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MOSIP

Workshop:
Claim 169:
Standardizing Interoperable QR Codes

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Objective

To introduce participants to the claim 169 specification – **which can be incorporated into QR code** – and equip them with the knowledge and skills to utilize it for generating.

- **Understanding Claim 169** – Gain **insights into the Claim 169 specification**, its advantages, and real-world applications in identity management..
- **Technical Walkthrough** – A deep dive into the Claim 169 specification, including implementation guidelines and customization options.
- **Demo** – Create QR codes, scan & verify QR codes and explore tooling solutions like Pixel Pass, comparing standard QR codes with customized versions for secure identity management.
- **Interactive Discussion** – Q&A session to address implementation challenges, interoperability concerns, and **gather inputs on best practices for adoption.**

By the end of the session, participants will be well-versed in the standardization benefits of Claim 169 and will be equipped to apply it in real-world identity verification scenarios.

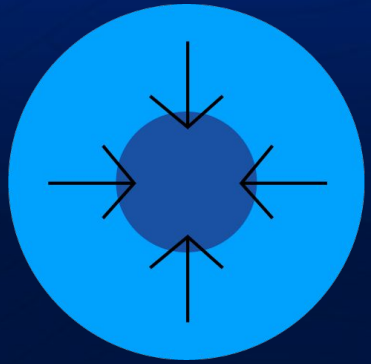
Agenda

- Introduction & Objective
- Overview of Claim 169
- Benefits of Implementing Claim 169
- Implementation Walkthrough
- Use Case Demonstration
- Feedback and Q&A

Claim 169 - Overview

Why Claim 169?

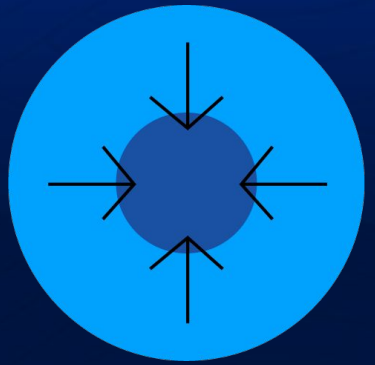
- Individuals use identity data for authentication in different circumstances.
- A real-time scenario: a resident or citizen crossing a border.
- During border crossing, identity data is presented to another country through channels like QR codes.
- To ensure ease of authentication/verification, the other country/party should be able to verify/authenticate the data.
- A challenge arises as each country may follow different methods for presenting identity data.
- Claim 169 is introduced to overcome this challenge and improve interoperability.



What is Claim 169?

A standard interoperable QR code.

- A standard CBOR-based claim key that encapsulates an individual's identity data, including Personally Identifiable Information (PII) commonly used in Foundational/National ID systems.
- It follows a map data structure, where attribute identifiers (numeric values) represent specific identity attributes.
- It includes biometrics as part of the claim key.
- Registered with the IANA registry under the claim name as identity-data and claim key as 169
  - Aligning with SDG Goal 16.9



Benefits of ID Claim 169

Channel Agnostic - Multiple channels

- BLE
- HTTP
- NFC
- QR

Machine readable

- No special devices
- No vendor lock-in

Low Cost High Trust

- QR code (Multiple)
- Mobile

Trust Registry

- Build

Claim 169

Specifications Walkthrough

Claim 169 Specifications

As part of the standard process, **Claim 169** has been registered with **IANA** (Internet Numbers Assigned Authority) under the claim type **MAP**, ensuring compliance with a defined **CBOR Map structure**.

CBOR Map Structure

Attribute	Type	Attribute Name
1	tstr	ID
4	tstr	Full Name
9	int	Gender 1-Male, 2-Female, 3-Others
62	[Biometric]	Face

Claim 169 Specifications

Type - [Biometrics]

Attribute	Type	Attribute Name
0	bstr	Data
1	bstr	{Data Formats}
2	bstr	{Data sub formats}
3	bstr	{Data Issuer}

Data Representation

JSON

```
{
  "id": "111110000324018",
  "fullName": "John Smith",
  "dob": "19880102",
  "gender": "Male",
  "nationality": "IN",
  "face": {
    "Data": “52494646b010005...",
    "dataFormat": "image",
    "dataSubFormat": "png"
  }
}
```

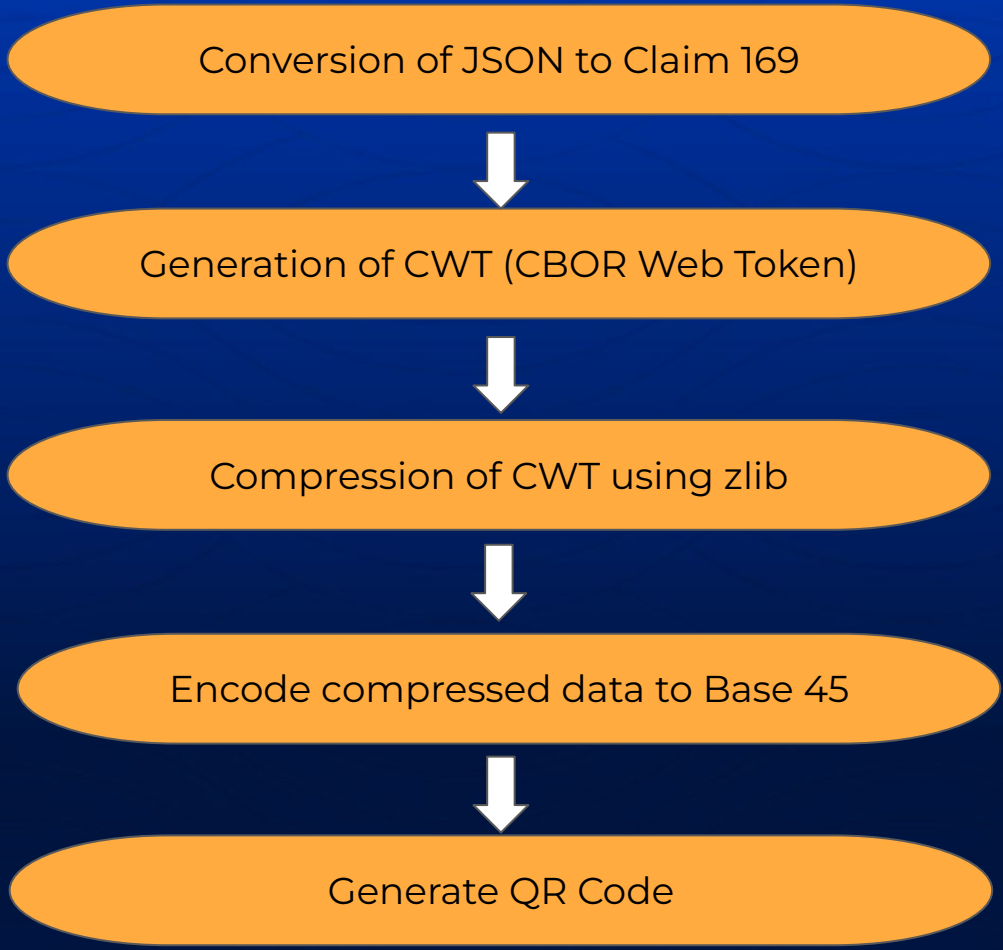
Claim 169

```
{
  1: "111110000324018",
  4: "John Smith",
  8: "19880102",
  9: "1",
 13: "IN",
 62: {
        0: "52494646b010005...",
        1: 0,
        2: 4
    }
}
```

Claim 169 - DEMO

Demonstration of QR Code Generation & Verification

QR Code Generation



QR Code Verification

- Scan QR Code
- Decode scanned data using base45
- Decompress decoded data using zlib
- Validate CWT (CBOR Web Token)
- Extract face image of resident from data
- Capture Live photo of the resident
- Verify by matching both images
- Display the results

Feedback & Questions?

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Thank You!

Homepage: www.mosip.io

Source Code: github.com/mosip

Documentation: docs.mosip.io

Community: community.mosip.io