

[DRAFT] Self-Sovereign Identity—Test Plan

R.M. Chotkan

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1 Introduction

This serves as a test plan for *Industry-Grade Self-Sovereign Identity*: a fully distributed Self-Sovereign Identity scheme, capable of offline-verification and distributed revocation, built with the academic IPv8 protocol stack. The test plan describes a scenario capable of evaluating the usability and performance of IG-SSI. The test plan is built for an international trial with a focus on the novel revocation model of IG-SSI. The main goal of this plan is to validate the functionalities.

2 Test Scenarios

Scenario #1: The Crossborder Revocation Trial

In airports, identities must be quickly verified in order to ensure travellers are eligible to cross borders. This scenario investigates this identification procedure using SSI credentials and revocation.

Stakeholders:

- Authorities: Government **A**, Government **B**
- Subject: Traveller **C**

Issuing Credentials

1. Traveller **C** requests attribute TRAVEL_CERTIFICATE from Government **A**.
2. Government **A** issues attribute TRAVEL_CERTIFICATE for Traveller **C**.
3. Government **B** adds the public key of Government **A** to his Trusted Authorities Storage.

Revocation

1. Government **A** revokes the attribute TRAVEL_CERTIFICATE of Traveller **C**.
2. Traveller **C** presents TRAVEL_CERTIFICATE to Government **B** via QR-code.
3. Government **B** scans the QR-code of Traveller **C**, verifying the validity of TRAVEL_CERTIFICATE leading **FAILURE**.