



AutPASS Toll Collector Solution

SSA-T, Appendix 5 Annex 5

Test of functional unit –

Invoicing

Version log

Version	Initials	Date	Comments/amendments
0.9			Preliminary RFP sent to Bidders

<CONTRACTOR NAME>

PAGE 2 OF 6

SIGN. CUSTOMER

SIGN. CONTRACTOR

Contents

1.	Introduction	4
1.1	Scope/About this document	4
2.	Description	4
2.1	Invoicing	4
3.	Testing, verification and sign-off.....	4
3.1	Phases and milestones	4
3.1.1	Approval of the detailed specification	4
3.1.2	Preparation for acceptance test.....	5
3.1.3	Solution ready for acceptance test	5
3.1.4	Customer acceptance test.....	5
3.2	Test scenarios and test cases.....	5
3.3	Automatic testing	6
3.4	Regression testing	6

1. INTRODUCTION

1.1 Scope/About this document

This document is meant to give an overview of the testing of the Functional unit “Invoicing”, its relations and dependencies to the AutoPASS HUB, IP and other elements of the Toll Collector Solution, and a description of the test process for this unit.

The main purpose of identifying and describing Functional units is to make sure that all functions and services for the specific Functional unit are specified, developed and tested as a whole. Approval will be considered for the complete Functional unit. This will also enable the possibility to deliver the approved unit to the production environment independent of other Functional units that have already been delivered, or are under development.

2. DESCRIPTION

2.1 Invoicing

This functional unit consist of the generation and distribution of invoices to different channels. The Invoicing Functional unit enables:

- Assembly of Invoices from Sales Orders and register look-ups (e.g. vehicle register)
- File creation in the correct format appropriate to the distribution channel
- File transmission to Invoice distributor (5 distributor agreements currently in place)
- Processing of acknowledgement of Invoice file receipt
- Error recovery (errors in transmission/receipt, re-transmission, etc.)

The Invoicing functional unit must be able to receive and send (forward) the described data in accordance with defined time schedules and anticipated volume.

The data to be exchanged between the Invoicing unit and the Invoice distributor is described in SSA-T Appendix 1 Annex 6 – AutoPASS Data formats.

3. TESTING, VERIFICATION AND SIGN-OFF

The purpose of testing, verification and sign-off of the Invoicing unit is to verify and confirm that all the integration handles the flow and volume of all data exchange.

A description of the data file flow (to and from) and the scheduling is found in Appendix 1 Annex 6 – AutoPASS Data Formats.

3.1 Phases and milestones

3.1.1 Approval of the detailed specification

During the specification phase test data sets for the data files related to the functions and services being specified will be provided.

It is expected that the Contractor will use the provided test data sets to test, verify and demo the solution for the Functional unit.

<CONTRACTOR NAME>

PAGE 4 OF 6

The test data sets will be used by the Customer to validate (test) the detailed specification, and subsequently when considering approval of the detailed specification.

Technical architecture and non-functional requirements are also to be validated (tested) and considered for approval of the detailed specification.

3.1.2 Preparation for acceptance test

During the phase preparing for acceptance test, complete test data sets, meaning data file types from all actors, with their expected volume will be made available.

Complete test data sets are necessary to make sure the Invoice Distribution unit is able to comply with all requirements, both functional and non-functional, and handle the total expected data volume. The test data sets will contain all stations and at least a complete week of operation.

Test data set for preparation for acceptance test: See section 5.1.1

The Contractor must provide test reports in due time. (The exact “deadline” is described in the operational test plan).

3.1.3 Solution ready for acceptance test

The “Entrance criteria” for this milestone:

- Contractor test report (ref Agreement chapter 2.4.2)
 - This report must cover all aspects, functions and services, of the developed solution for the Functional unit.

Based on complete test data sets for the Contractor preparation of the acceptance test, the test done by the Contractor to prepare for the acceptance test will contain a full test dataset only limited to the timeframe of passages.

3.1.4 Customer acceptance test

A detailed plan describing how the acceptance test is to be conducted will be provided by the Customer.

Complete test data sets are necessary to be able to test and verify that Invoice Distribution does comply with all requirements, both functional and non-functional, and is able to handle the total expected data volume. Again the test data sets will contain all stations and at least a complete week of operation.

3.2 Test scenarios and test cases

Test scenarios and the related test cases will be developed and documented in cooperation with the Contractor. A tool/application will be used to document scenarios and cases. The same tool/application will also be used to track test progress and status, and document reported observations, errors and defects.

3.3 Automatic testing

It is expected that the Contractor will conduct automated tests **where appropriate**, and the progress, status and results of these automated tests must be presented in the contractor's test report.

3.4 Regression testing

Regression testing should be performed based on test data, test scenarios and test cases that were initially used to verify and approve the Functional unit.