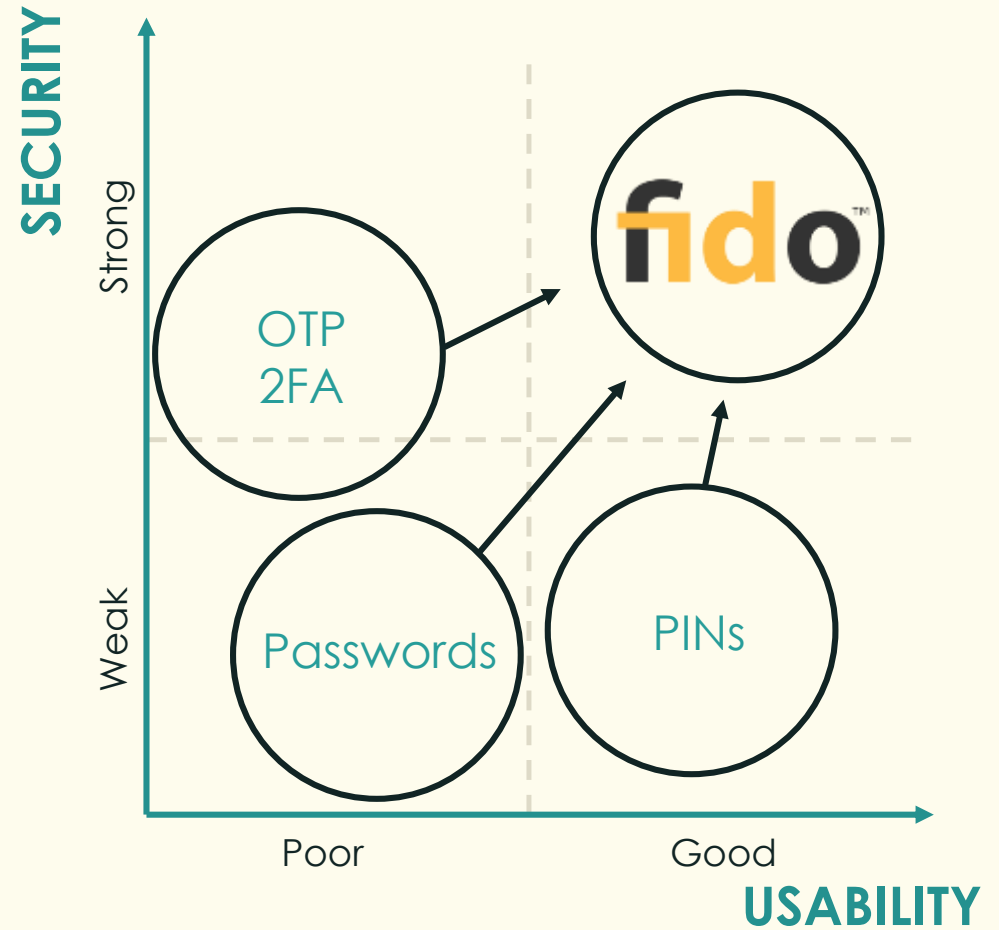


Still
Phishable



WE NEED A
NEW MODEL
Fast **ID**entity **O**nline

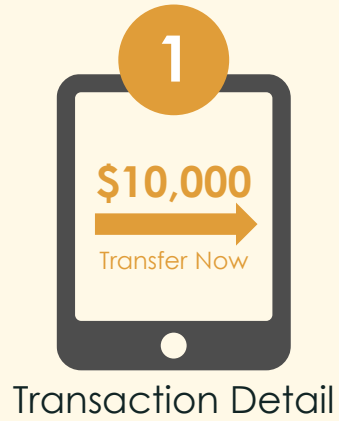
THE FIDO PARADIGM



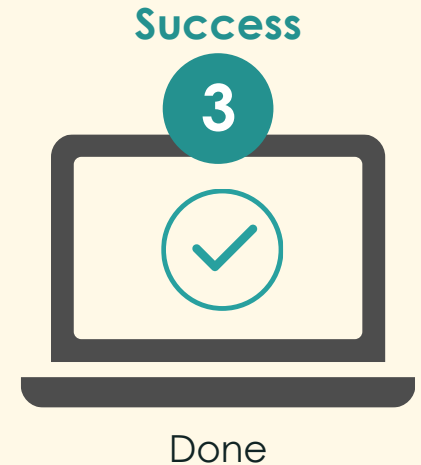
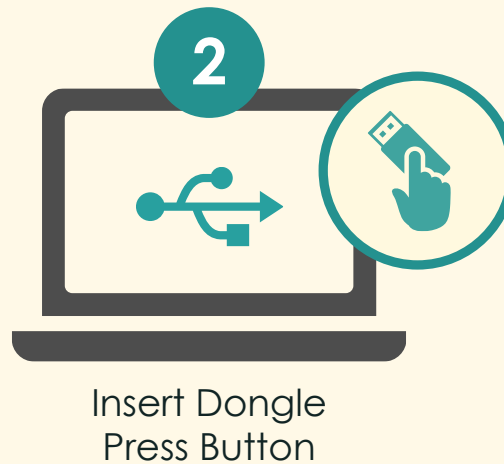
HOW DOES FIDO WORK?



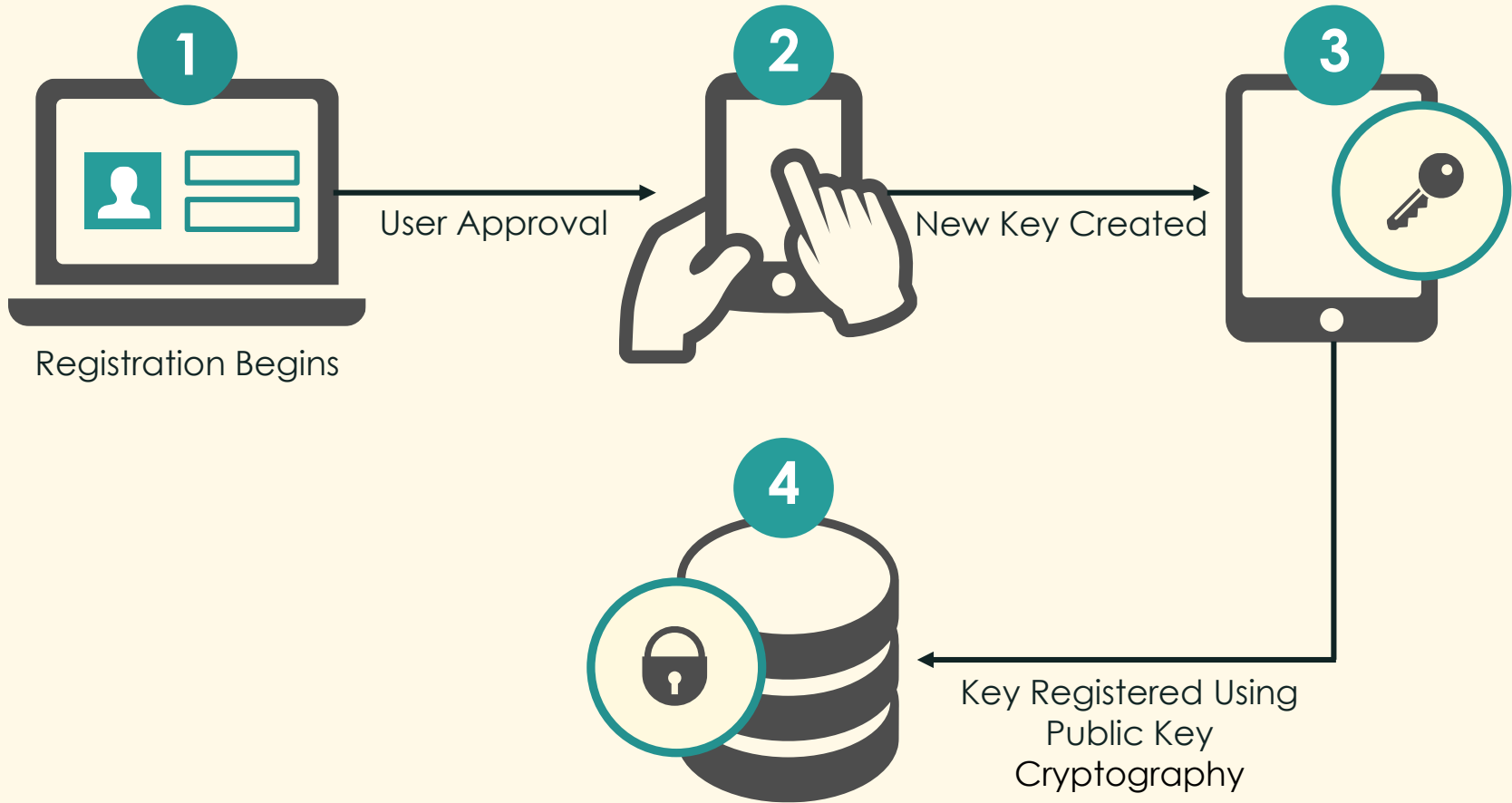
Passwordless Experience (FIDO UAF Standards)



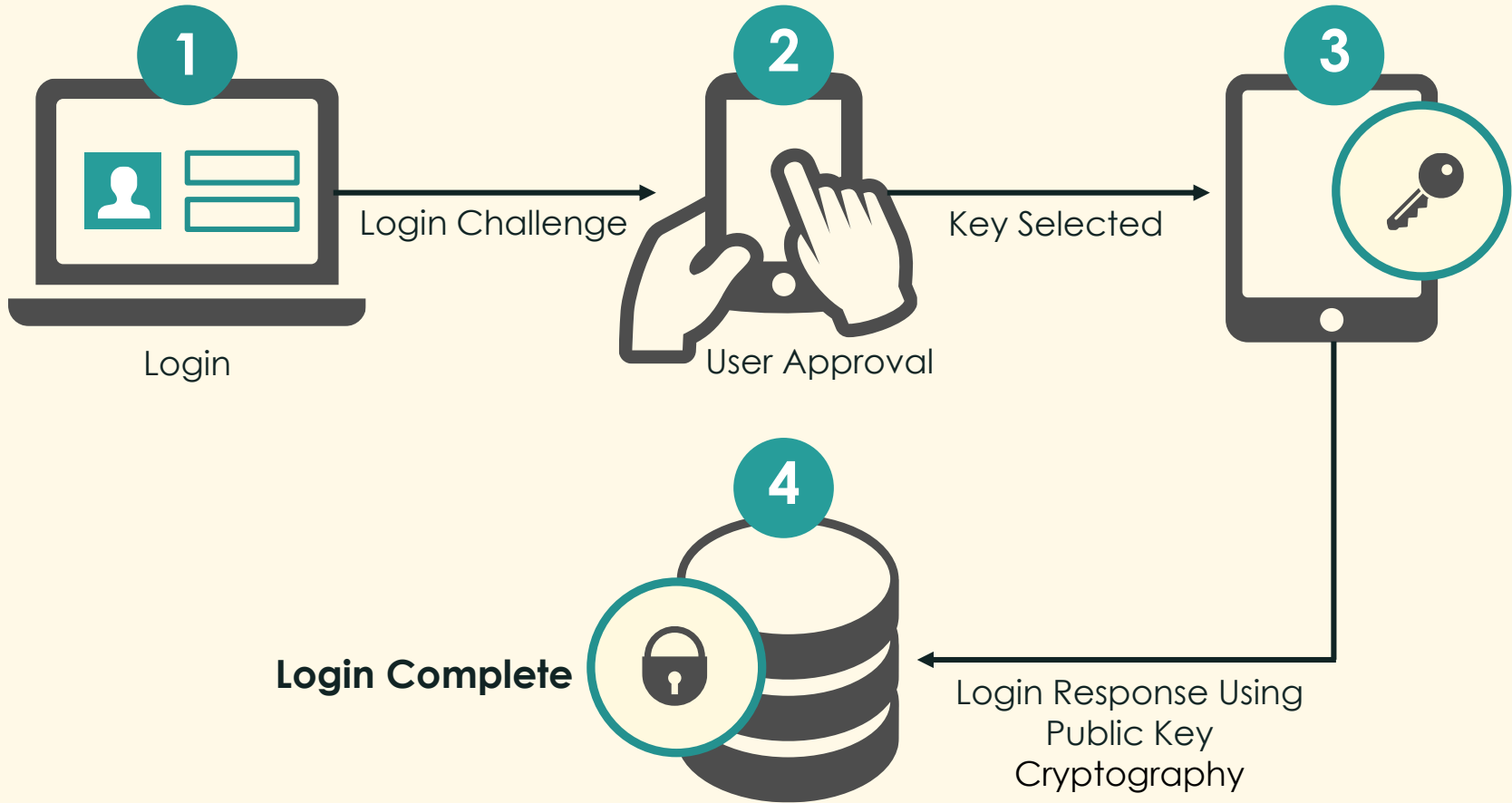
Second Factor Experience (FIDO U2F Standards)



FIDO Registration



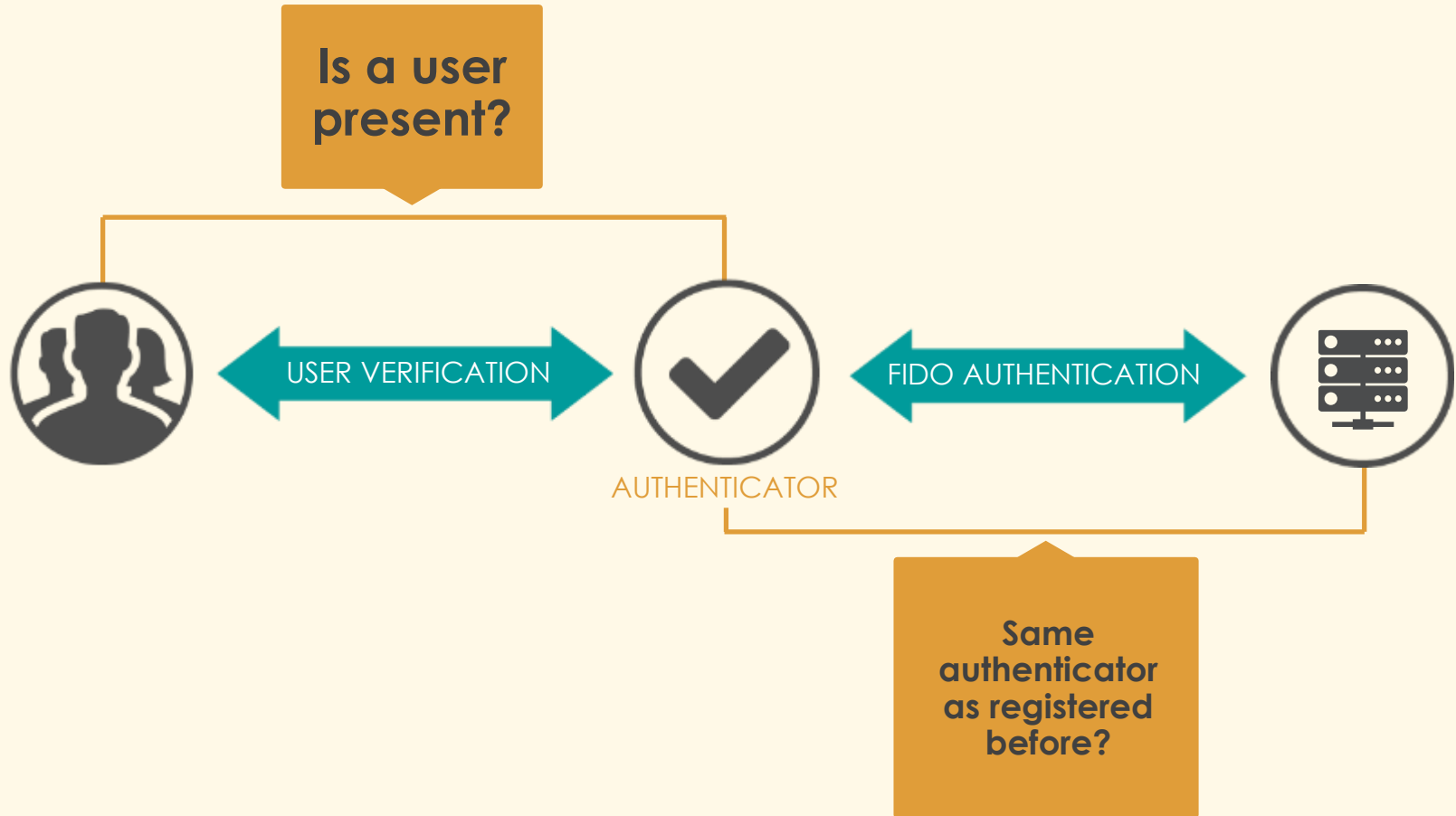
FIDO Login





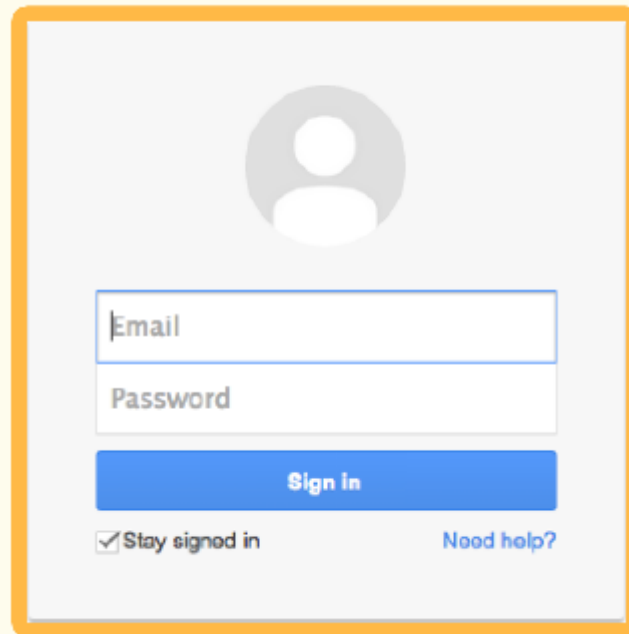
Online authentication using **public key cryptography**


FIDO UNIVERSAL 2ND FACTOR



Step 1

U2F AUTHENTICATION DEMO EXAMPLE





Email

Password

Sign In

Stay signed in

[Need help?](#)

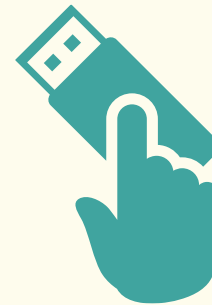
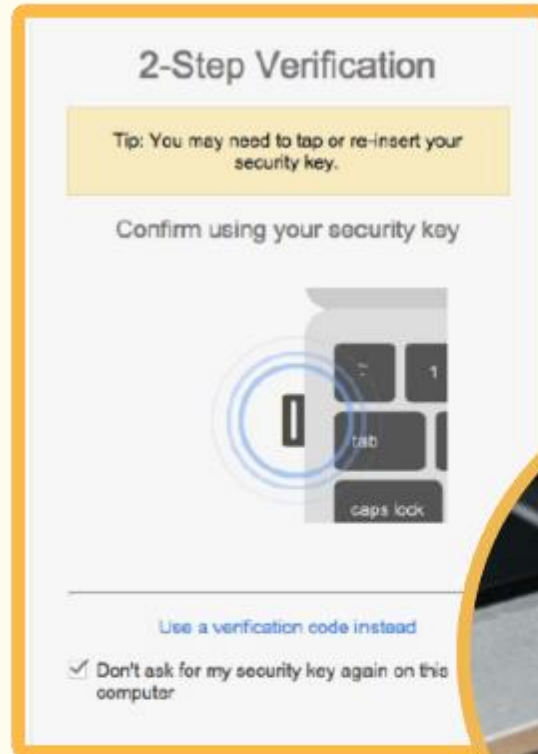
Step 2

U2F AUTHENTICATION DEMO EXAMPLE



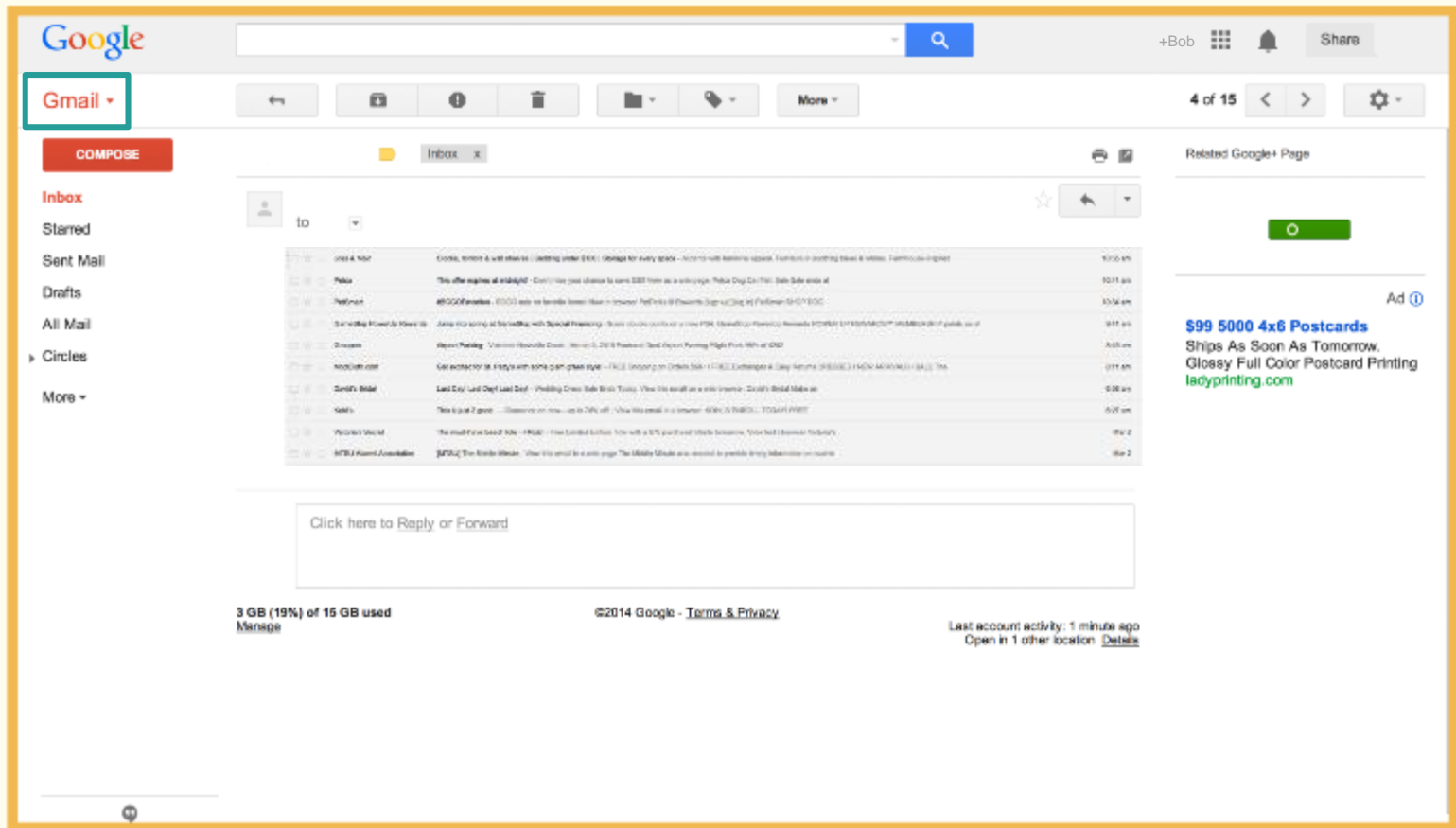
Step 3

U2F AUTHENTICATION DEMO EXAMPLE

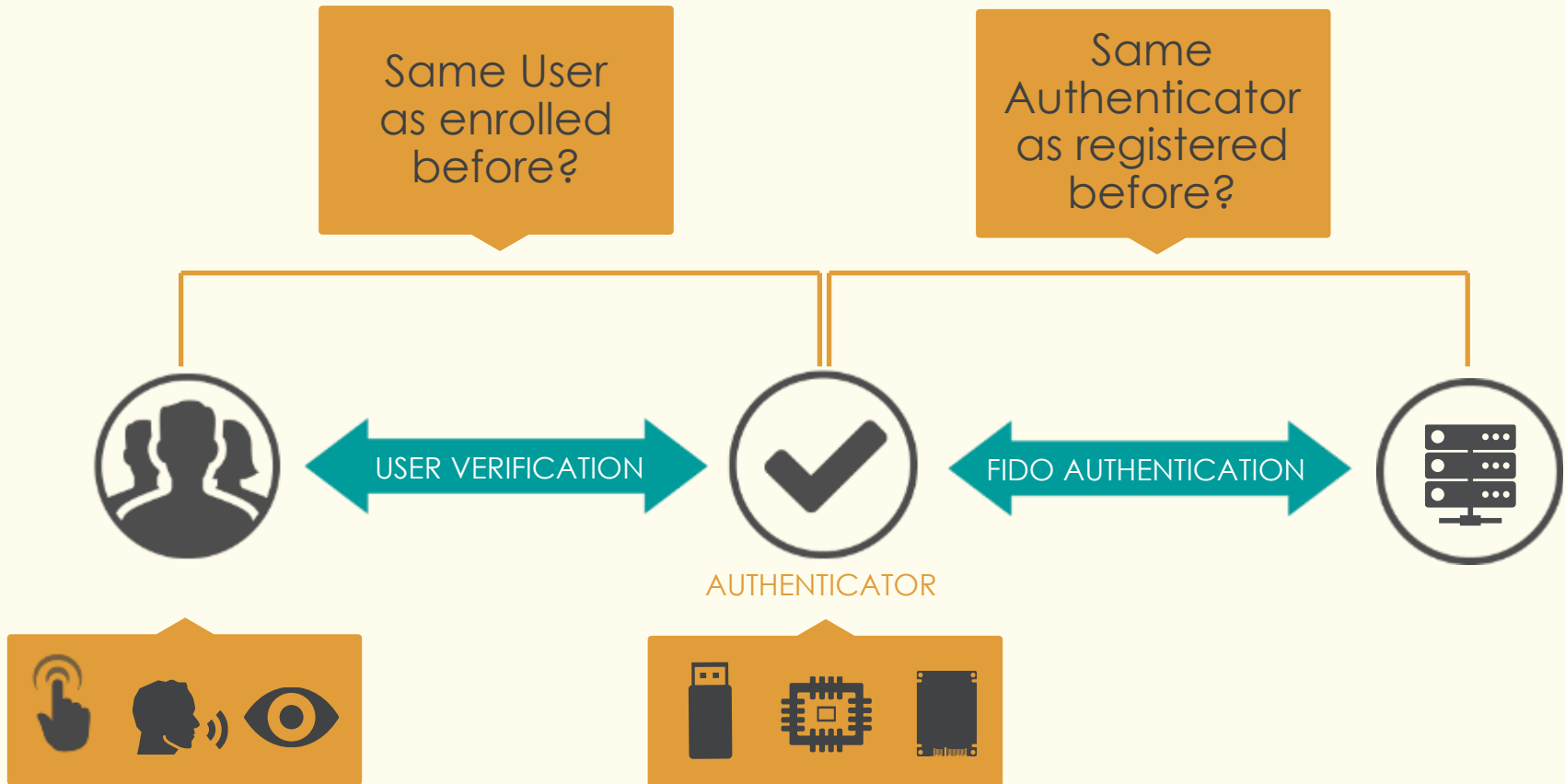


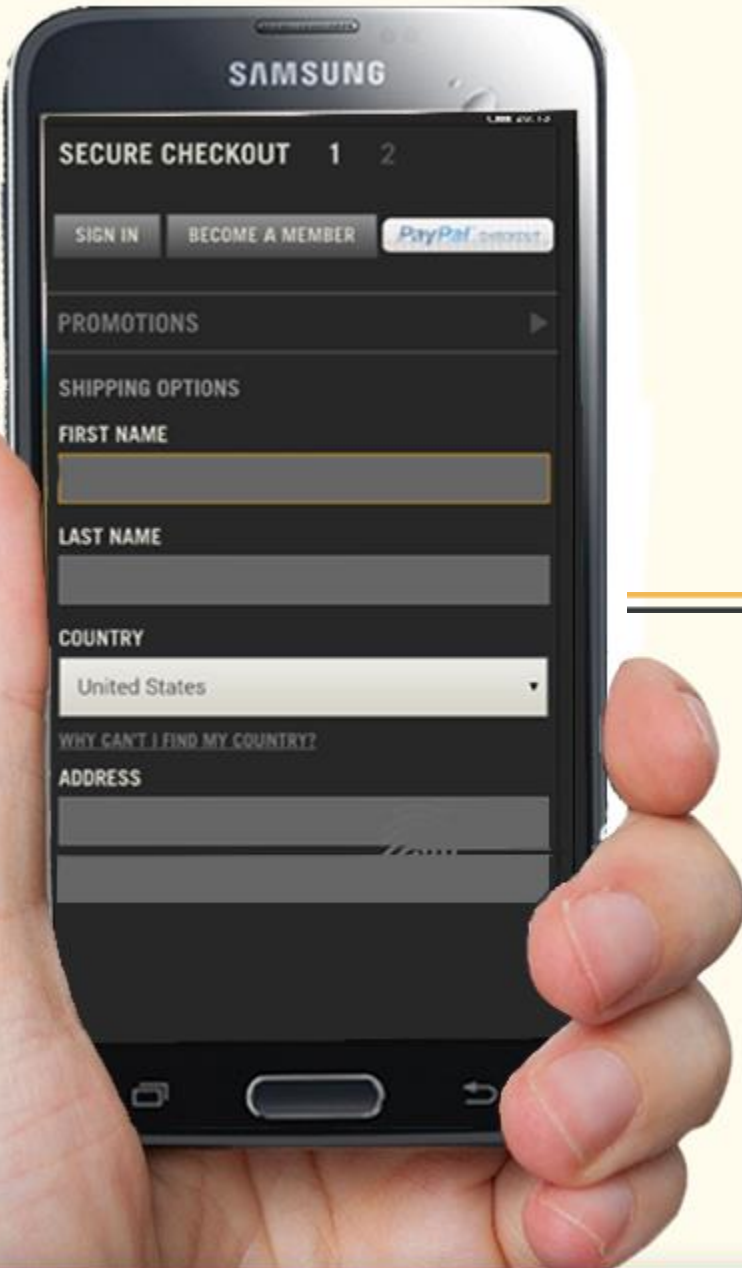
Step 4

U2F AUTHENTICATION DEMO EXAMPLE



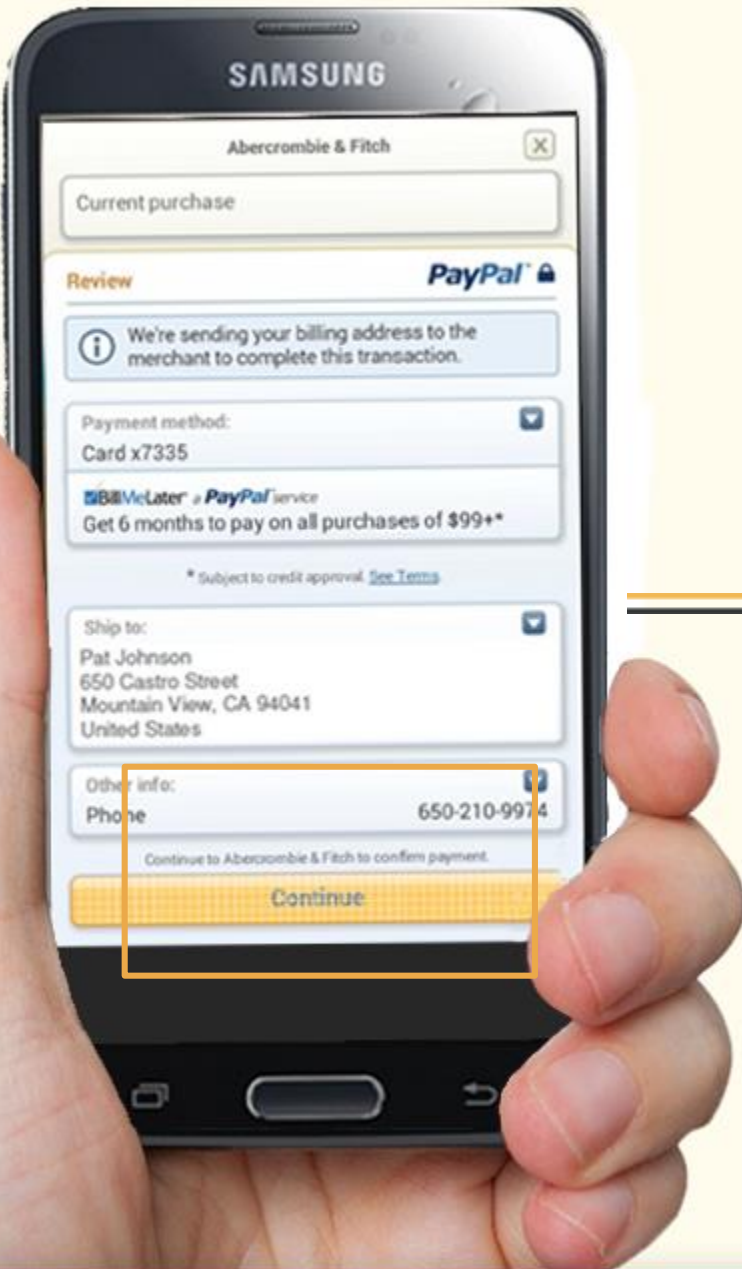
FIDO UNIVERSAL AUTHENTICATION FRAMEWORK (UAF)





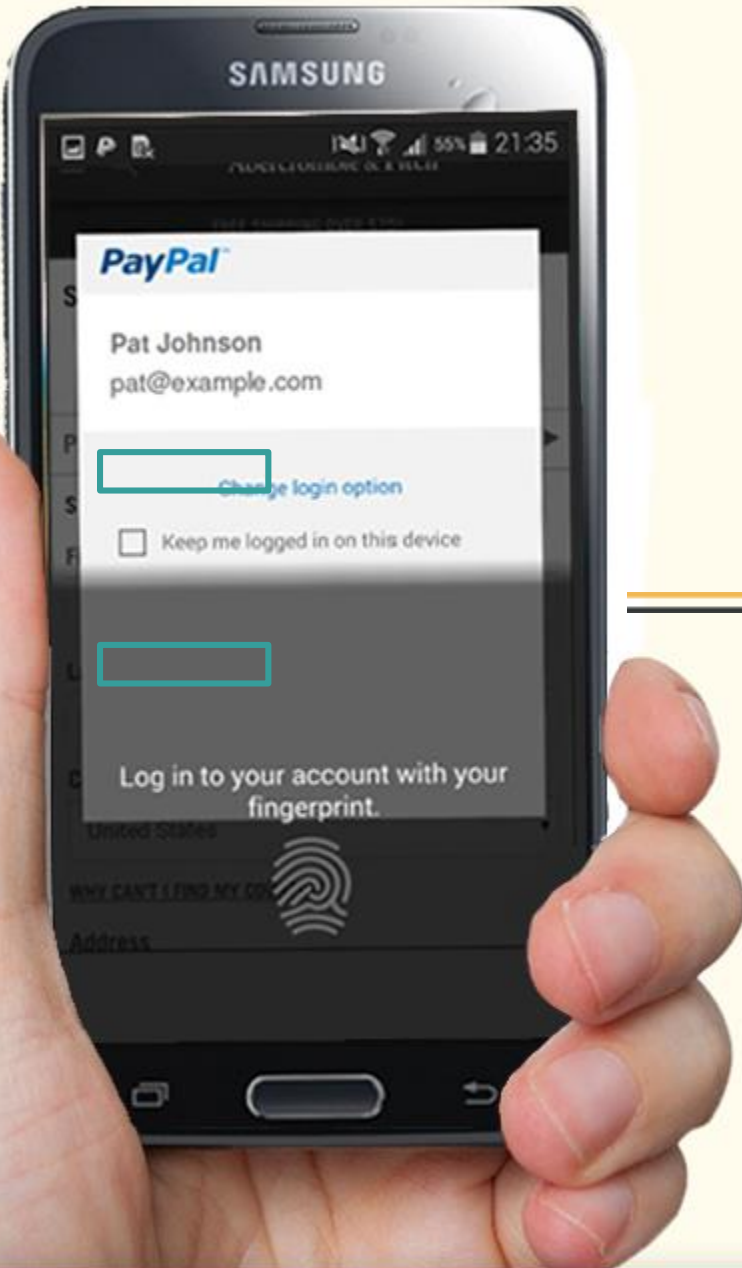
STEP 1

UAF AUTHENTICATION DEMO EXAMPLE



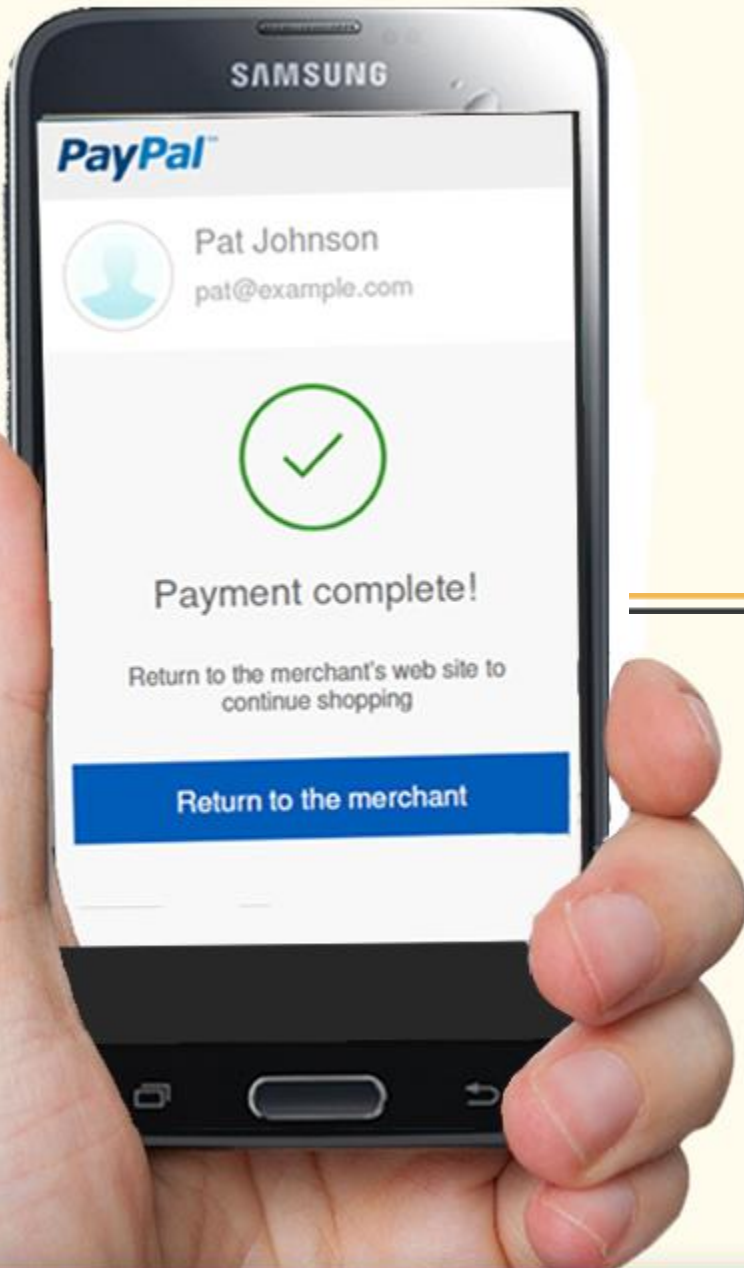
STEP 2

UAF AUTHENTICATION DEMO EXAMPLE



STEP 3

UAF AUTHENTICATION DEMO EXAMPLE



STEP 4

UAF AUTHENTICATION DEMO EXAMPLE



USABILITY, SECURITY
and
PRIVACY



No third party in the protocol



No secrets on the server side



Biometric data (if used) never leaves device



No link-ability between services or accounts

A man in a server room looking at a rack of servers. The room is dimly lit with blue and orange lights. The man is wearing glasses and a dark shirt. The server racks are filled with equipment and have blue lights on them.

— Better security for **online services**

— Reduced cost for the **enterprise**

— Simple and safe for **consumers**

A group of four business professionals (three men and one woman) are seated around a conference table in a meeting. They are dressed in professional attire (suits and blouses). The man on the right is speaking and gesturing with his hand. The woman in the center is looking towards him. The man in the middle is looking towards the woman. The woman on the left is looking towards the man in the middle. There are papers, a pen, and a glass of water on the table.

The FIDO Alliance is an open association of more than 200 diverse **member organizations**

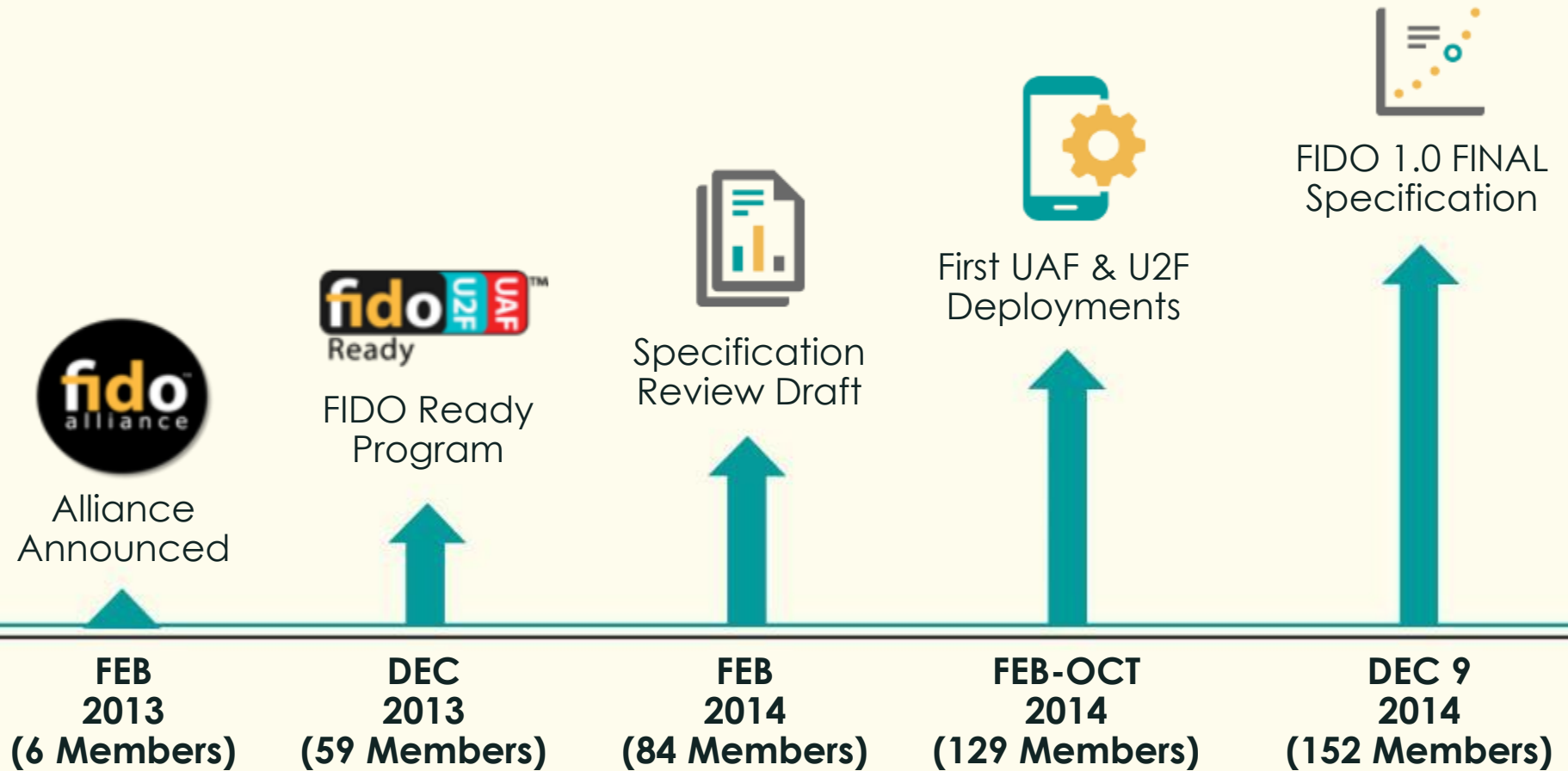
- ✓ Online Services
- ✓ Chip Providers
- ✓ Device Providers
- ✓ Biometrics Vendors
- ✓ Enterprise Servers
- ✓ Platform Providers



Board Members



FIDO TIMELINE



A woman with dark curly hair, wearing a white short-sleeved shirt, is sitting and looking at a laptop screen. The background is blurred, suggesting an office or home workspace. The image has a dark teal overlay with a white dot pattern.

A range of
FIDO PRODUCTS
are now available

Online Services



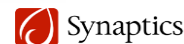
Chip Providers



Device Providers



Biometrics Technology Providers



Implementing 1.0 Specifications (this is only a subset of active implementations)

Enterprise Servers



Open Source



Mobile Apps/Clients



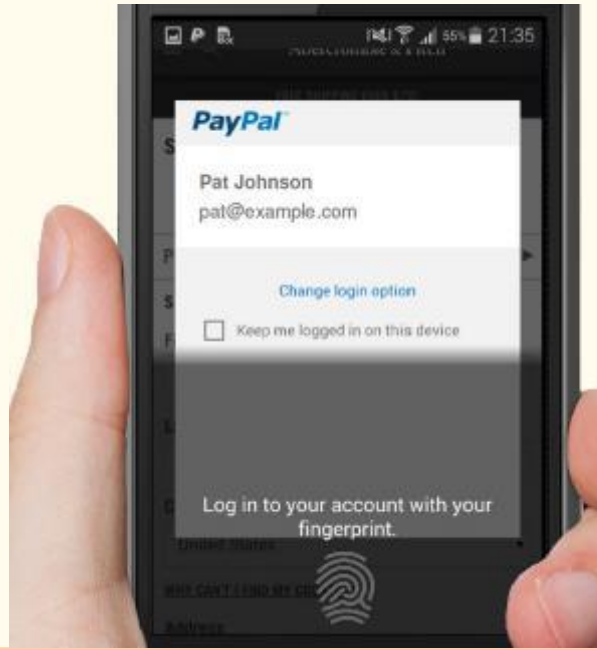
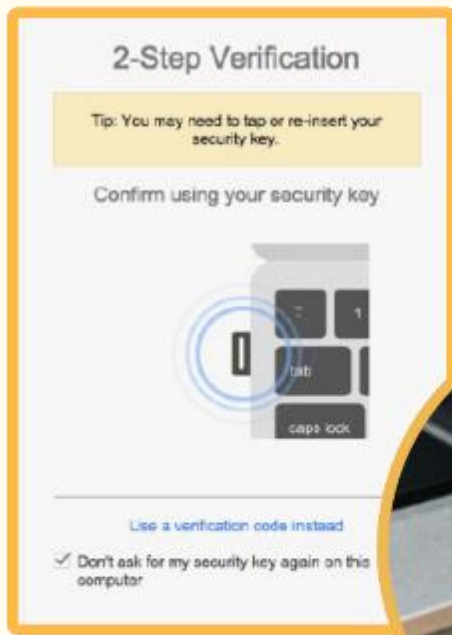
WWW Browsers



- ✓ **PayPal** continues FIDO enablement in improved mobile wallet app.
- ✓ **Google** has FIDO in Chrome and 2-Step Verification.
- ✓ **Samsung** adds FIDO enabled Touch authentication to Galaxy® S6



2014 Deployments





FIDO in 2015

The significance of early 2015 announcements

- ✓ Windows used by 1.5 billion users
- ✓ Windows 10 in 190 countries by Q3
- ✓ Free upgrade for consumer

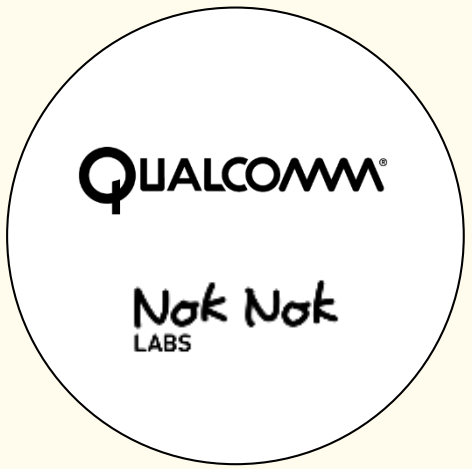


FIDO in Windows 10

A screenshot of a news article from The Verge. The article title is "Windows Hello lets you sign into Windows 10 devices with your face or finger". The author is Tom Warren, dated March 17, 2015. The article is categorized under "MICROSOFT" and "TECH". The page also shows navigation links like "LOG IN | SIGN UP" and "LONGFORM | VIDEO | REVIEWS | TECH | SCIENCE | ENTERTAINMENT | DESIGN | BUSINESS | US & WORLD | F".

A screenshot of the Windows website. The header includes the Windows logo and "Windows" text, with navigation links for "HOME | BLOGS | VIDEOS | WINDOWS.COM | NEWSROOM". The main heading is "Windows For Your Business". The article title is "Microsoft Announces FIDO Support Coming to Windows 10". The author is Dustin Ingalls, dated February 13, 2015, with "PC" and "6 Comments" tags.

- ✓ Market leader to ship FIDO client
- ✓ 85+ OEMs as of Q4
- ✓ >1 billion Android devices shipped
- ✓ Innovative sensor



This is a screenshot of a ZDNet article. At the top left is the ZDNet logo. Below it is a navigation bar with links for 'White Papers', 'Hot Topics', 'Downloads', 'Reviews', and 'Newsletters'. A secondary navigation bar includes 'US Edition', 'Security', 'Data Center', 'Research', 'Windows', 'IoT and Big Data', and 'Storage'. The main headline reads 'Qualcomm launches Snapdragon fingerprint scanning technology'. Below the headline is a summary: 'Summary: Based on government-grade technology, Qualcomm's Snapdragon Sense ID is said to go far beyond current biometric scanners.' The article is attributed to Charlie Osborne for 'Between the Lines' and dated March 2, 2015. There are social media follow buttons for @ZDNetCharlie and a link to get the ZDNet Insights newsletter.

Qualcomm Snapdragon

Produced	From 2008 to 2015
Designed by	Qualcomm
Instruction set	ARM
Microarchitecture	Cortex-A8 / Cortex-A15
Cores	1/2/4
Application	Mobile SoC

This is a screenshot of a Forbes article. The top navigation bar includes 'Most Popular', 'Lists', 'Video', 'Subscribe to Forbes', and a search box. The main headline is 'Qualcomm Is The No.1 Player In The The Global Baseband & Application Processor Market'. The text below the headline states: 'Qualcomm is currently the leader in the global cellular baseband chip market as well as the smartphone applications processor market, with a 64% and 51% share in the two segments, respectively. According to research firm Strategy Alalytics, LTE basebands'.

FIDO in Snapdragon

- ✓ First healthcare deployment
- ✓ Physician access to health records up to 50 million Healthcare users



FIDO in Healthcare

CNN Money Business Markets Tech Personal Finance Small Business Luxury stock tickers

FIDO Alliance Members MedImpact and Nok Nok Labs to Deliver FIDO Authentication to Physicians, an Industry First for Healthcare
 March 23, 2015: 10:00 AM ET

The FIDO (Fast IDentity Online) Alliance (https://www.fidoalliance.org/), an industry consortium launched in 2013 to revolutionize online security with open standards for simpler, secure authentication systems and Nok Nok Labs enable physicians who need FIDO authentication for FIDO authentication of physicians of the industry and in Treiman, FIDO authentication with FIDO authentication and FIDO authentication. MedImpact is the nature of FIDO.

MedImpact MedImpact Direct Client Member P...

Home PBM Solutions Market Solutions Company **Newsroom**

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Press Releases
 Events
 Publications
 Experts
 Industry Resources
 Multimedia

Press Releases
 View new and archived corporate press releases.

← **MedImpact First in Healthcare to Deploy FIDO Authentication, with Nok Nok Labs Enabling Physician Access Portal**

National PBM to Provide FIDO Authentication for up to 50 Million Healthcare Consumers

San Diego—March 23, 2015

- ✓ **Google for Work** announced Enterprise admin support for FIDO® U2F “Security Key” – April 21
- ✓ Google for Work is used by over 5 million businesses worldwide
- ✓ “The Security Keys are a great step forward, as they are very practical and more secure.” – Woolsworth IT



FIDO in Enterprise

The Key for working smarter, faster and more securely

Posted: Tuesday, April 21, 2016

Posted by Eran Feigenbaum, Director of Security, Google for Work

It's easier than ever to share ideas across the world. But as technology keeps advancing to connect us, so do the techniques of those with bad intentions. The number of records breached in 2014 was staggering; weak usernames and passwords remain the leading cause. The introduction of 2-Step Verification added a layer of security for your Google Account, but we knew more could be done.

That's why Google, working with the FIDO Alliance standards organization, developed the Security Key — an actual physical key used to access your Google Account. It sends an encrypted signature rather than a code, and ensures that your login cannot be phished. And using this key saves you time — when you need to verify your Google Account on a Chrome browser, the key's light will flash. Just tap it and the signature sends automatically. In fact, when we rolled the Security Key out to Googlers last year, they loved that it was so much faster than when they had to enter a code.

New Google Apps controls to manage Security Keys
Businesses like Yelp and Woolworth's started piloting the Security Key at work and have been looking for ways to

amazon Prime

Shop by Department - Search AI = "FIDO U2F Security Key"

1-16 of 18 results for ""FIDO U2F Security Key""

Show results for

- Electronics > Security Access-Control Keypads
- Computers & Accessories > SecureDigital Memory Cards, USB Flash Drives
- See All 4 Departments

Refine by

- Amazon Prime
 - Prime Eligible
- Brand
 - Limefuel
 - Plug-up International

FIDO U2F Security Key
by Yubico
\$17.99 Prime
In Stock
More Buying Choices
\$10.00 now (2 offers)

FIDO U2F Security Key
by Plug-up International
\$5.99
More Buying Choices
\$5.99 now (2 offers)

- ✓ Deployed multiple FIDO Certified™ Handsets (from Sharp, Samsung & Fujitsu)
- ✓ Deployed Multiple Biometric Modalities (Iris & Fingerprint)
- ✓ Deployed Multiple Services including carrier billing and digital goods
- ✓ Joined FIDO Alliance Board of Directors



FIDO in Mobile

- ✓ Governments worldwide are looking at FIDO
- ✓ FIDO featured at White House Summit
- ✓ **New** collaboration framework...



FIDO & Government



2013 Data Breach Investigations Report (conducted by Verizon in concert with the U.S. Department of Homeland Security) noted that 76% of 2012 network intrusions exploited weak or stolen credentials.

-- NIST Roadmap for Improving Critical Infrastructure Cybersecurity, 12-Feb-2014

Telco

- GSMA Mobile Connect initiative
 - Working on Using FIDO + Push notification for authentication
 - Standard Global platform based on OpenID Connect.
 - Telefonica/Movistar currently running a pilot in España



JOIN THE
FIDO ALLIANCE



EXPERIENCE SIMPLER, STRONGER AUTHENTICATION
