

Java Card Forum: Webinar - Wearables

Java Card leveraging Wearables
Giesecke+Devrient Mobile Security GmbH



As contactless payment & wearables transform society...



2.5tn USD

Of 2021 transactions were contactless



95%

Purchases will be powered by eCommerce by 2040 ⁽²⁾



64bn USD

Projected size of wearables tech market by 2024⁽³⁾

... the threats to security are growing.



3.9M USD

Global total average cost of a data breach in 2020 ⁽⁴⁾



50%

Businesses can lose half of customers after a data breach ⁽⁵⁾



80%

Data breaches result from compromised or weak credentials ⁽⁶⁾

Challenges and Wearables as solution

Challenges



Ticketing



Vendor Information



Shopping



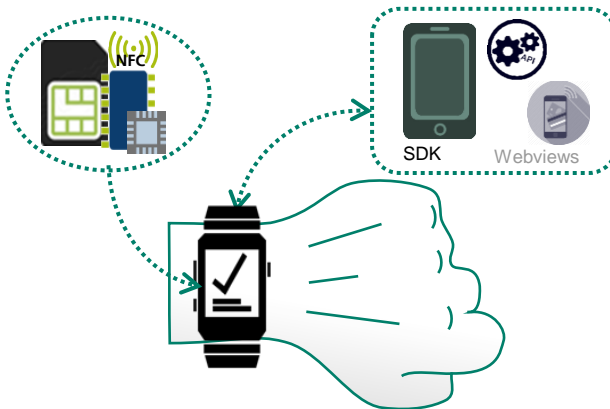
Access Control



Online Authentication



Issuance



Solutions

Mobile Ticketing

Tracking

Contactless payment

Easy access

Fast login solution

Tokenization

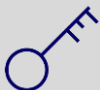


...the needs of people and businesses are changing too

Users



Want seamless UX



Want privacy and personal data protection



Need strong “invisible” security



Anytime, anywhere, any device

Service Providers and OEMs



Want to reduce complexity



Want to satisfy customers

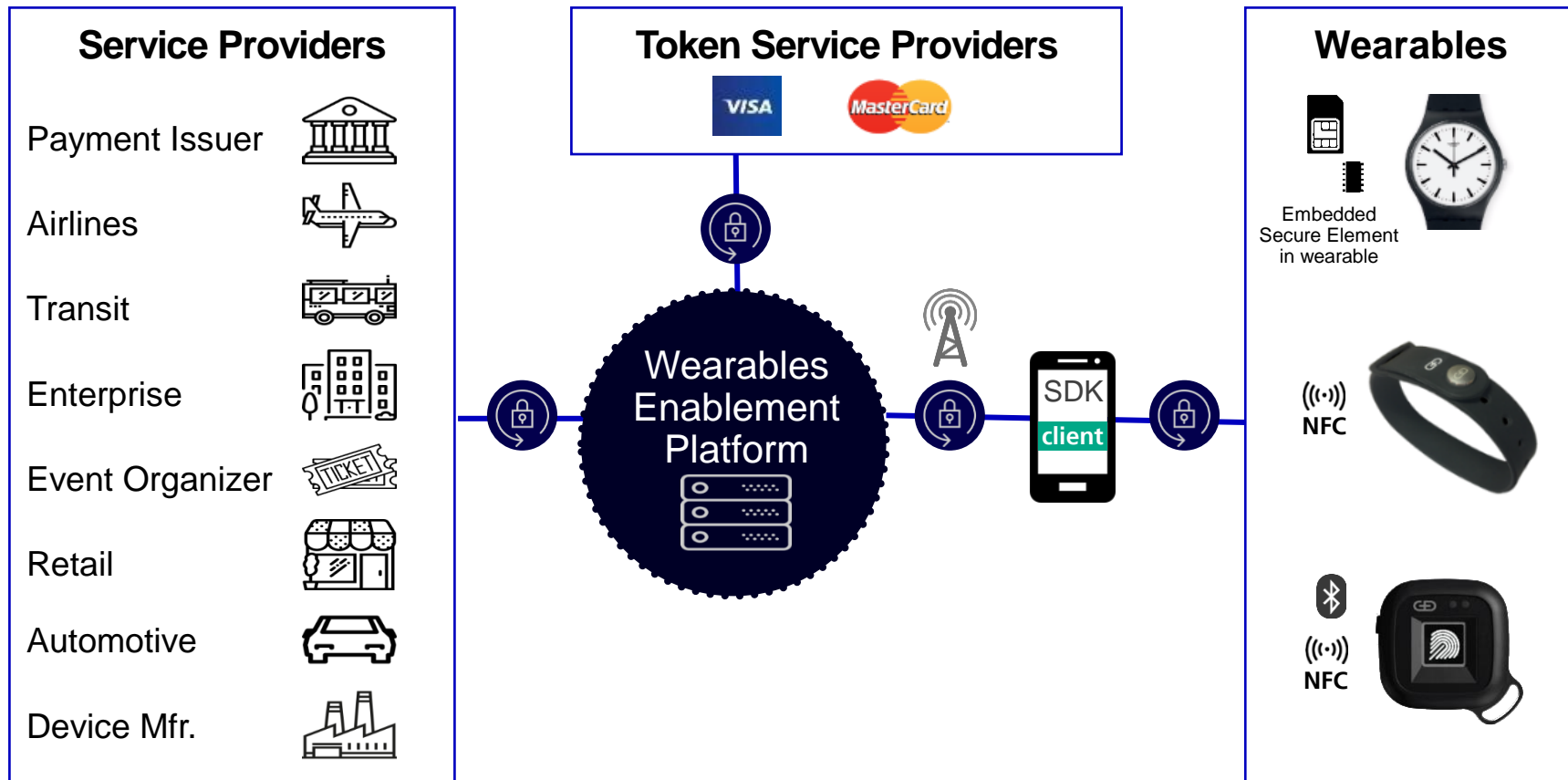


Need strong solutions that scale



Full compliance with regulations

Wearables Enablement Platform



Reference Case SwatchPay



Source: <https://www.swatch.com>

G+D Passive Wristband



G+D Biometrics Key Fob

Physical Access Control



Mobile Payment



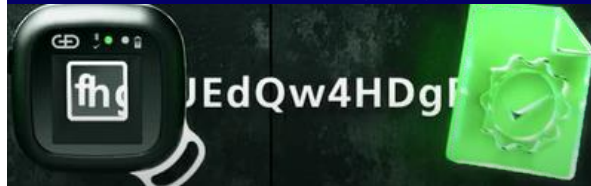
Secure Authentication Mobile



Secure Authentication PC



Encryption/Signing





Source: <https://cardandpaymentsawards.com>

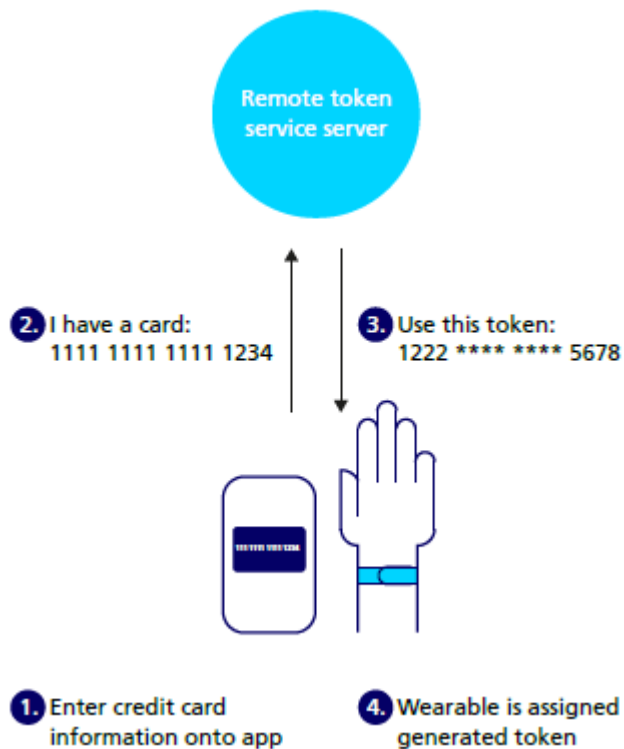


THUMBS UP NatWest is testing payment FOBs – and customers don't need their card or phone to use them

Helen Knapman, Digital Deputy Consumer Editor
4 Dec 2019, 0:01 | Updated: 3 Dec 2019, 18:11

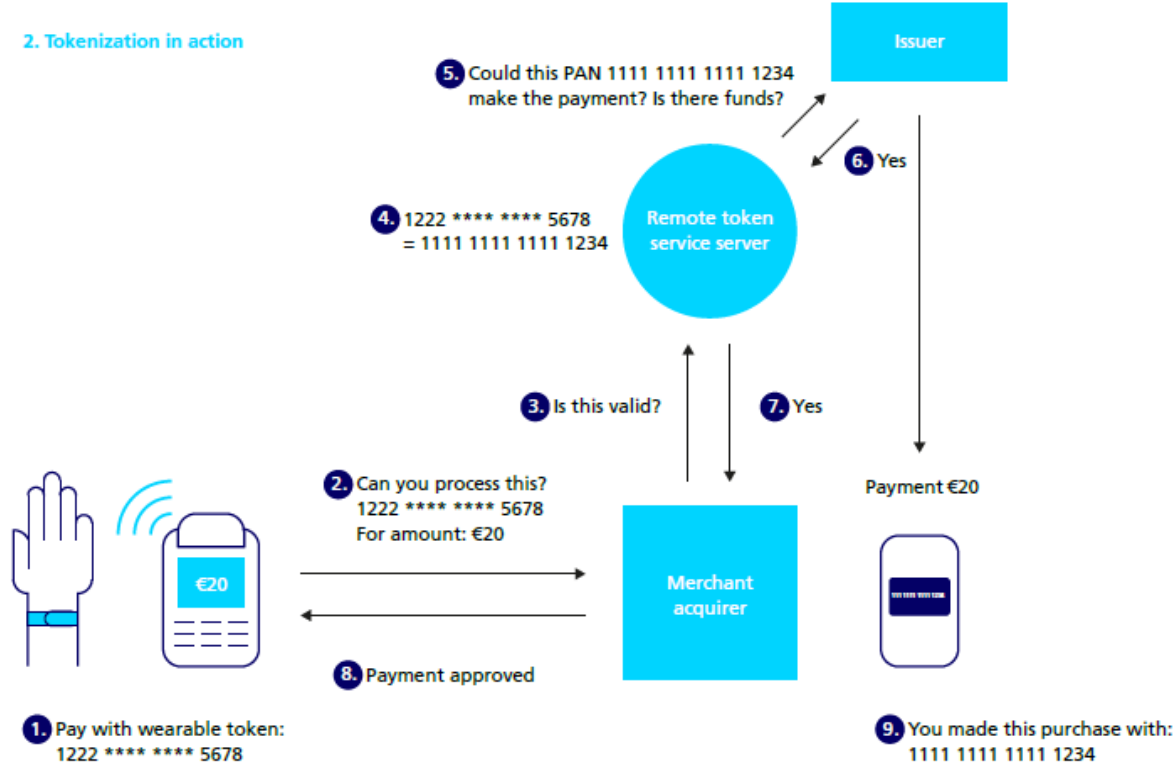
Biometrics Payment Fob winning the Cards and Payment Award 2021 in two categories – Best Design and Best Payment Facility

1. Mobile Payment Tokenization



2. Mobile Payment Tokenization in action

2. Tokenization in action



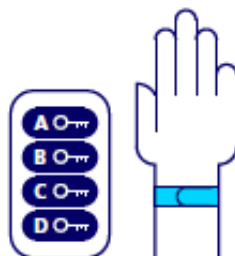
FIDO Registration

1. Registration

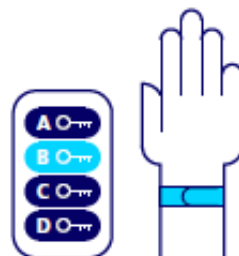


Registration portal of a FIDO enabled website (e.g. Bank website using a FIDO server).

2. User approval & key generator



This your personal wristband.



3. From FIDO point of view, the user approval is done by tapping the wristband to the mobile phone, thus the key will be created.

4. Registration complete



Ready to use!

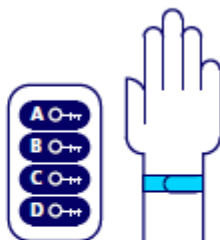
FIDO Authentication

1. Login

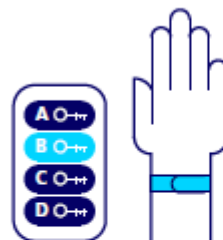


Login portal of a FIDO enabled website (e.g. Bank website using a FIDO server).

2. User approval & key selection



This your personal wristband.



3. From FIDO point of view, the user approval is done by tapping the wristband to the mobile phone, in order to authenticate via using the selected key.

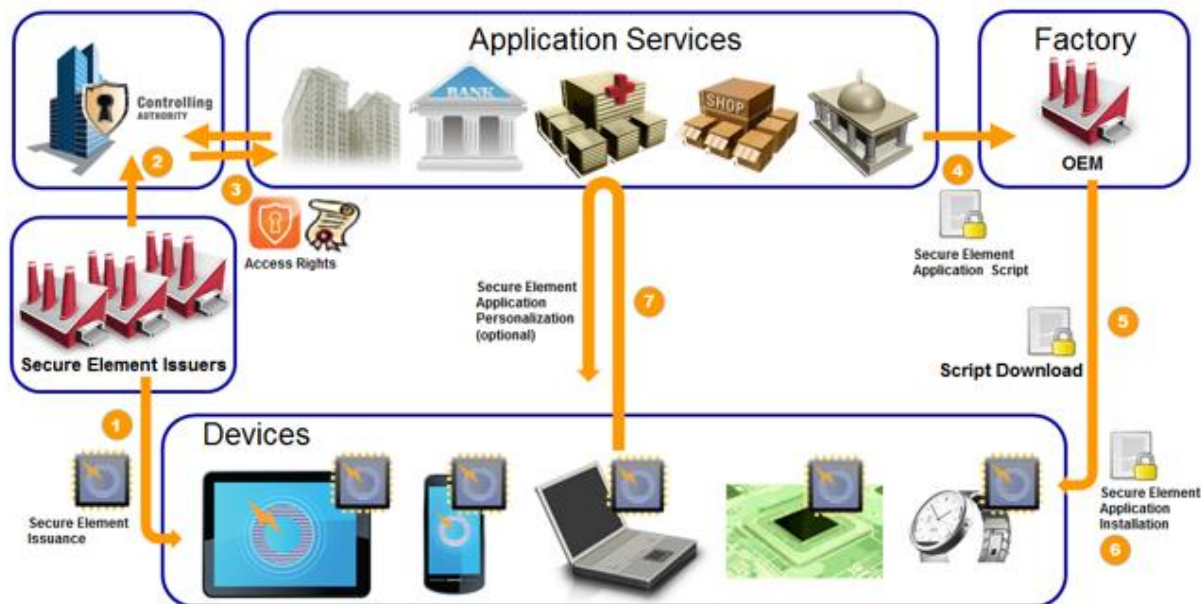
4. Login complete



Login to FIDO enabled website complete.

Application Issuance & Personalization on Wearables

Figure 4 - Pre-Issuance - ecosystem



GLOBALPLATFORM
The Standard for Wearable, Embedded, and Secure, Open Technology

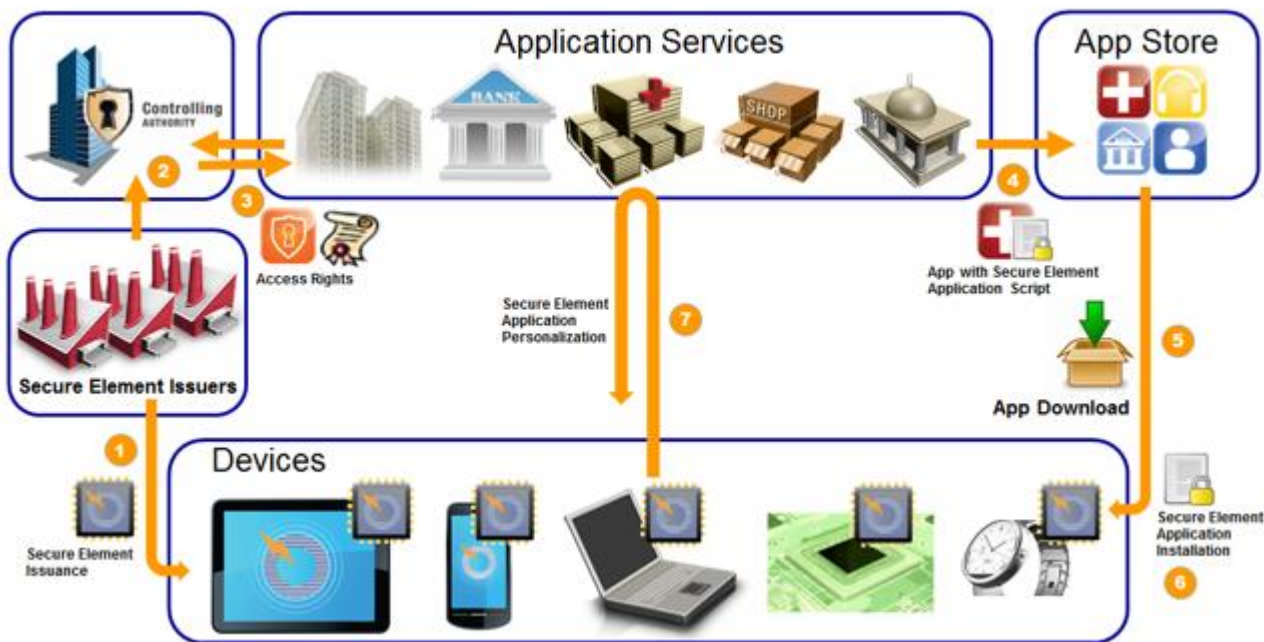
DSEM: Decentralized SE Management
Decentralized provisioning and management of Secure Elements on different device types (mobile, wearables, IoT) without SEI-TSM based on GP Card Specification Amend A and F

White Paper
2020

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Application Issuance & Personalization on Wearables

Figure 6 - Post-Issuance – ecosystem



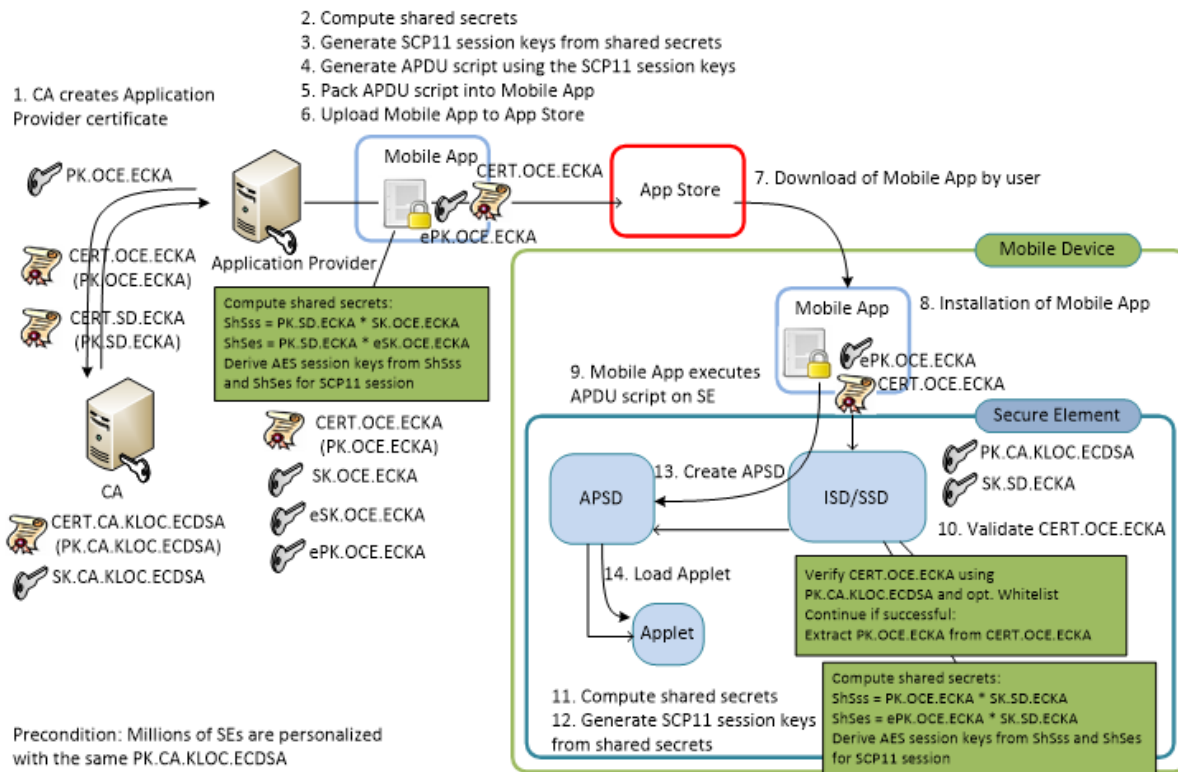
GLOBALPLATFORM
The Standard for Mobile Management, Secure Element, and Secure Data Technology

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How DSEM works in detail



Creating Confidence



Thank you for your attention