

Combining FIDO®/CTAP2 with a Payment Wallet

This presentation outlines how the FIDO®/CTAP2 API and the W3C WebAuthn standard could be augmented with meta data holding virtual payment cards.

The authorization system builds on an enhanced EMV® concept, where a card can represent any account based payment scheme, including the international card networks and SEPA, as well as national networks.

Although not shown here, a card is after registration, also intended to be usable for payments at the counter (POS). P2P payment support is also in scope.

A detailed description of the actual data exchanges and wallet data is available at:
<https://fido-web-pay.github.io/>

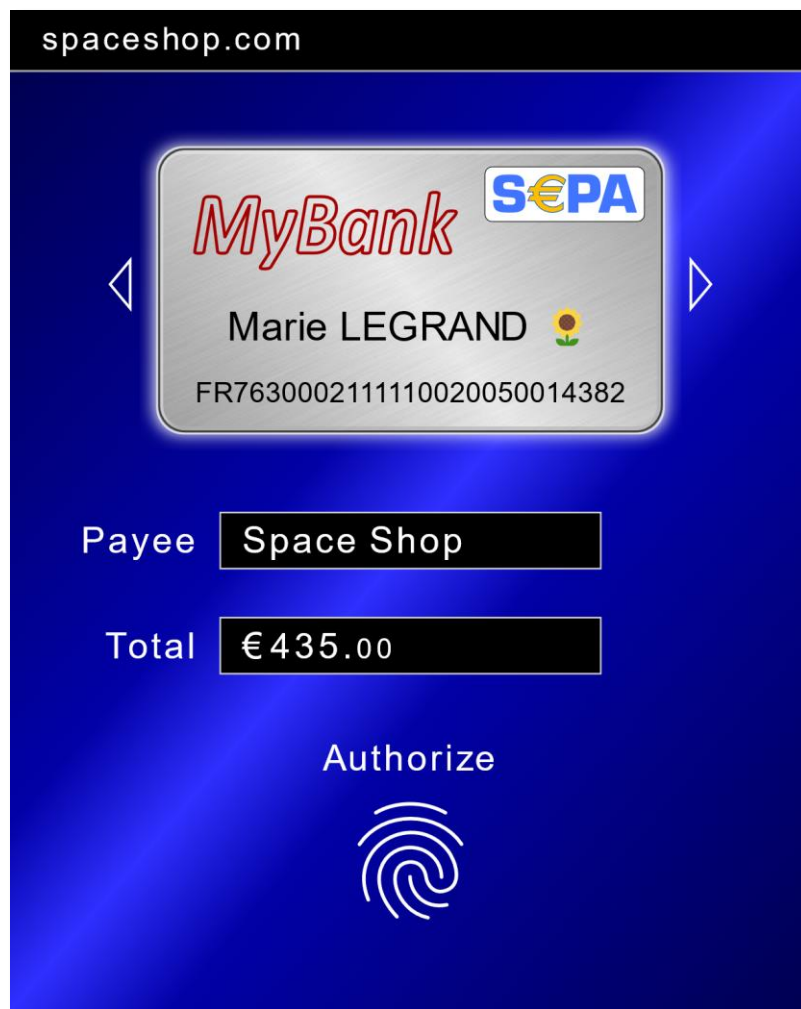
Anders Rundgren 2022-11-23

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Wallet – Non-normative UI Sample

Integrated payment experience
extending the UI compared to
current payment terminals.

The very same UI and security
solution is used regardless if
paying online or locally.



← Merchant host name

← Swipeable list of virtual cards *

← Merchant common name

← Amount to pay

← Activates the authorization key

* Only cards matching the payment networks supported by the merchant will be shown

Wallet – Enhancement of EMV Card Data

EMV Account ID (PAN)

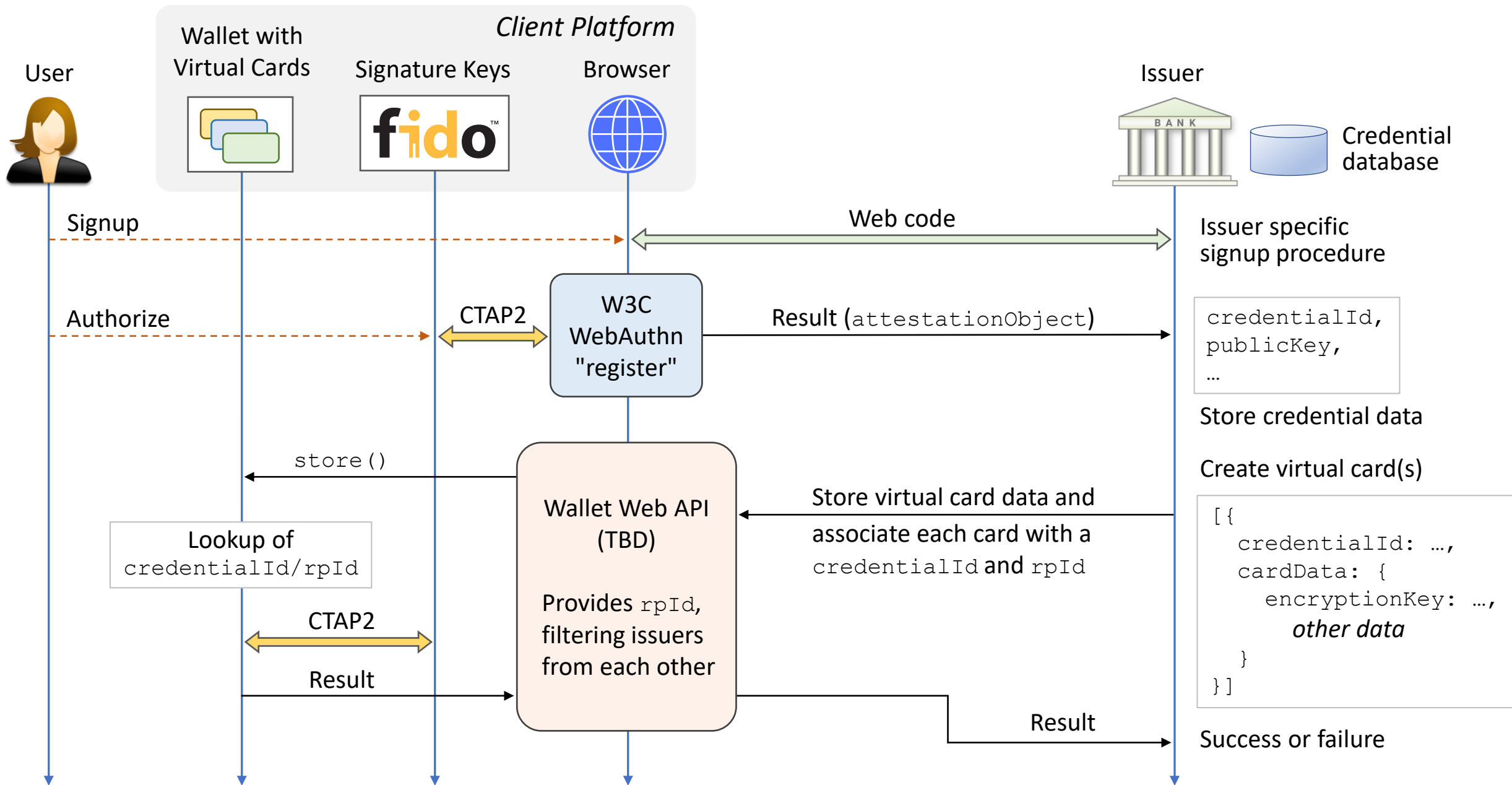


FIDO Web Pay “Decomposed” Counterpart

Account ID	<input type="text" value="Account Identifier String"/>	Payment network compatible account identifier. Examples: FR7630004003200001019471656 for a French IBAN and 4111111111111111 for a VISA card.
Payment Network ID	<input type="text" value="URL or Specific String"/>	Payment network identifier. Examples: https://banknet2.org for a hypothetical bank network and visa for the VISA network.
Issuer ID	<input type="text" value="URL String"/>	URL to an issuer endpoint like: https://mybank.fr/payment . This solution eliminates Account ID to issuer URL lookup databases.

The variables above are the only elements that protocol wise separate user authorizations for different payment networks, while from the user’s perspective, only card images differ.

Wallet – Virtual Card Enrollment



Wallet – Online Payment Authorization

