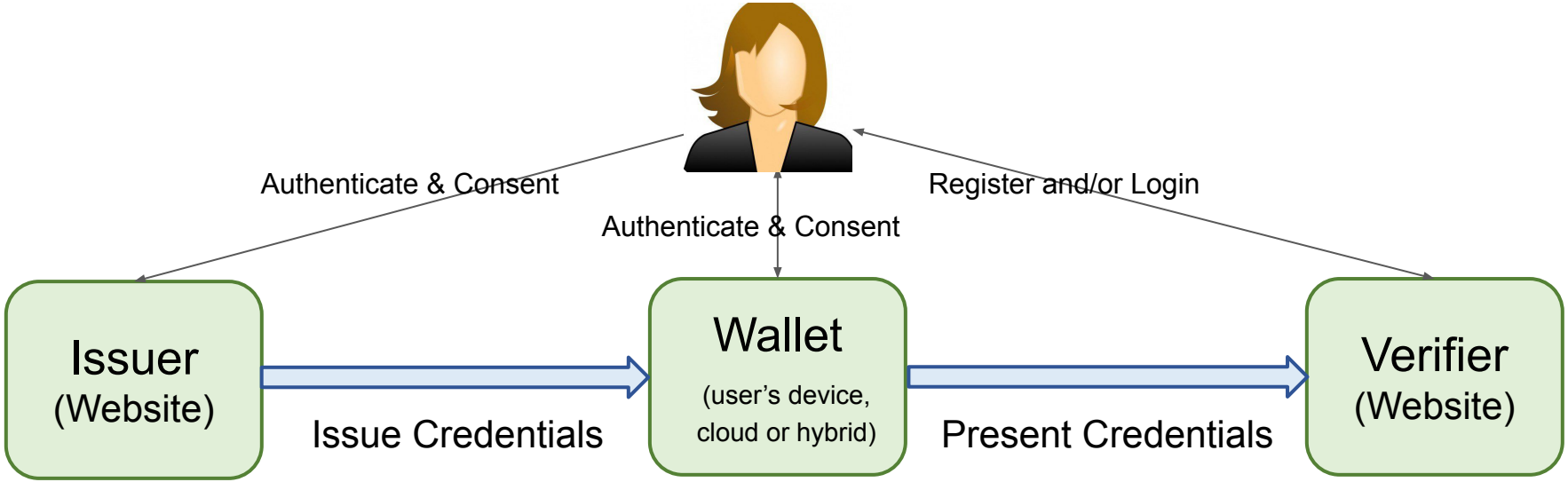
Client/Trust Management

Kristina Yasuda
Tobias Looker, Mattr
Torsten Lodderstedt, yes

OpenID for Verifiable Credentials



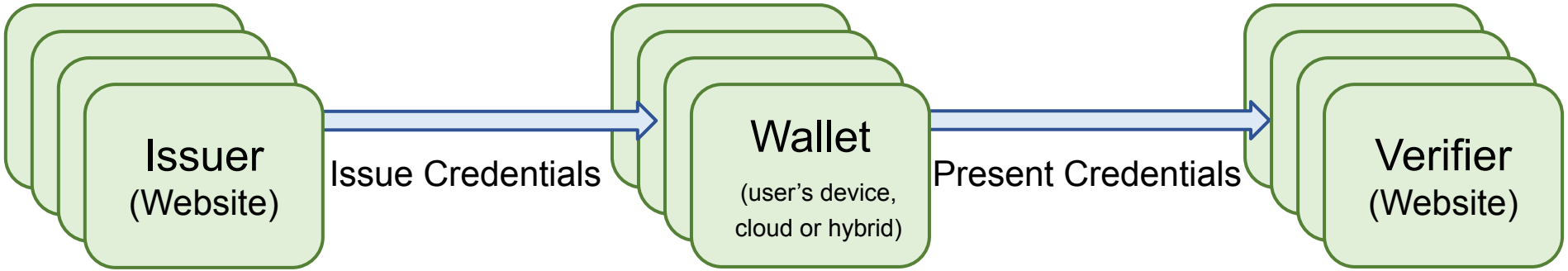
OpenID for Verifiable Credential Issuance

OpenID for Verifiable Presentations

Self-Issued OP v2

Protocols based on OAuth / OpenID Connect

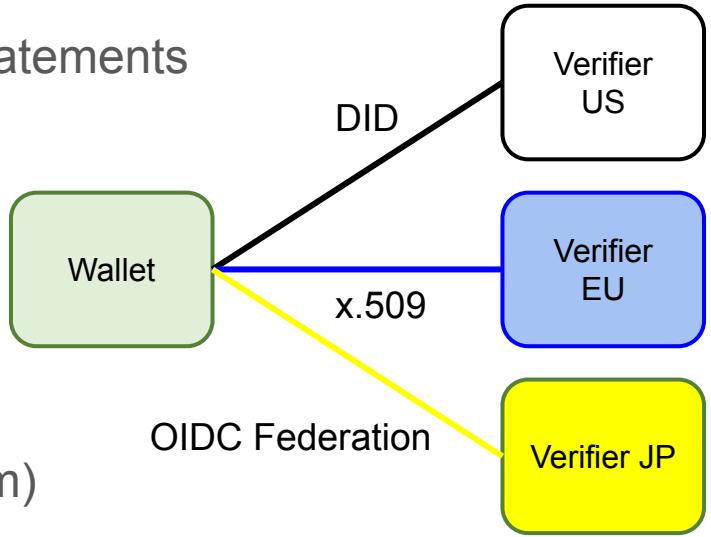
Recap from IETF-115



- Verifiers need to work with multiple wallets, Wallets need to work with multiple Issuers
- Pre-registration with every Wallet or Issuer doesn't scale
- Conclusion: client ids can be managed by trusted 3rd parties (OAuth 2.1)

Next challenge: so many different methods

- Dynamic Client registration with Software Statements
- x.509 certificates / PKI
- OpenID Connect Federation
- DIDs
- TRAIN
- client_id == redirect_uri
- IndieAuth
- Proprietary mechanisms (e.g. yes Ecosystem)



Multi homing wallets need to support many of them

How to determine actual method?

- Every method requires special treatment (signing, metadata source, additional request parameters)
- Previously, method was determined from existing authorization request parameters, e.g.:
  “When Verifier's “client_id” is expressed as an https URI, and does not equal to a “redirect_uri” value …“

- Decided to go with a new Authorization Request parameter to let the client indicate to the AS what method to use

“client_id_scheme” Authorization Request Parameter

- A string identifying the scheme of the value in the `client_id` Authorization Request parameter
- Determines how the Wallet (acting as OAuth AS)
  - interprets the `client_id` value,
  - whether the request needs to be signed/authenticated,
  - what additional parameters need to be present,
  - where the client metadata can be obtained and how
- Supported client id schemes can be published in the Wallet’s (AS) metadata
- Supported by OpenID for Verifiable Presentations, plan to extend to OpenID for Verifiable Credential Issuance and SIOP v2 as well

Pre-Defined Options in OpenID for Verifiable Presentations

- pre-registered
- redirect_uri
- entity_id
- did

Under consideration

- x509
- train

Example authorization requests and processing rules


```
{
  "client_id": "https://client.example.org/callback",
  "client_id_scheme": "redirect_uri",
  "response_types": "vp_token",
  "redirect_uri": "https://client.example.org/callback",
  "nonce":"n-0S6_WzA2Mj",
  "presentation_definition": "...",
  "client_metadata": "..."
}
```


- Request must not be signed
- redirect_uri must equal client_id
- additional untrusted client metadata through parameter


```
{
  "client_id": "https://client.example.org",
  "client_id_scheme": "entity_id",
  "response_types": "vp_token",
  "redirect_uri": "https://client.example.org/callback",
  "nonce":"n-0S6_WzA2Mj",
  "presentation_definition": "..."
}
```


- Request must be signed
- any redirect_uri allowed
- additional client metadata through entity statements

Applicable to other OAuth-based applications?