

Fast IDentity Online Alliance

**LIZ VOTAW**



THE **PUZZLE**  
OF PAYMENTS **SECURITY:**

*Fitting the Pieces Together  
to Protect the Retail Payments System*

The **F**ast **I**Dentity **O**nline (FIDO)  
Alliance is an open industry  
association of nearly 200 global  
**member organizations**

**fido**<sup>™</sup>  
alliance | simpler  
stronger  
authentication

- ✓ Services/Networks
- ✓ Devices/Platforms
- ✓ Vendors/Enablers



Board Members



Bank of America.

DISCOVER®



MasterCard



PayPal™

VISA

NTT  
docomo

Google

Microsoft

Lenovo™

SAMSUNG



IdentityX®



ARM®

Nok Nok  
LABS

NXP

oberthur  
TECHNOLOGIES  
THE M COMPANY

QUALCOMM®

RSA®

Synaptics®

yubico  
Trust the Net.



# FIDO Alliance Mission

1

Develop  
Specifications

2

Operate  
Adoption Programs

3

Pursue Formal  
Standardization



The world has a **PASSWORD PROBLEM**

# ONE-TIME PASSCODES

Improve security but aren't easy enough to use



SMS  
Reliability



Token  
Necklace



User  
Confusion



Still  
Phishable



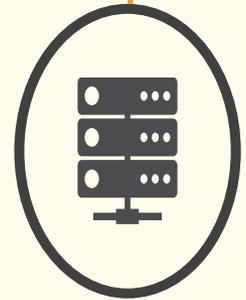
WE CALL OUR  
**NEW MODEL**

**F**ast **ID**entity **O**nline

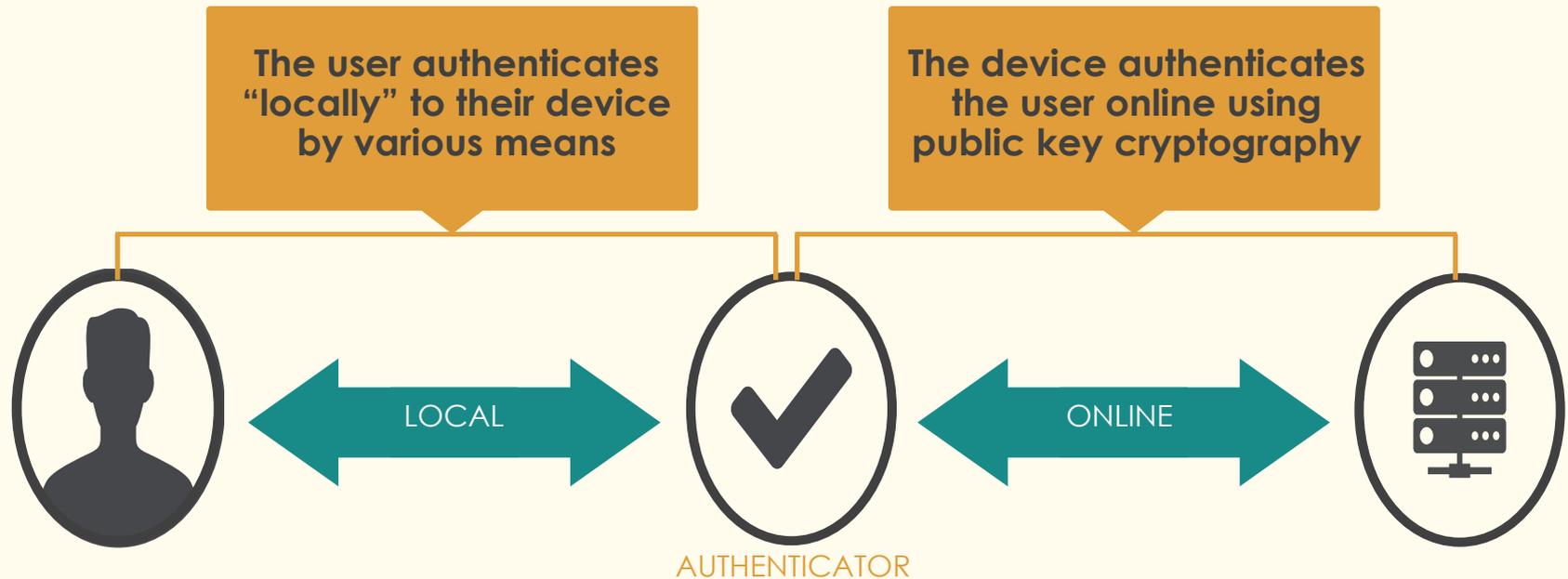
online authentication using  
**public key cryptography**

# HOW THE OLD AUTHN WORKS

The user authenticates themselves online by presenting a human-readable secret

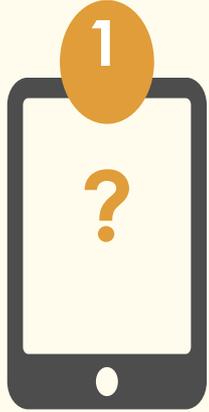


# HOW FIDO AUTHN WORKS



## Passwordless Experience (UAF Standards)

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Authentication Challenge



Biometric Verification\*



Authenticated Online

## Second Factor Experience (U2F Standards)

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Second Factor Challenge



Insert Dongle\* / Press Button



Authenticated Online

\*There are other types of authenticators



No 3rd Party in the Protocol



No Secrets on the Server Side



Biometric Data (if used) Never Leaves Device



No Link-ability Between Services



No Link-ability Between Accounts

# FIDO 1.0 TIMELINE



FEB  
2013



DEC  
2013



FEB  
2014



FEB-OCT  
2014



DEC 9  
2014

#CISID14

# 2014 FIDO ADOPTION

*"Secure Consumer Payments Enabled for Alipay Customers with Easy-to-Use Fingerprint Sensors on Recently-Launched Samsung Galaxy S5",  
September 17, 2014*



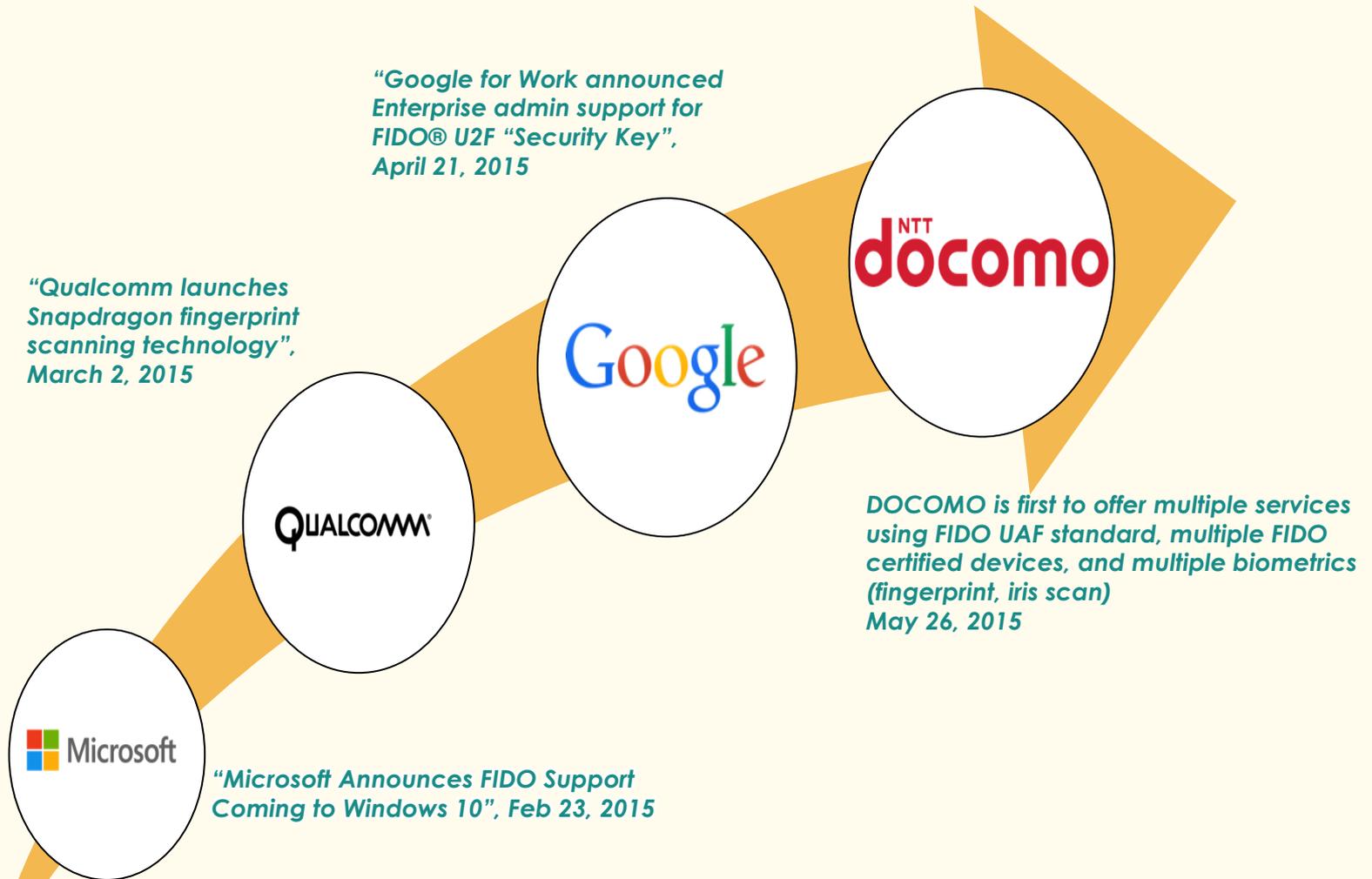
Google

*"Google Launches Security Key, World's First Deployment of Fast Identity Online Universal Second Factor (FIDO U2F) Authentication",  
October 21, 2014*

PayPal

*"PayPal and Samsung Enable Consumer Payments with Fingerprint Authentication on New Samsung Galaxy S5",  
Feb 24, 2014*

# 2015 FIDO ADOPTION





Certified



Yahoo! JAPAN



# FIDO Alliance Announces Government Membership Program

– US and UK Government Agencies are First to Join

*Government Agencies to Participate in Development of FIDO Standards for Universal Strong Authentication*



**Cabinet**Office

**NIST**  
National Institute of  
Standards and Technology  
U.S. Department of Commerce

*“The fact that FIDO has now welcomed government participation is a logical and exciting step toward further advancement of the Identity Ecosystem; we look forward to continued progress.”*

Government Members

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