
fido™
alliance
simpler
stronger
authentication

Who... What... Why...


Bank of America
IdentityX
Google
SAMSUNG
DISCOVER
PayPal
QUALCOMM
ARM
lenovo FOR THOSE WHO DO.
fido alliance Board Members
oberthur TECHNOLOGIES THE M COMPANY
Synaptics
Nok Nok LABS
MasterCard
Microsoft
NXP
CrucialTec
yubico Trust the Net.
VISA
Alibaba Group
RSA


aetna
AGNITIO
AUTHENTIFY
Kili Technology Corp.
ally
NETFLIX
egis Technology
CHERRY
SafeNet
THE DATA PROTECTION COMPANY
Sonavation
Giesecke & Devrient
YAHOO! JAPAN
Ping Identity
ca technologies
FEITIAN WE BUILD SECURITY
DELL
VASCO
E*TRADE
gemalto
plantronics
Redsys
FingerQ www.fingerq.com
IDEX THE ID OF YOU
SAFRAN Morpho
EARLY WARNING
SAMSUNG
SAMSUNG SDS
WELLS FARGO
fido alliance Sponsors
wave
eyeLock
BlackBerry
Medimpact Healthcare Systems
Plug-up INTERNATIONAL
infineon
ETRI Electronics and Telecommunications Research Institute
LG Electronics
DDS DIGITAL DEVELOPMENT SYSTEMS
intercede
FINGERPRINTS
OSD Österreichische Staatsdruckerei
SK telecom
BKM BANKALARARASI KART MERKEZİ
SECURE KEY
DUO
Usher
Rambus
life.augmented
nXTID
Entersekt
Visa Europe
We are a payments business.


IS IT YOU
mepin
FacePhi
GO-Trust
IT'S ME!
paycasso
Iritech Inc.
Technology with the Iris
salesforce
NEXT BIOMETRICS
Winfrasoft
MTRIX® GmbH
[AUTHENTICATION SOLUTIONS]
Speech Technology Center
OneVisage
The Selfie Authentication Company
i-film
PRECISE BIOMETRICS
nymi
cryptoVision
CYBEREXTRUDER
Facebanx
Elliptic
Embedded Security you can Trust
TRUSTONIC
FusionPipe
SOFTWARE SOLUTIONS
ib INTEGRATED BIOMETRICS
CHANGING 全景軟體
certus
technology systems
onelogin
MT monkeetech
NICE
touch
BIO-key
Revolutionizing Authentication
Ciptor SOLACIA
voicevault
HYPERSECU™
Athena Eyes 智慧眼
CRYPTSOFT
PixelPin
DigiFlak
LoginPeople
IDENTIV
digitalPersona
NexID Biometrics
Allweb Technologies
onegini
athena
clover
ARXAN
Protecting the App Economy
toopher
j-Metrics
MONOKEY
My Fingerprint is my PIN
cybertrust
RCDevs
security solutions
SYNOCHIP
Aratek
亚略特生物识别科技
ValidSoft
SECURING TRANSACTIONS
CBA
welcomer
EYEVERIFY
certgate
NORTHSTAR RECRUITING
AUOY
zwipe
StrongAuth
Securing the Core
V-KEY
Trust Simplified
DIAMOND FORTRESS TECHNOLOGIES
SurePass id
PAYFONE
Techshino
ENCAP SECURITY
深圳市德卡科技有限公司
SHENZHEN DECARD SMARTCARD TECH CO.,LTD.
SECUREAUTH
EASYSOLUTIONS
Bluink Ltd.
isr
International Systems Research Co.
BehavioSec
STARTEK
Biomatiques
CopSonic
UltraSonic Authentication
fido alliance Associates

To Change Authentication Online by:

(a) Developing unencumbered Specifications that define interoperable mechanisms that supplant reliance on passwords

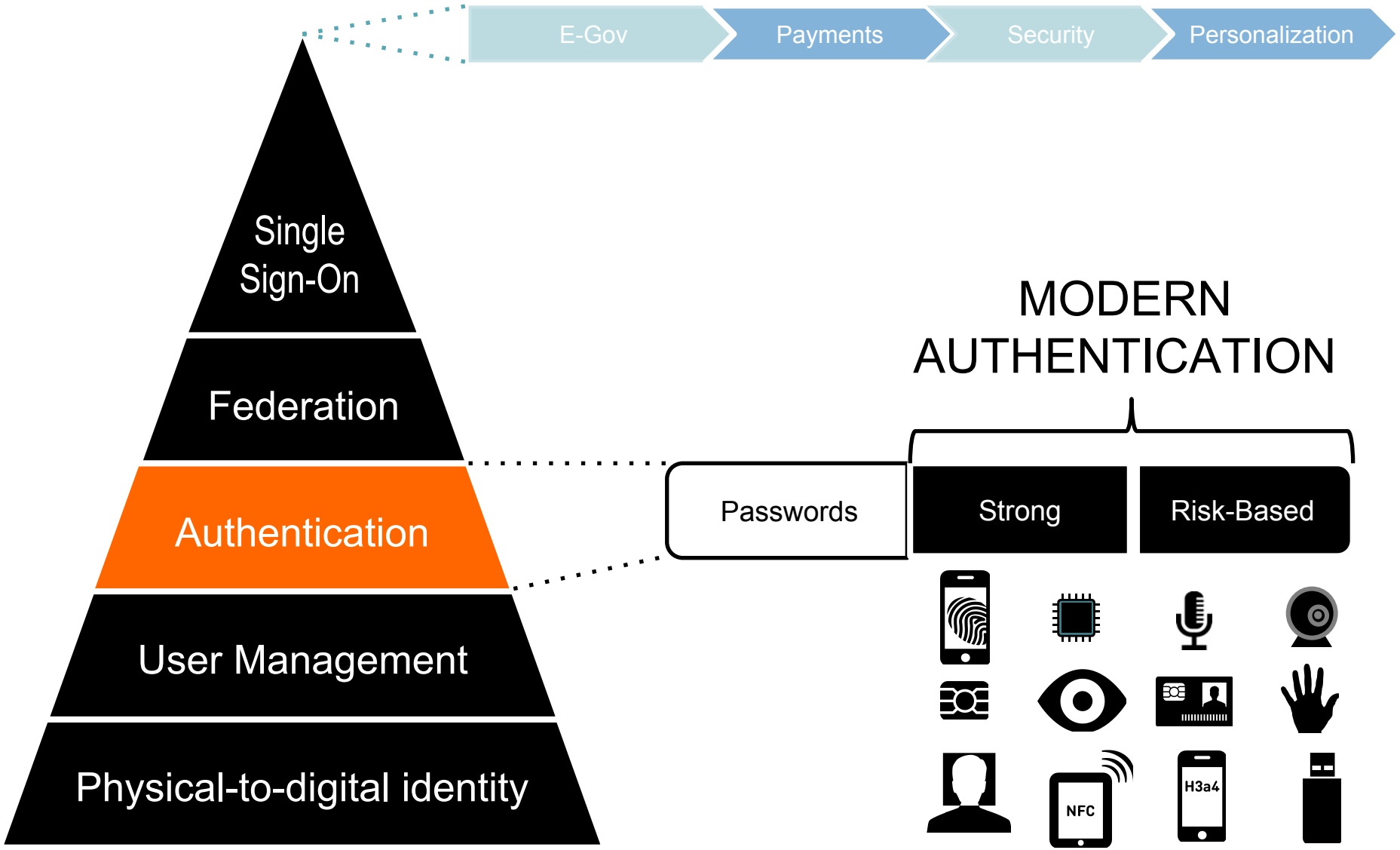
(b) Operating programs to help ensure industry adoption

(c) Submitting mature Specifications for formal standardization

FIDO Alliance's Role…

- "Paper" Specifications
- Interoperability and Conformance testing
- Trademark licensing against criteria
- Thought leadership, nurture ecosystem
- The Alliance does not ship products!
- Implementations left to commercial vendors

Identity & Authentication Building Blocks

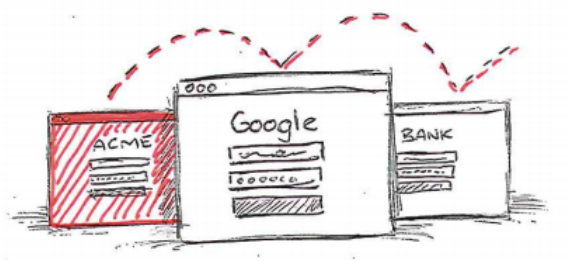


Why Authentication is Cybersecurity Priority #1

Poor authentication mechanisms are a commonly exploited vector of attack by adversaries; the 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

Today's Passwords



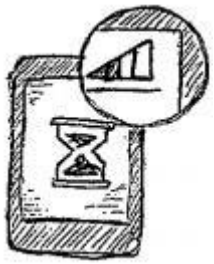
REUSED

PHISHED

KEYLOGGED

Today's Password Alternatives

One Time Codes with SMS or Device



SMS USABILITY

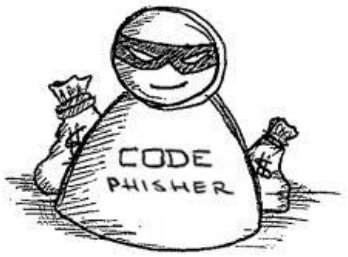
Coverage | Delay | Cost

DEVICE USABILITY

One per site | $$ | Fragile

USER EXPERIENCE

User find it hard



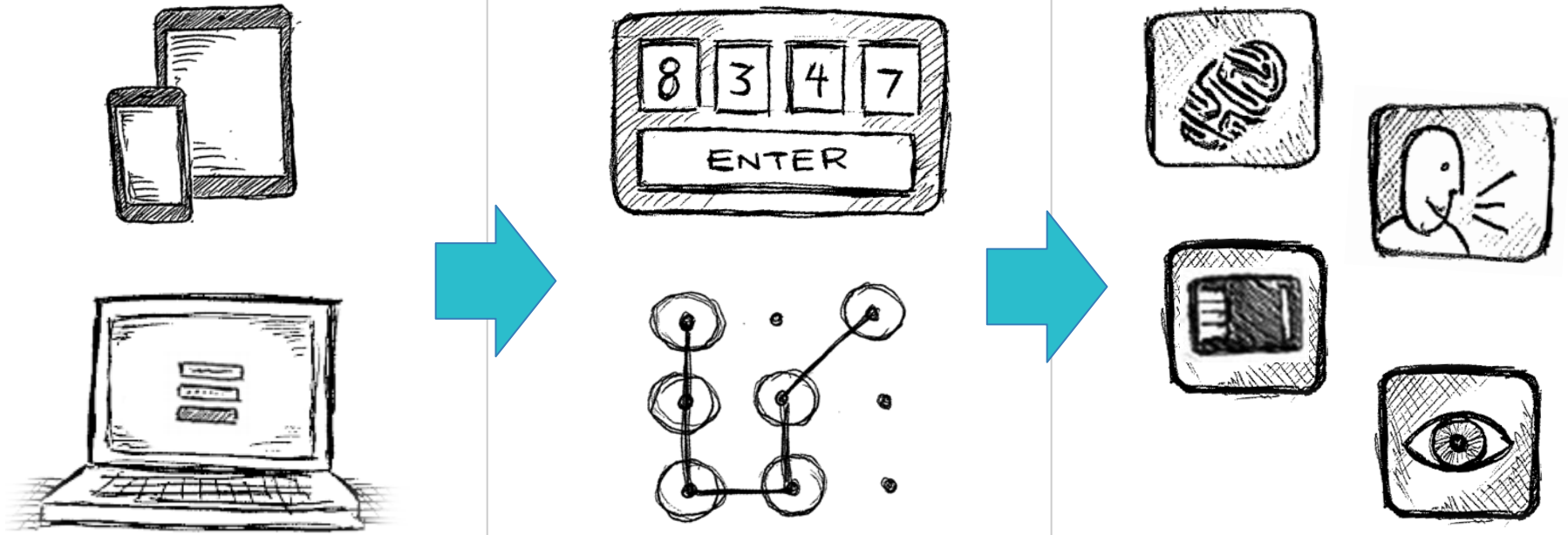
STILL PHISHABLE

Known attacks today

Major Industry Trend

Simpler, Stronger Local Device Auth

PERSONAL DEVICES	LOCAL LOCKING	NEW WAVE: CONVENIENT SECURITY
Carry Personal Data	Pins & Patterns today	Simpler, Stronger local authentication



Putting It Together

The problem:
Simpler, Stronger online

The trend:
Simpler, Stronger local device auth

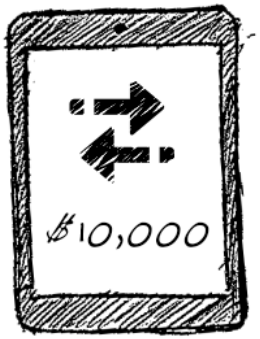
Why not:
Use local device auth for online auth?

This is the core idea behind FIDO standards!

FIDO Experiences

ONLINE AUTH REQUEST	LOCAL DEVICE AUTH	SUCCESS

PASSWORDLESS EXPERIENCE (UAF standards)



Transaction Detail

Show a biometric

Done

SECOND FACTOR EXPERIENCE (U2F standards)

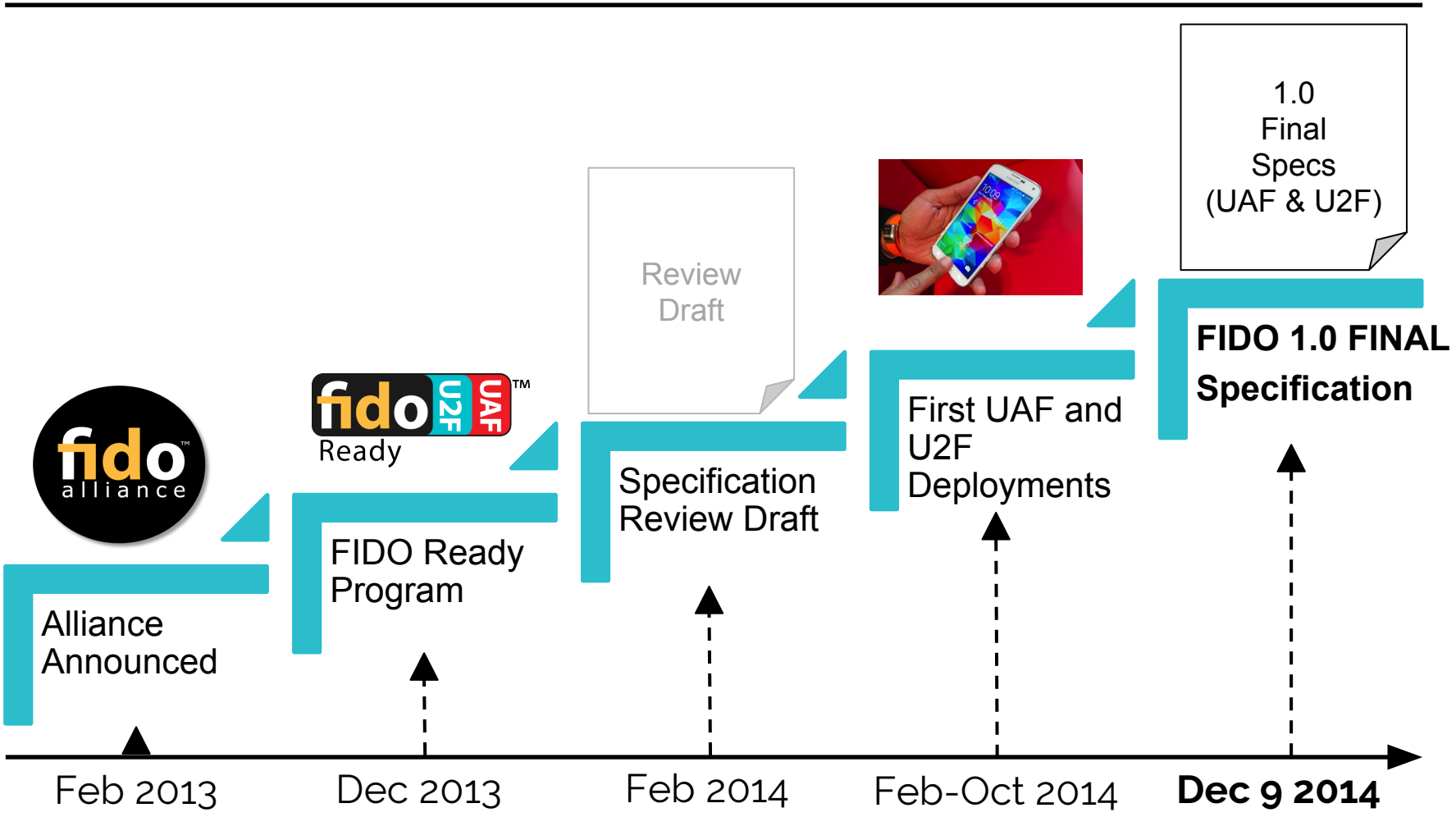
Login & Password

Insert Dongle, Press button

Done

What Have We Done So Far...

FIDO timeline



UAF Deployments

Starting in April 2014, customers can use their finger to pay with PayPal from their new Samsung Galaxy S5 because the FIDO Ready™ software on the device securely communicates between the fingerprint sensor on their device and PayPal's service in the cloud.
In July 2014, Alibaba also launched FIDO-based payments using Samsung Galaxy S5.

- Stronger biometric-based authentication.
- Easy to deploy.
- Biometric information never leaves the device.
- Provides a unique public and private key pair for each application or service.

Clients available for these operating systems:

Windows 7 Windows 8 android iOS

Software Authenticator Examples:
Voice/Face recognition, PIN, QR Code, etc.

Aftermarket Hardware Authenticator Examples:
USB fingerprint scanner, MicroSD Secure Element

支付宝 Alipay.com

lenovo

Synaptics

Nok Nok LABS

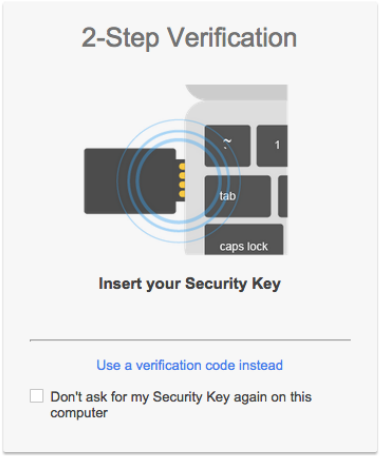
PayPal

U2F Deployment

In late October, **Google** released support for U2F in its **Chrome browser**. In parallel, **Yubico** and **Plug-Up** introduced FIDO U2F Security Keys, public key hardware devices that provide high-security using strong authentication based on the FIDO U2F protocol.

- Stronger two-step verification (2SV) for Google Accounts users.
- Easy to deploy
- Works seamlessly on Windows, OSX and Linux.
- Security Key performs cryptographic functions.
- Provides a unique public and private key pair for each application it protects.

Google



fido U2F Ready

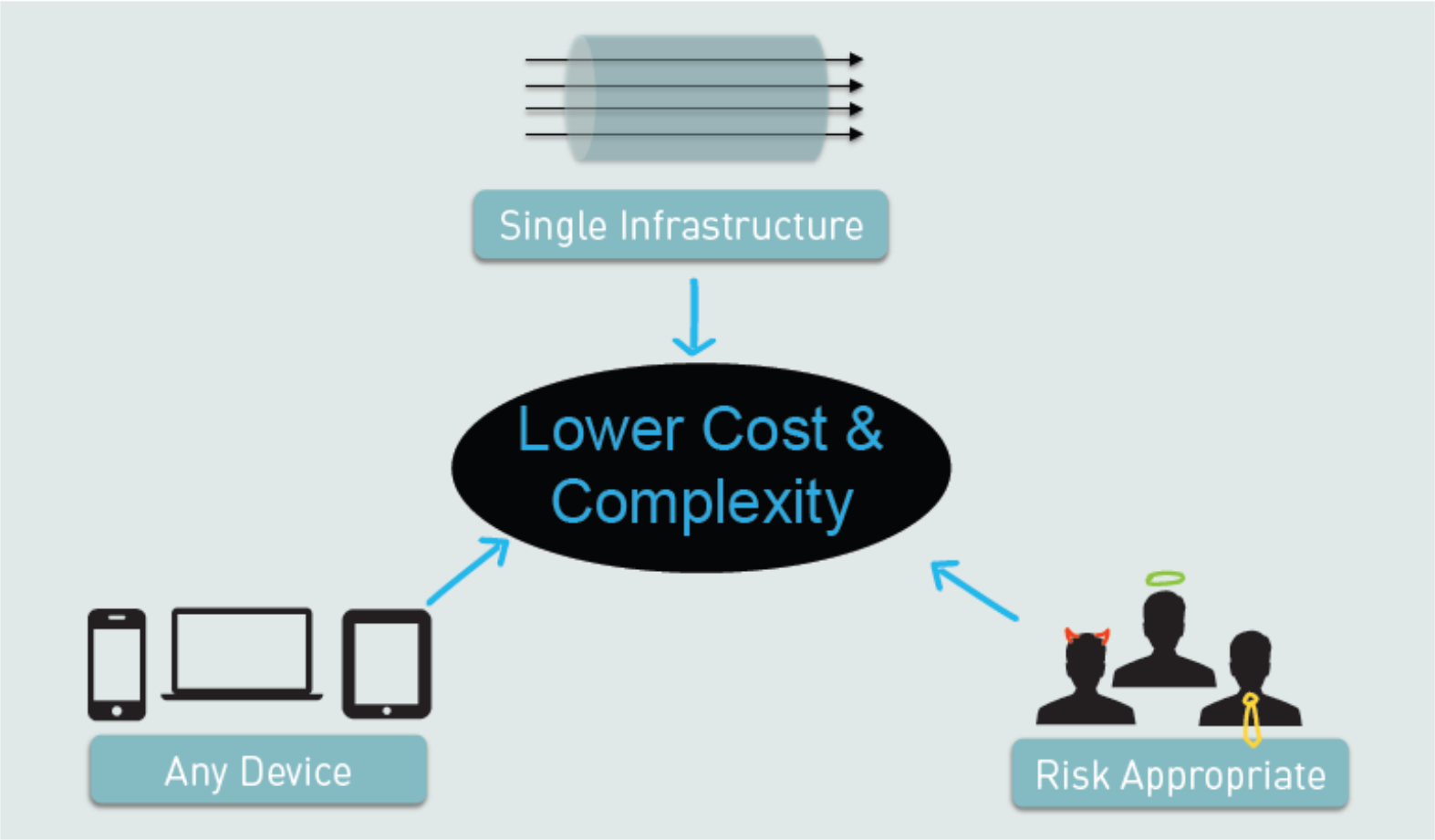
fido U2F Ready

yubico

FIDO Ready™ Program

FIDO Ready™ products http://fidoalliance.org/adoption/fido-ready/	UAF Client	UAF Server	UAF ASM	UAF Authenticator	UAF Cryptography Vendor	U2F Authenticator	U2F Server
Entersekt, eyeLock, Feintian, Sonovation						X	
Nok Nok Labs	X	X	X	X			X
plug-up			X	X		X	X
Samsung SDS	X	X					
StrongAuth, SurePass ID, Yahoo! Japan							X
Synaptics, Diamond Fortress, EgisTec, Go-Trust			X	X			
Infineon, NXP					X	X	
Agnitio, DDS,				X			
Yubico						X	X

Key Benefit for Service Providers



Privacy & Security Design

- 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

Summary of FIDO today…

- Final 1.0 spec announced
- Explosive growth in Alliance membership
- First products are shipping
- First deployments are live
- Great momentum heading into 2015

To learn more about membership visit:

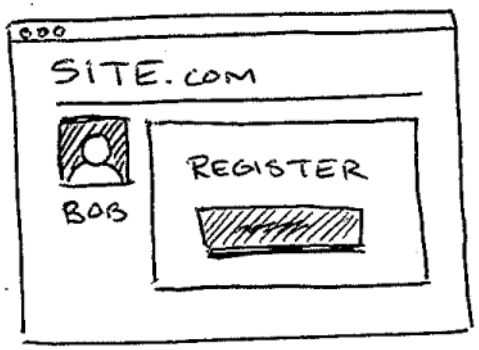
https://fidoalliance.org/membership/how-to-join

How it works

FIDO Registration

1

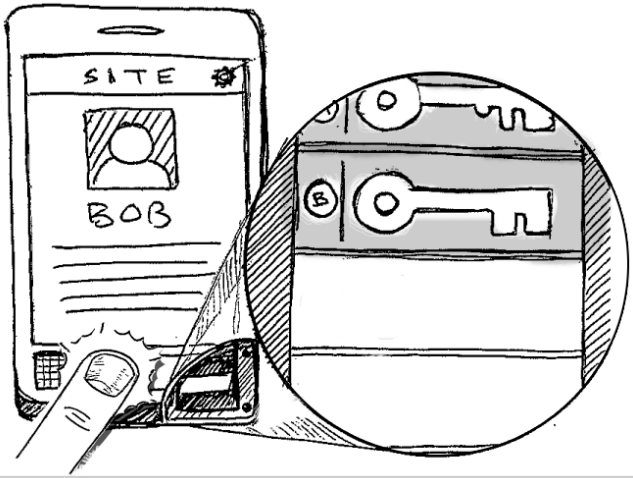
REGISTRATION BEGINS



USER APPROVAL

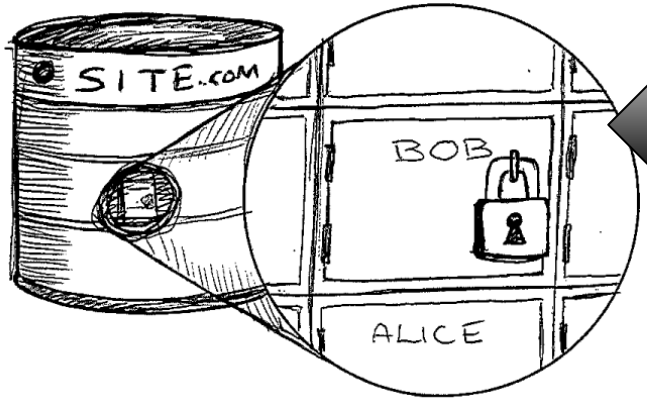
USER APPROVAL

2



4

REGISTRATION COMPLETE

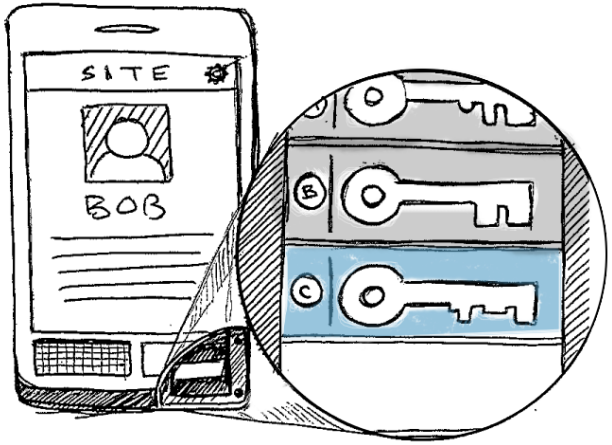


KEY REGISTERED

Using Public key Cryptography

NEW KEY CREATED

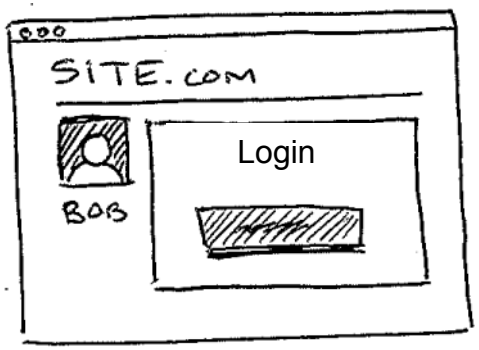
3



FIDO Login

1

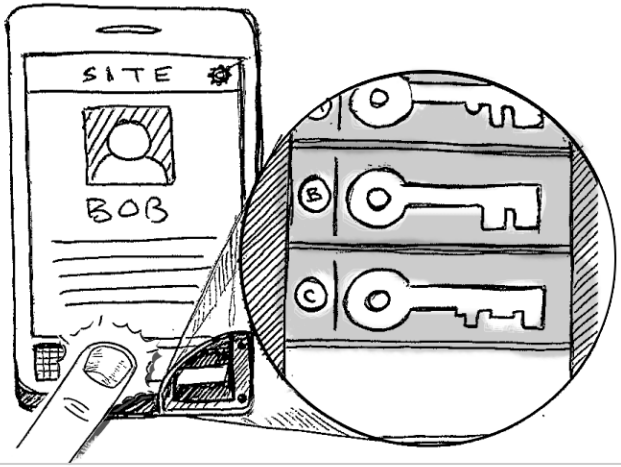
LOGIN



LOGIN CHALLENGE

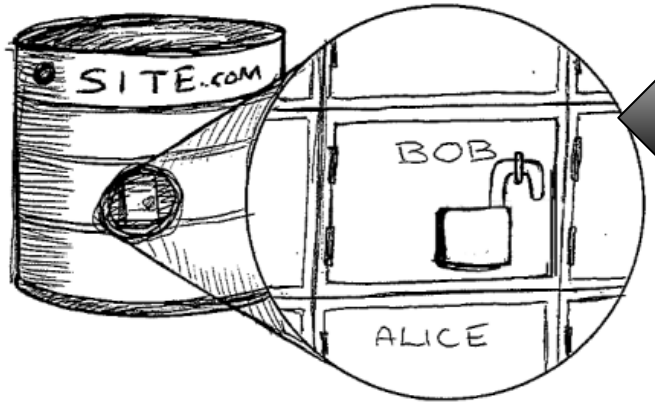
USER APPROVAL

2



4

LOGIN COMPLETE

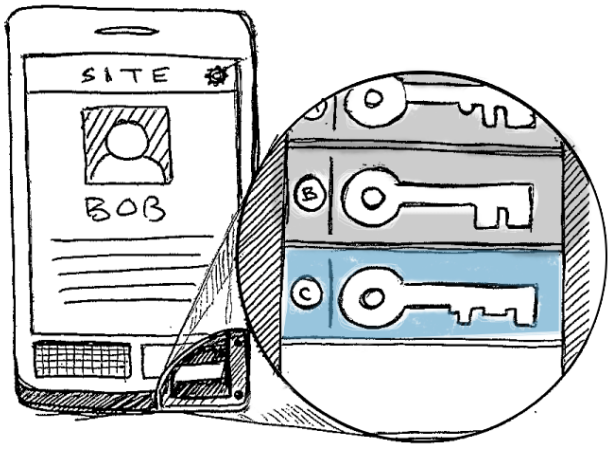


LOGIN RESPONSE

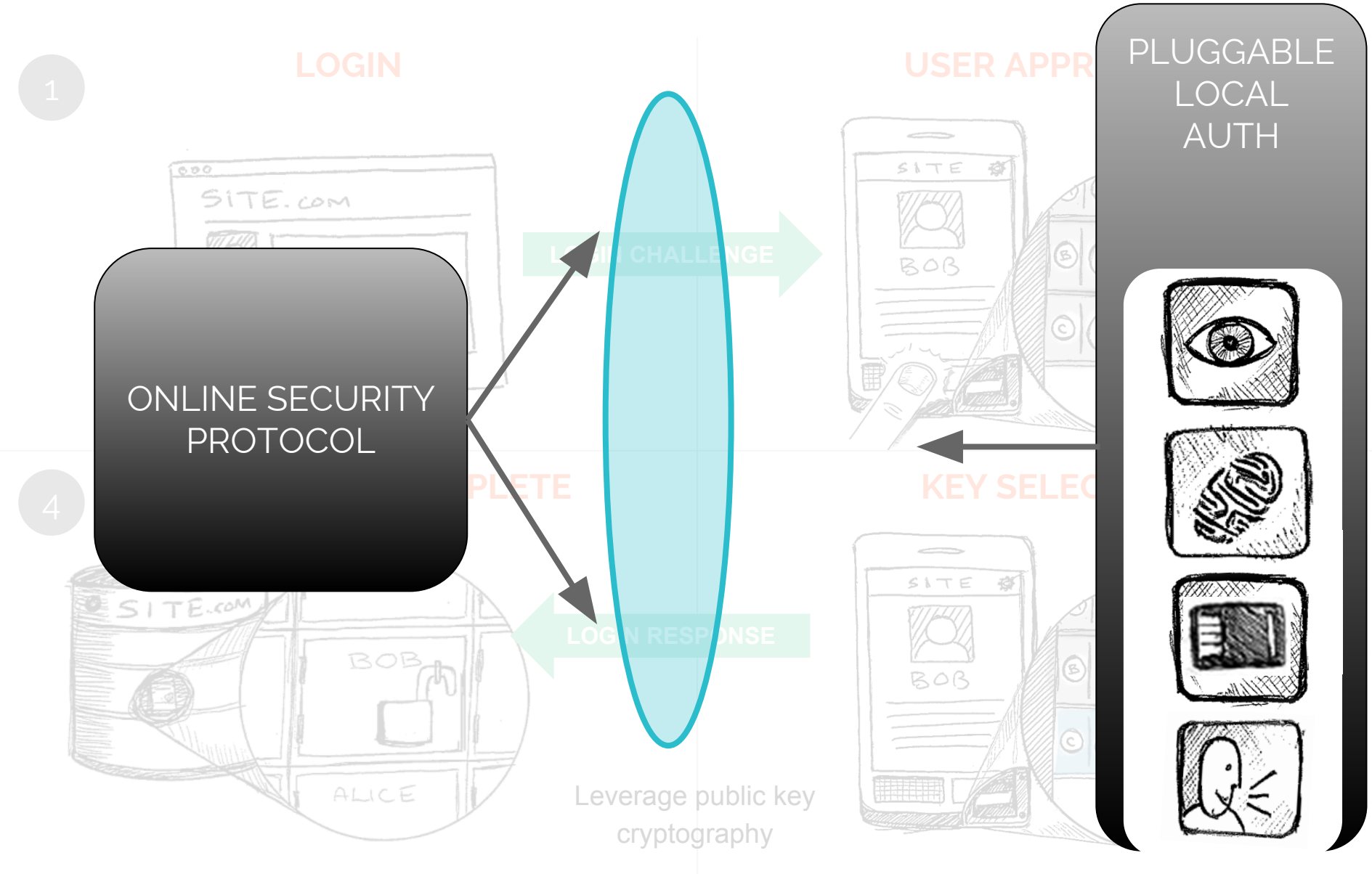
Using
Public key
Cryptography

KEY SELECTED

3



Decouple User Verification Method from Authentication Protocol



THANK YOU

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