
Horizon 2020 ETC 636126

Demo System Interoperable Account System

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Deliverable 8.2

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1 Introduction

1.1 Introduction & Summary

This document provides an overview of one of the Demo Systems IAS used in the ETC project. Deliverable 8.2 (demonstrator) is part of work package 8 '*Interoperable Account System*'.

Objectives

The objectives of work package 8 are:

- to explore and describe a trust-framework for transport operators in which they can trust the accounts of travellers with third party agencies, including those from other countries or regions, without the need to sign up such customers themselves. This trust-framework is both the governance as the technical infrastructure necessary for transport operators, or transport schemes to trust each other and to trust the customers or travellers from that other transport operator or transport scheme;
- to develop standards needed for interoperability of such account systems, such that transport operators can inspect the rights of travellers to use their services (see deliverable 8.3); and
- to integrate and demonstrate such systems within our Lab environment and via (cross-border, or interoperable) pilots. See deliverable 8.2 and the deliverables in work package 11, 12 and 13.

These objectives cannot be met by implementing work package 8 only. They have a strong interdependency with other work packages, like:

- work package 3 for the necessary governance to create the trust framework;
- work package 5 for the Lab environment;
- work package 6 for the interoperable hub;
- work package 9 for the interoperable traveller interface;
- work package 11 and 12 for the cross border pilot between Germany and The Netherlands; and
- work package 13: the Luxembourg pilot.

**Summary**

This deliverable (Demo Systems of the Interoperable Account System) is a so-called demonstrator. In the ETC project we have ‘connected’ the Interoperable Account System, which is used by Translink Systems to the ACCEPT EcoSpace. The demonstration was done during the test phase in the ETC-Lab and the (cross-border) pilot phase. As a reference we have included the high-level architecture with the relevant components of this system in this document.



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3 Demo System IAS

This chapter provides a Demo Systems of the Interoperable Account System as used in the ETC project: The Interoperable Account System used by Trans Link Systems in the cross-border pilot in the Netherlands.

In paragraph 3.1 a high level architecture is presented with the important components of the Interoperable Account System.

In paragraphs 3.2 to 3.6 an overview is presented of the relevant use cases and important components of the Dutch Interoperable Account System:

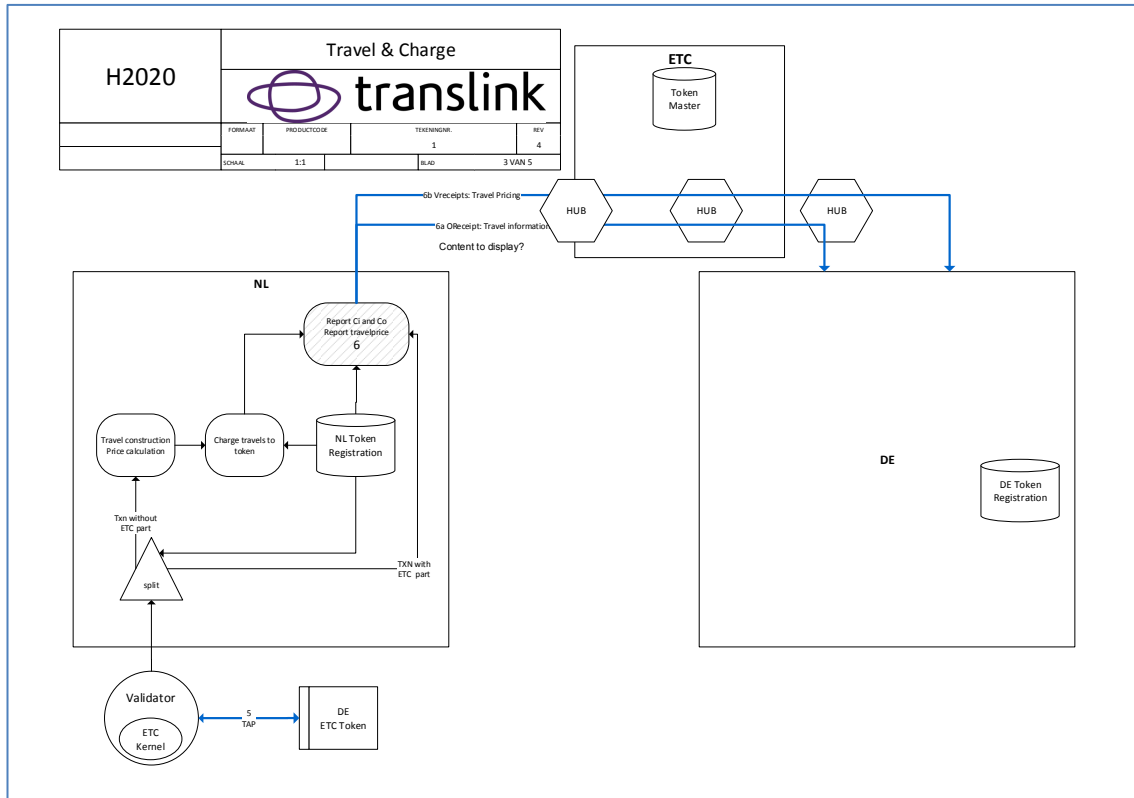
- Issue NL [Dutch] tokens
- Manage service registrations
- Travel & Charge
- Show & Charge external travels
- Debt management



4 Architecture

Below the high level architecture is presented (use case ‘Travel & Charge’). With ‘Travel & Charge’ is meant: pay-as-you-go. The traveller checks in and starts his journey. Upon check-out the price for the entire trip is calculated in the back-office. This process is the same as for the card centric system, currently in use in the Netherlands.

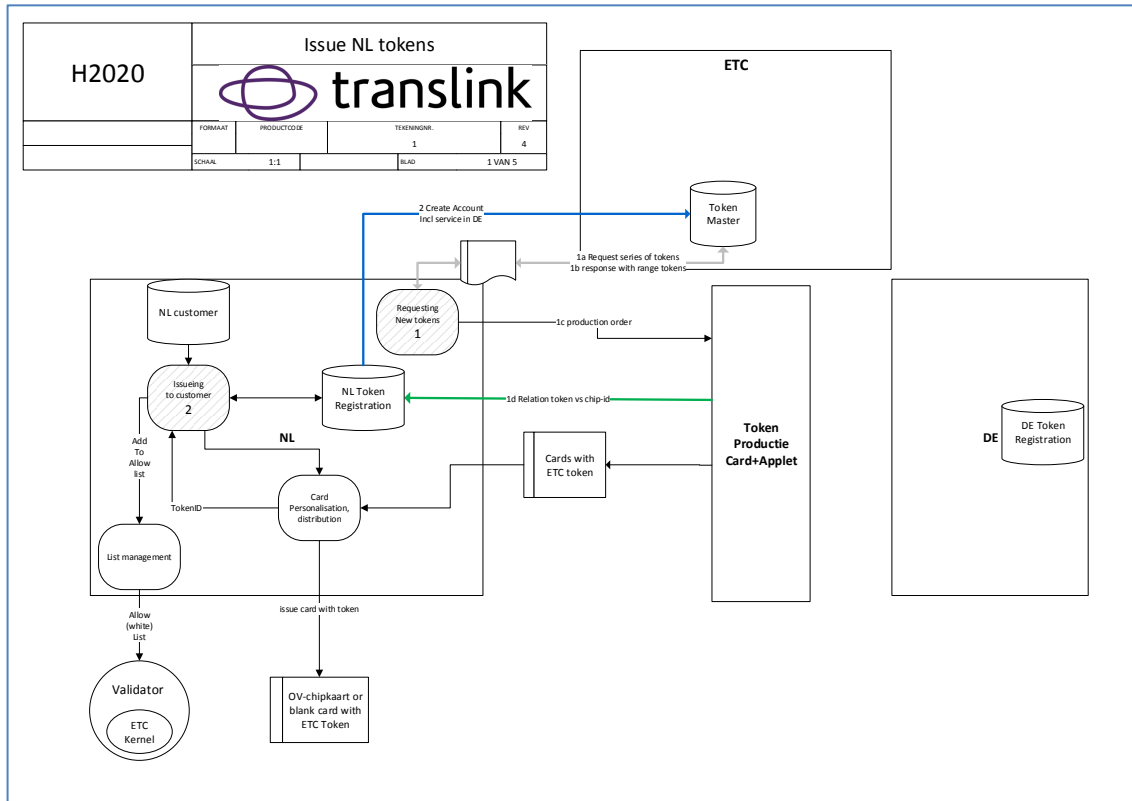
The Dutch Interoperable Account System, see NL square in diagram below, is connected to the ETC Hub via the Local Hub of the Netherlands.





5 Issue tokens

Below overview shows the issuance of tokens (Generic Secure Tokens) for the Dutch cards and travellers.



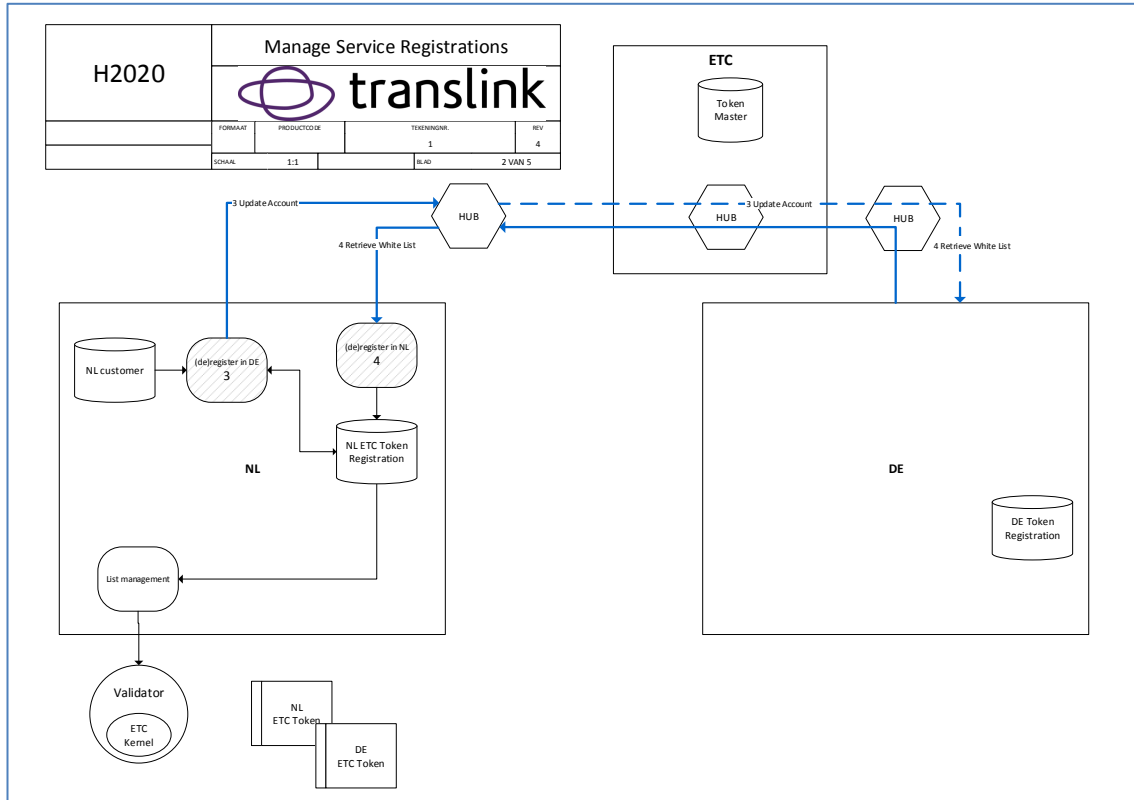
Components Dutch Interoperable Account System:

- List Management
- NL Token Registration Database
- NL Customer Database



6 Manage Service Registrations

Below overview shows the registration of services for the Dutch cards and travellers.



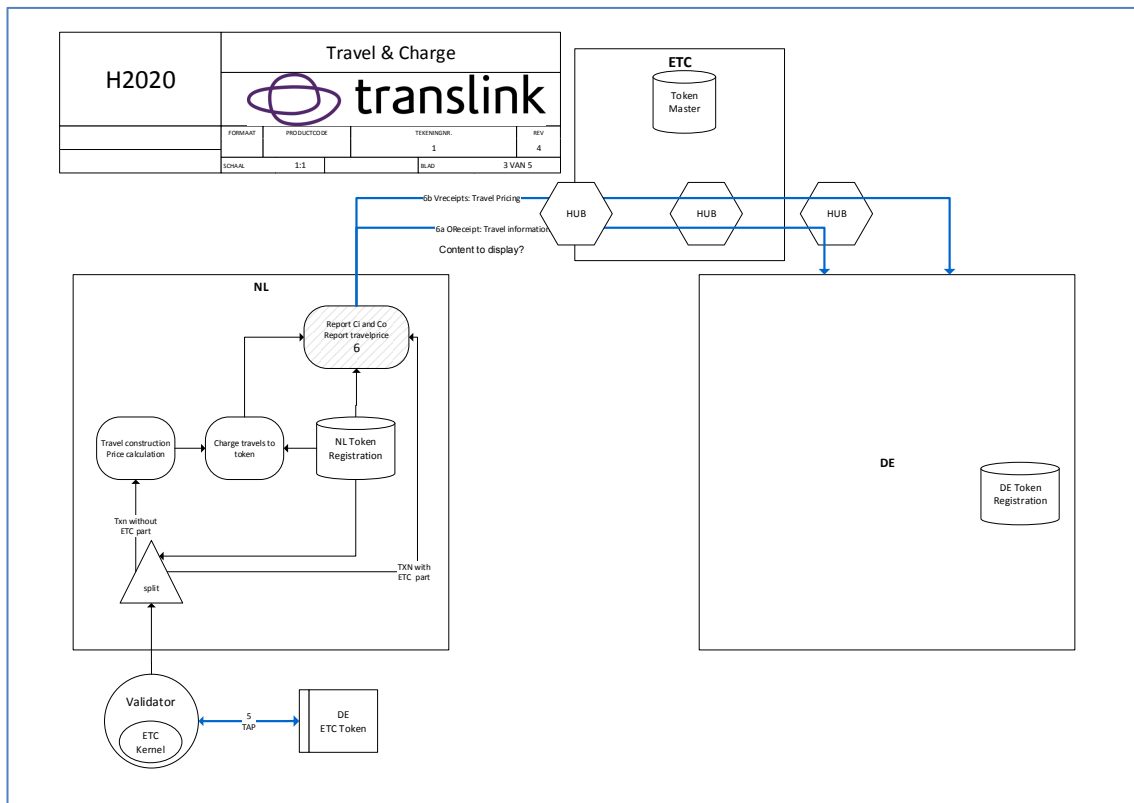


7 Travel & Charge

Below the use case ‘travel & charge’ is shown. In this use case the traveller uses his card with token to travel in the Netherlands.

The ‘Travel construction / Price Calculation’ module is used to calculate the price.

In case a German traveller travels in The Netherlands the transaction is send – via the Interoperable Hub – to the system in Germany.



Components Dutch Interoperable Account System:

- Split system
- Travel Construction / Price Calculation
- NL Token Registration

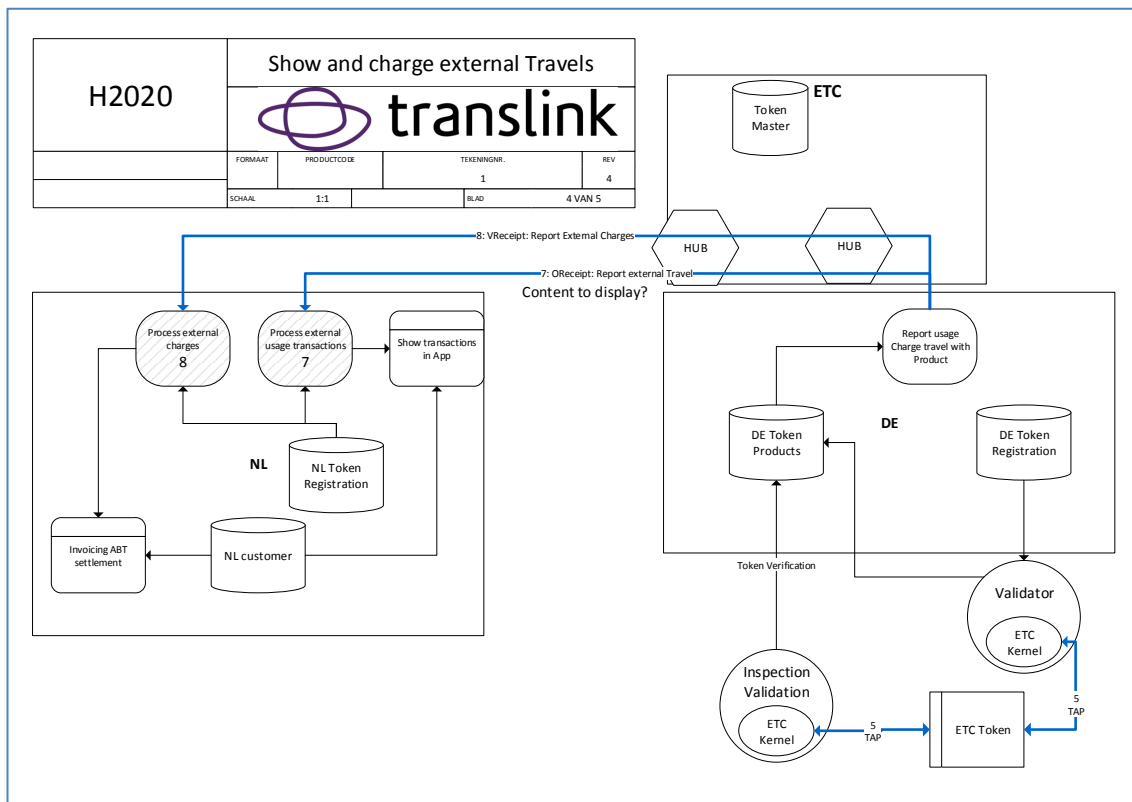


8 Show and charge external Travels

Below the use case ‘show and charge external travels’ is shown. In this use case the Dutch traveller uses his card with token to travel in Germany.

The German system is used to calculate the price (or ticket).

The transaction is send via the Interoperable ETC Hub to the Dutch Hub and through to the Dutch Interoperable Account System.





9 Debt Management

Below the use case 'Debt Management' is shown.

A blacklist is distributed to both the Dutch and the German system.

