

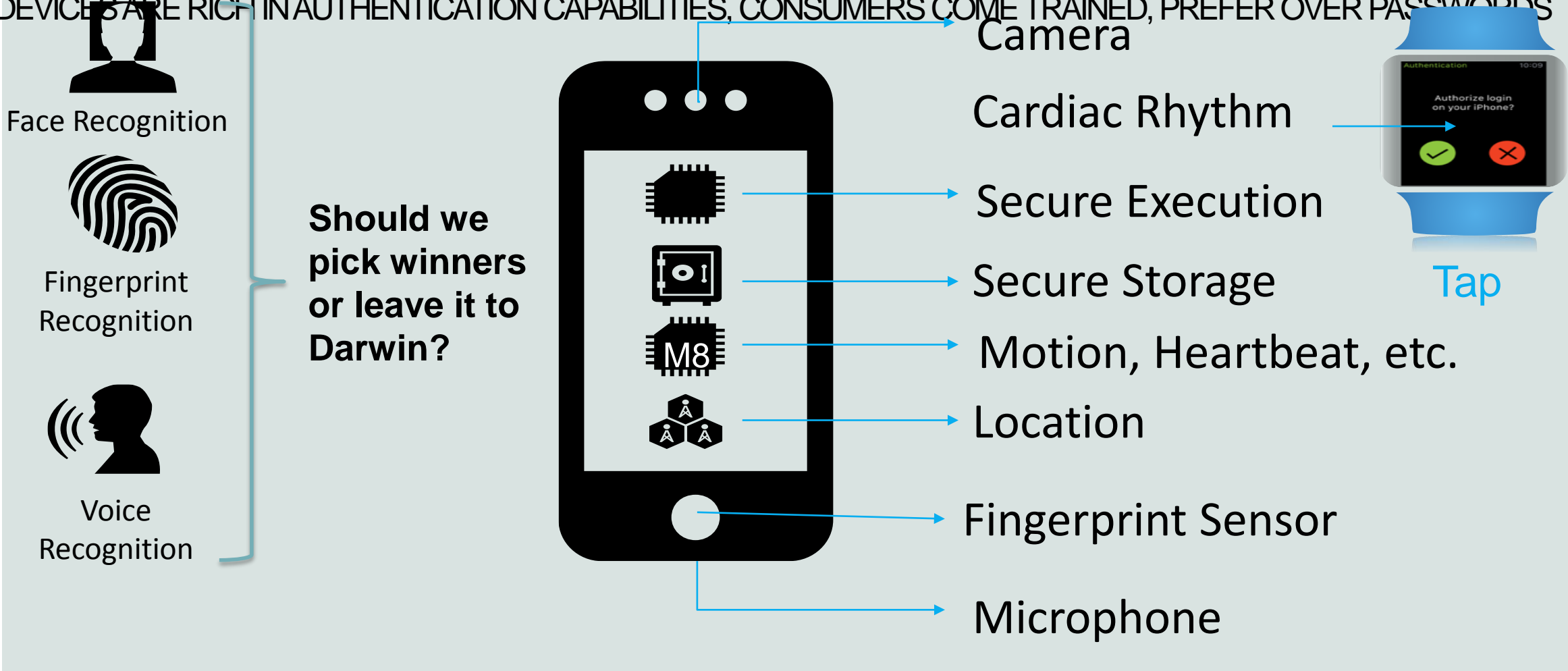


EMERGING TRENDS AROUND AUTHENTICATION

Michelle Salway – Senior Director Sales - EMEA

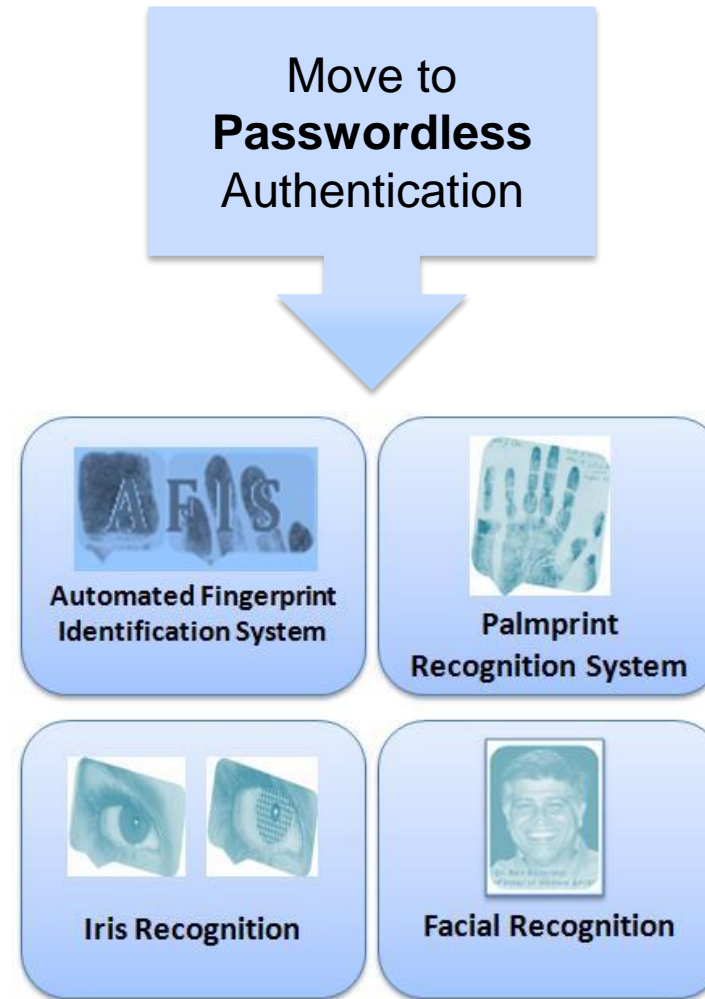
BIOMETRICS: A GIFT FROM THE DEVICE MAKERS & BIOMETRIC VENDORS

DEVICES ARE RICH IN AUTHENTICATION CAPABILITIES, CONSUMERS COME TRAINED, PREFER OVER PASSWORDS



Biometrics are Changing the Services Landscape and the Opportunity

- By the end of 2016, smartphone subscribers represented 46% of the global population
- 770 million+ biometric authentication applications will be downloaded each year by 2019
- Two billion users of mobile biometrics by 2020
- Devices that incorporate biometrics will drive a global market of 2.5 billion users with nearly 4.8 billion biometric devices by 2020



And other modalities are around the corner and scaling up fast...

SELECTING A STRATEGY HAS A MATERIAL IMPACT ON SHORT AND LONG TERM ROI

Considerations



Development

Cost to develop and maintain for each integration



Risk

How biometric information is being stored/protected



Security

Protection from man-in-the-middle and phishing attacks



Scalability & Speed to Market

Ability to quickly leverage current and new technologies



Internet Scale

Ability to support millions of users with no impact to latency



Customer Experience

How seamless, reliable and frictionless is the experience

MANAGING DIVERSITY OF BIOMETRIC METHODS

WHICH BIOMETRIC METHOD WILL REPLACE PASSWORDS?

NO SINGLE BIOMETRIC MODALITY WILL REPLACE PASSWORDS

Industry needs a framework for flexible authentication

Nok Nok Labs pioneered an industry movement of over 250+ companies (including major government agencies and technology alliances) that agree with our vision and expand the market for our software products – the FIDO Alliance



With industry and government leaders that include :



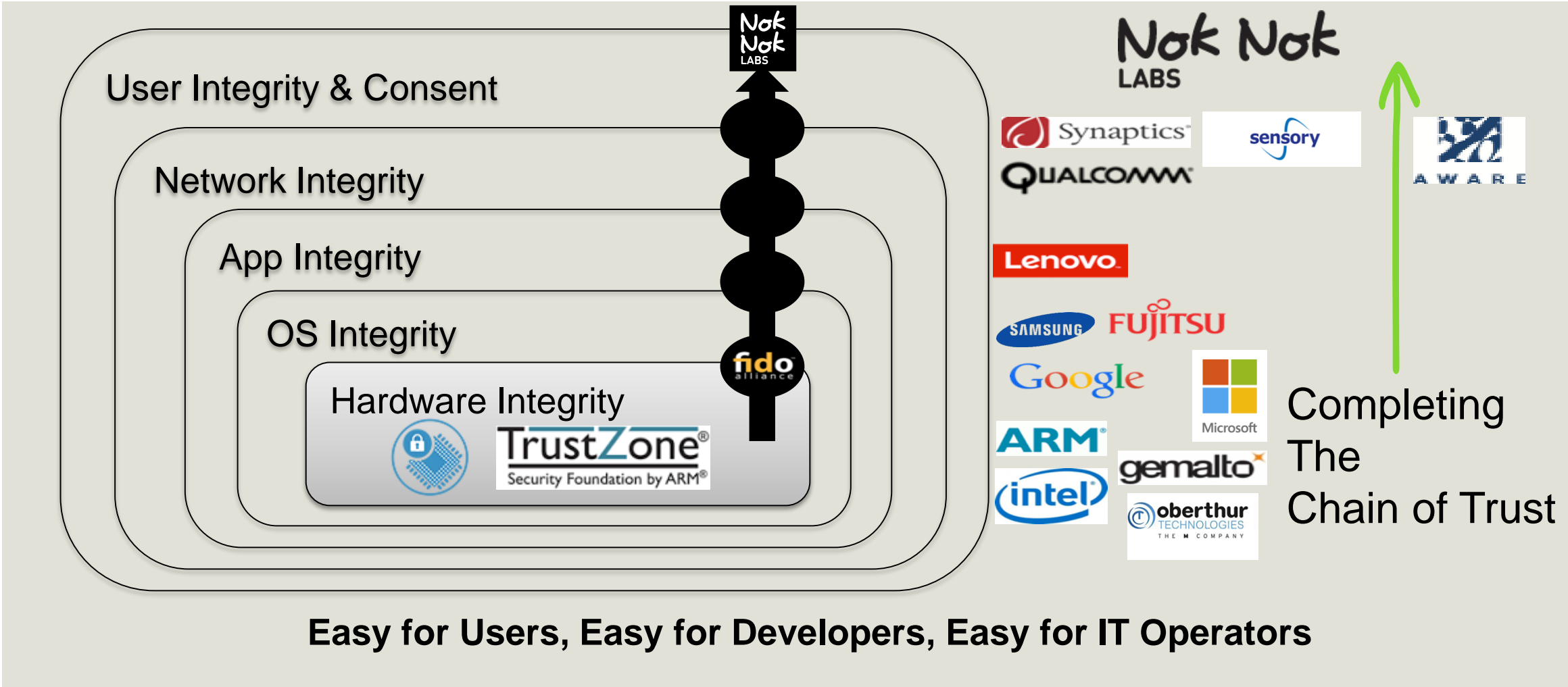
Over 250+ companies (including banking, payments and health care) are driving enterprises to abandon the use of passwords

Industry alliances are cooperating to create alternatives to reliance on passwords

End users are rapidly adopting new authentication technologies such as fingerprint sensors, speaker recognition, face recognition and smart tokens, etc., that enable the elimination of passwords

FIDO DOES BIOMETRICS REALLY WELL

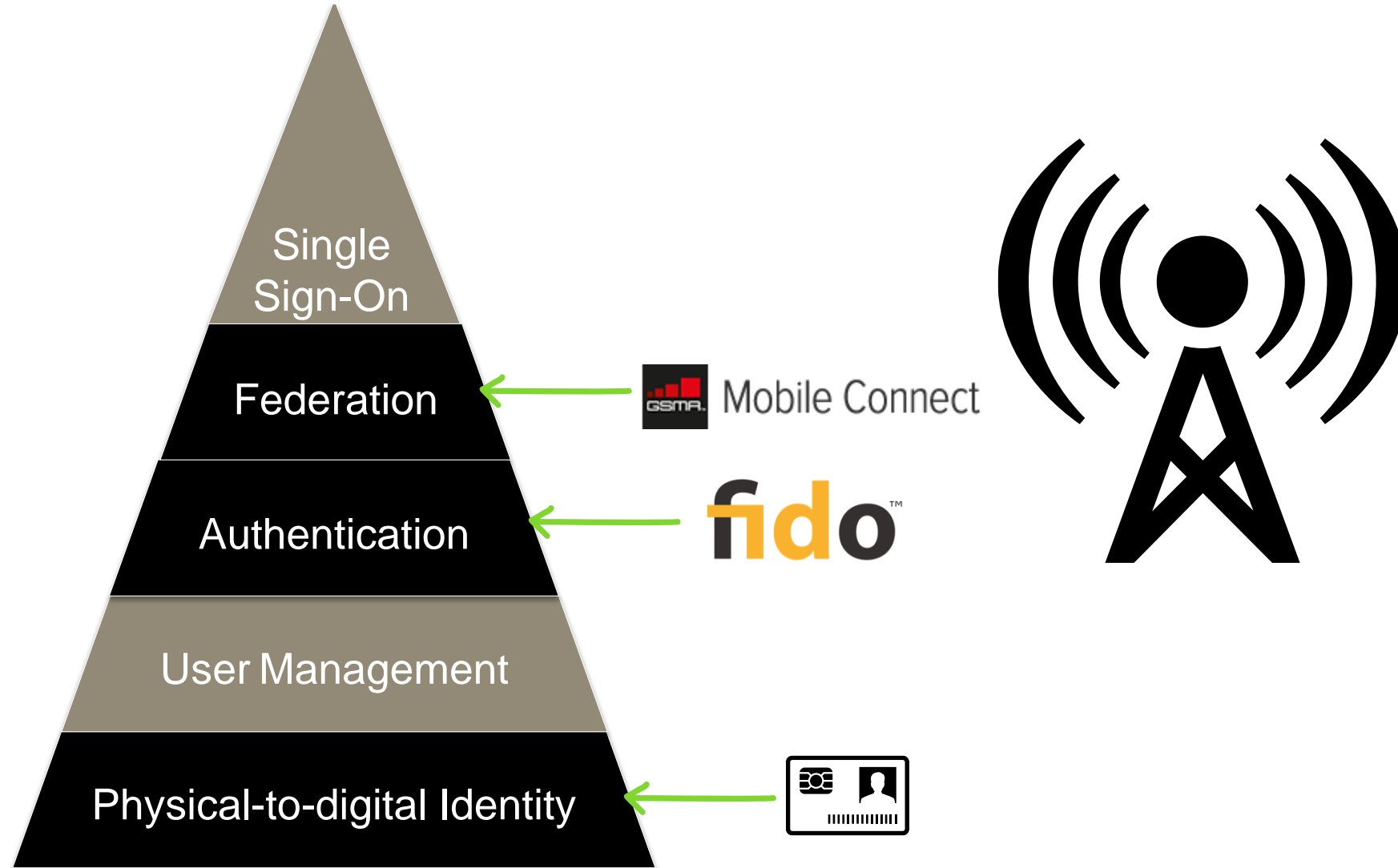
AUTHENTICATION THAT CAN GO FROM SILICON TO THE CLOUD



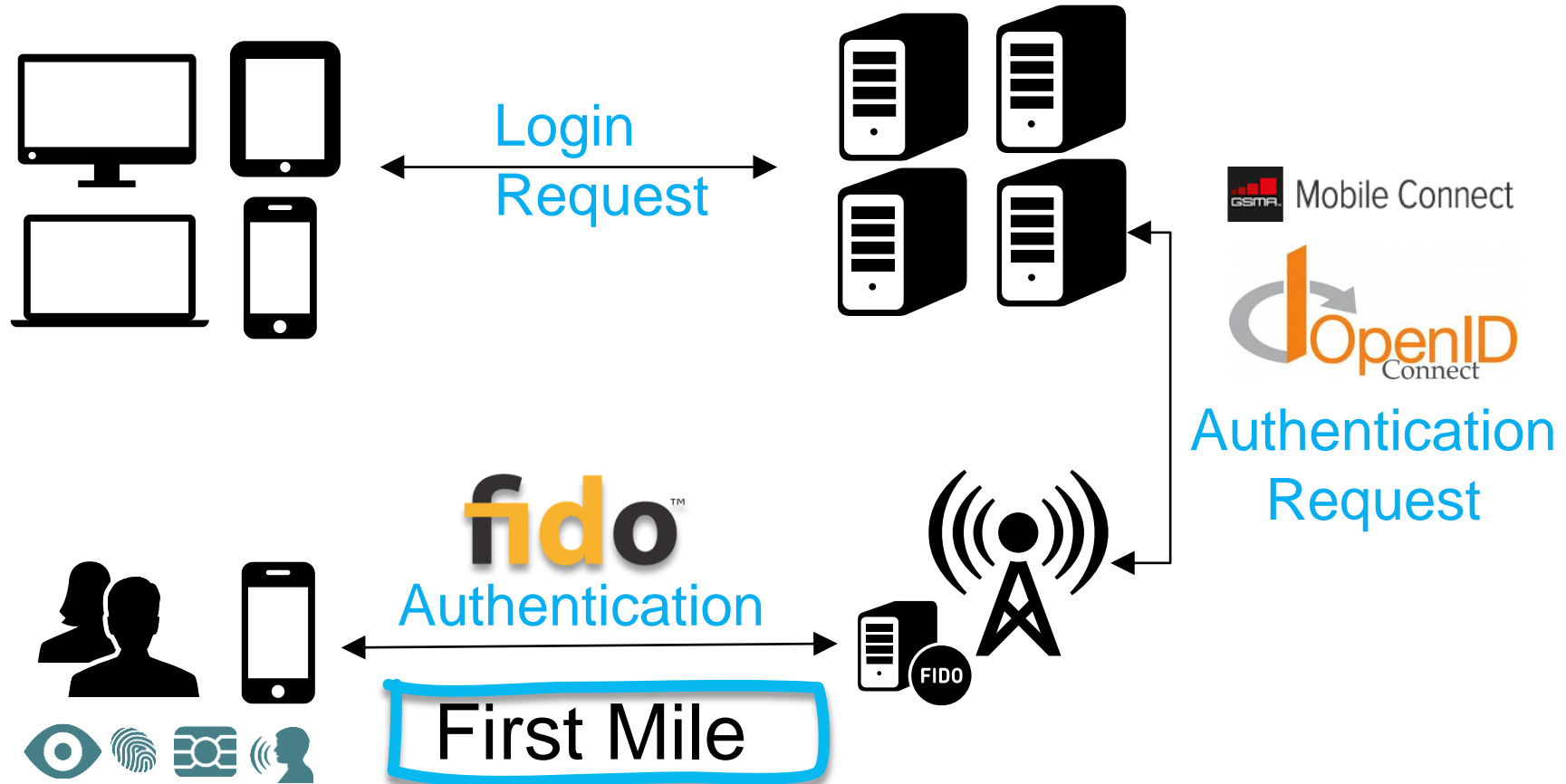
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BIOMETRICS & MOBILE CONNECT

ROLE OF OPERATOR IN THE IDENTITY STACK AT MULTIPLE LAYERS



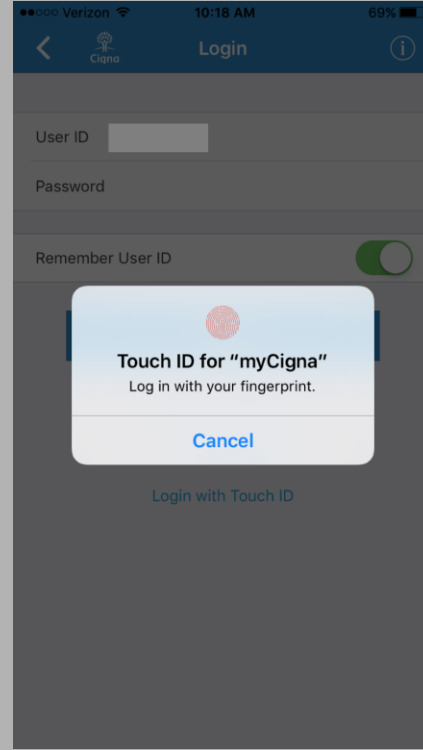
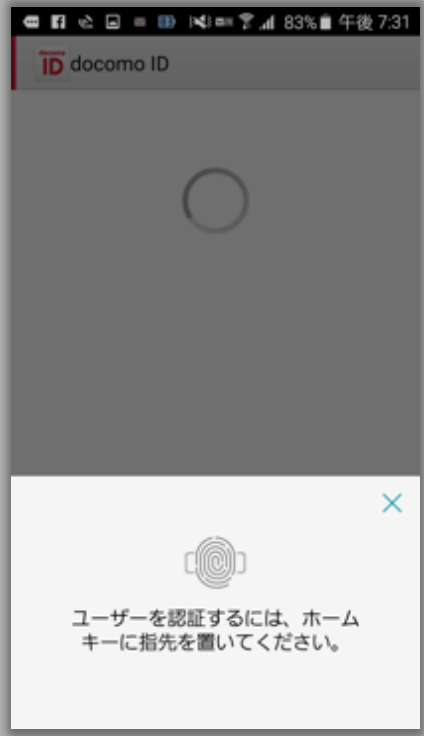
MOBILE CONNECT & FIDO



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BIOMETRICS & BUSINESS STRATEGY

BIOMETRICS: LEADERS FORGING AHEAD, SEEING STUNNING BENEFITS



WHAT BENEFITS DO NNL AND FIDO BRING TO MOBILE CONNECT?

NOK NOK LABS FIDO BENEFITS FOR MNO'S

- Binding users to devices – By leveraging the FIDO protocol, the NNL solution cryptographically binds a user to a device through a range of various authentication methodologies. This allows the MNO to strongly link the specific user to the device, rather than identity verification stopping at the device level as before.
- Leveraging existing assets - The NNL client can leverage the SIM card for the creation and storage of cryptographic material, locking in the value provided by the MNO.
- Driving revenue opportunities – By deploying a NNL Multifactor Authentication Server, MNOs are able to offer a wide range of different online authentication services to their business customers and partners, layering additional identity attributes on top of a strong authentication base layer.
- Increasing consumer satisfaction – Consumers will derive increased value by the ability to use the authentication capabilities of their mobile devices, such as fingerprint sensors, microphones and cameras to enhance their online experience.
- Enabling Mobile Connect - The MNO industry is collaborating under the auspices of the GSMA in cooperation with Nok Nok Labs and the FIDO Alliance to create an architecture for easy usage of biometric and other emerging authenticators.

NOK NOK: WHO WE ARE

A Proven Team

- Silicon Valley based
- Collective experience from:
 - PGP, Symantec, RSA Security, Oracle, Apple, Phoenix Technologies, Validity Sensors, Sun Microsystems and many others
- Investors:
 - DCM Ventures
 - ONSET Ventures
 - Lenovo Group (China)
 - NTT Docomo (Japan)
 - Other strategic corporate investors

Authentication Pioneer

- Founder of the FIDO Alliance
- Inventor of the UAF protocol
- First implementer with UAF server
- Modern authentication leader
- S3 Suite proven and deployed at scale



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THANK YOU

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