

# The Value of FIDO-Certified Products, Services and Professionals: Present and Future

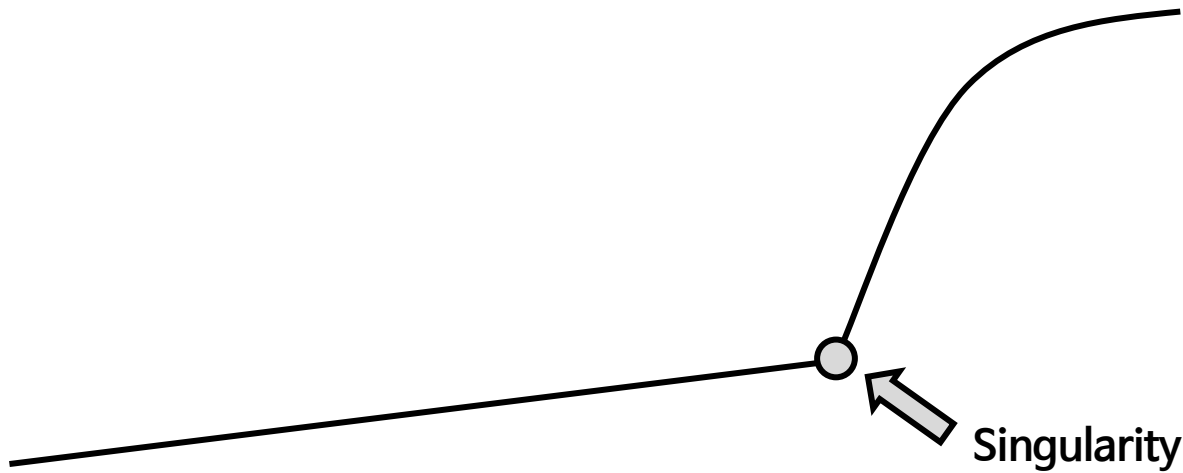


Jaebeom Kim  
Principal Researcher / IT Security Evaluation Division  
(jimmykim@tta.or.kr)

# 0. Background

## Singularity

- noun [ˌsɪŋɡjuˈlærəti]
  1. (formal) the quality of something that makes it unusual or strange
  2. (mathematics, physics) a point at which a mathematical function or physical quantity takes an infinite value, such as at the centre of a black hole, which is infinitely dense



# 0. Background

## Remote Work · Education



**Remote Work, Part of everyday life**

**Daily number of video conference users, increased by over a million during the COVID-19 period**

**Online remote classes deepened the learning gap, leading to an increase in private education expenses**

**Remote work and online classes make it difficult to cultivate social skills and exacerbate disparities**

*Source: KDI(KOREA DEVELOPMENT INSTITUTE)*

# 0. Background

## Online Shopping

During the COVID-19 period, the scale of contactless payment services grew by more than twice



Usage of kiosks and drive-thrus surged, leading to a shift towards contactless services in offline

Digital exclusion caused by the dominance of digital transformation for both on/offline

In the era of an average of 7 million daily delivery app users, there has been an increase in "COVID trash" of around 20%

# 0. Background

## Changes in leisure

Live Performance · Movie ▶ OTT · Metaverse

International Travel ▶ Domestic Camping · Staycation

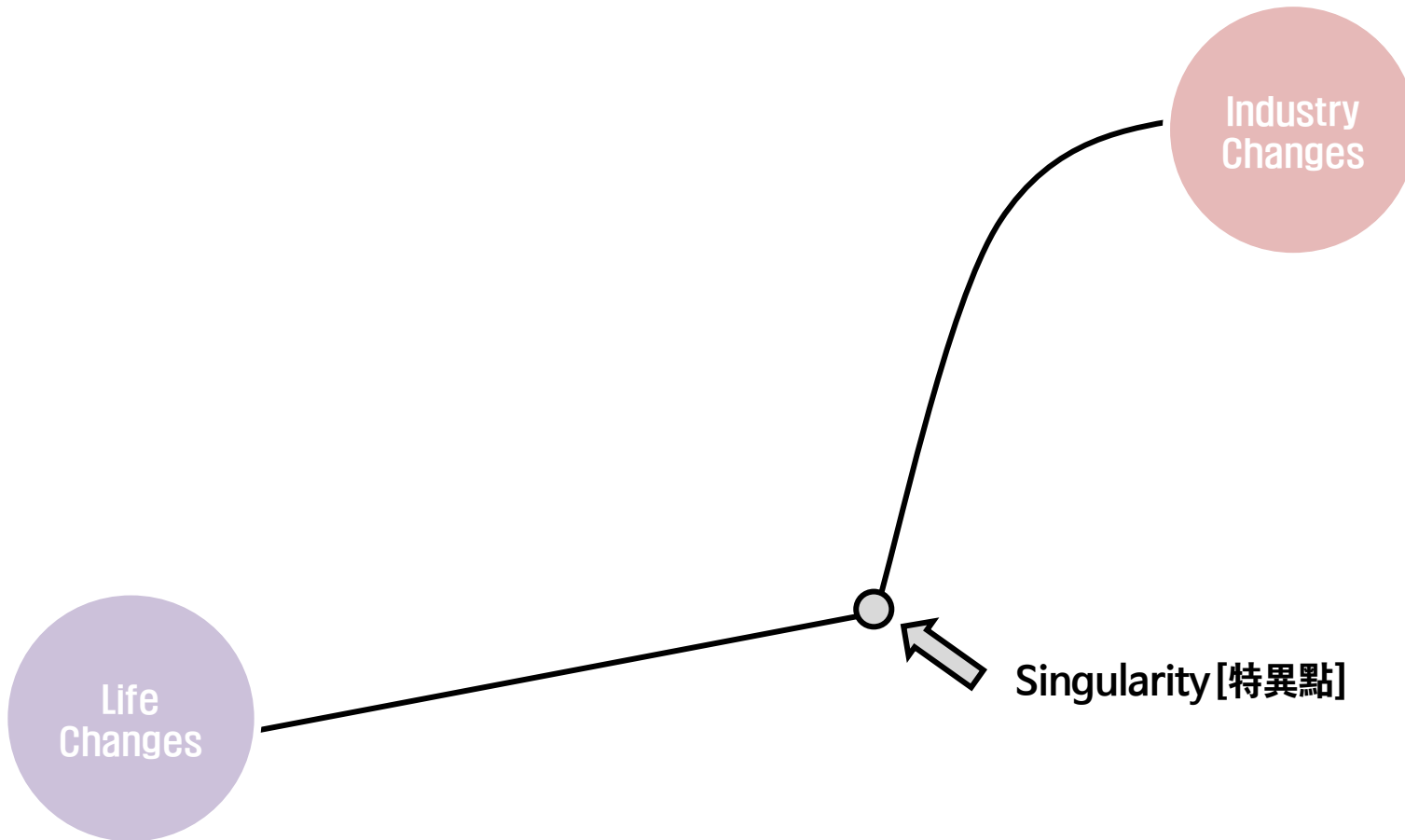
Public Transportation ▶ Personal vehicle

Health Concerns ▶ Home Workout · Digital Health Care

Subscription Economy

# 0. Background

## Singularity



# I Password Problem

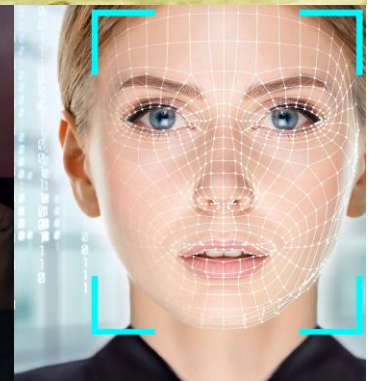




# 1. Password Problem

## Passwords as a means of authentication

- Longer and Complex password is really safe?
- The more regulations become, the lower entropy also becomes





# 1. Password Problem

Is FIDO the solution for legacy authentication issues?



# 1. Password Problem

## Legacy Problem on authentication

- Legacy, password-based authentication systems are failing enterprise security
- 60% of cyber attack can be avoided adopting MFA

*Source: Vanson Bourne, The study on authentication-related attacks commissioned by HYPR*

## REALLY?

- MFA bombing (push message) attacks accounted for 28% of overall attack
- The 2<sup>nd</sup> factor is a bit more difficult to defeat, but OTP or Pushing makes annoying

## FIDO's work

- Developing technical specifications that reduce the reliance on passwords to authenticate users
- Operating industry certification programs to help ensure successful worldwide adoption of the specifications
- Submitting mature technical specifications to recognized SDOs for standardization

# II

# Relations



## 2. Relations: Product, Service and Professional



### DO NOT TRUST

- Boundary or data-based security models are NOT secure
- Zero Trust approach: Trust nothing and authenticate repeatedly
- Multi-Factor Authentication (MFA) and Trust Chain between authentications

### Digital Identification

- ISO/IEC 18013 based mobile Driver's License & Self Sovereign Identification (SSI)
- Foundation to solve the limitations of data-based online identity verification

### Passkey and FIDO

- Passkey: A convenient and reliable device key (or secret) chain
- FIDO (FIDO Device On-boarding): Trust chain for HA and IoT devices

### Last, Biometric

- The most crucial authentication method in the digital authentication
- Requiring both good usability and strong resilience against presentation attacks

## 2. Relations: Product, Service and Professional

### The Trinity





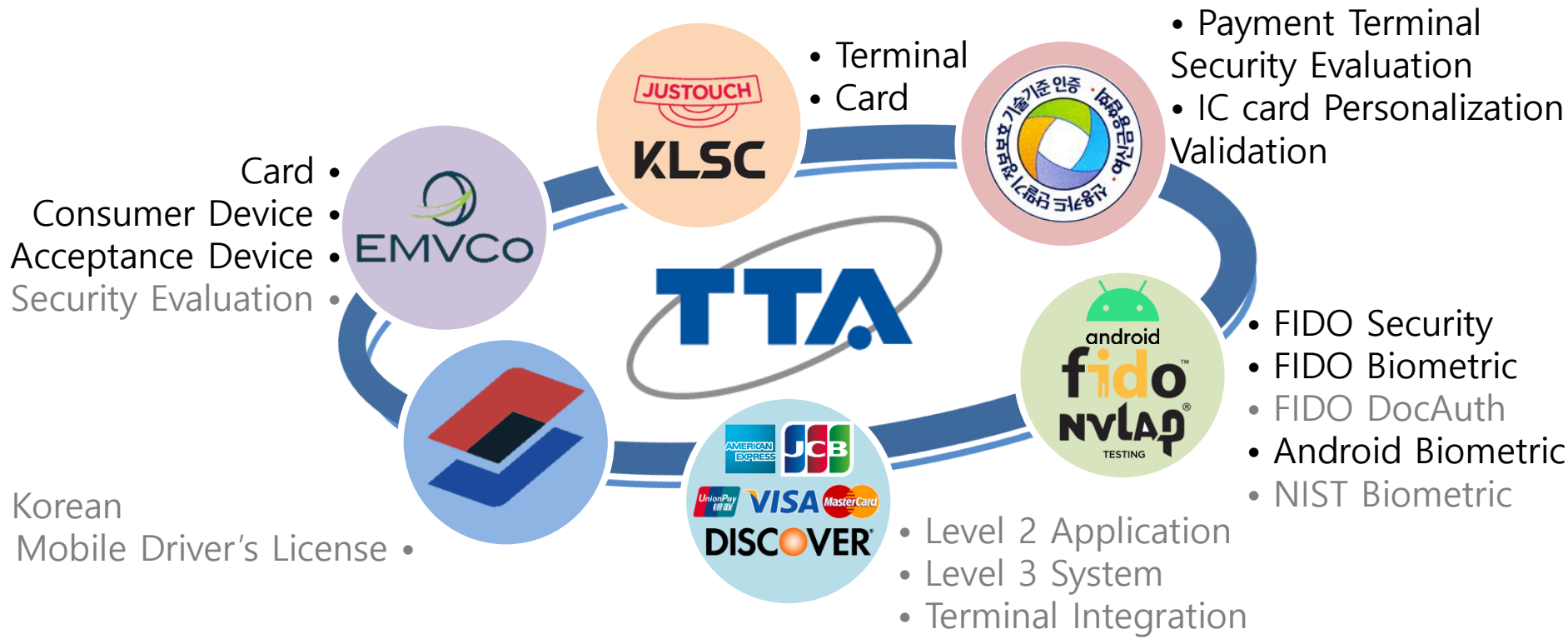
# III

# Prep. the Future with TTA



# 3. Prepare for the Future with TTA

## Payment & Digital Identity in TTA



# IV

# Wrap Up



# 4. Wrap up

## Threats

- The time has come to say goodbye to Password
- Security threats in the cyber environment continue to rise
- Multi-Factor Authentication (MFA) is not an option

## Solution

- MFA should consider both convenience and security
- FIDO is a reliable solution for creating convenient MFA

## Importance

- However, simply adopting FIDO solution does not solve the problem
- We also need professional with the knowledge to understand FIDO

## Trust

- Certificate only proves minimum conformance and interoperability
- Establishing next level, seek expert advice. TTA is also an expert!



# 감사합니다

Thank You