# Masq Refill - Protecting the world of mCommerce

# Prepaid Trigger Engine - Live Demo

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# 1. INTRODUCTION

## 1.1. Executive Summary

This document presents the interaction between the Applet Prepaid Engine, Masq Gateway, Masq Transaction Platform, FIDO End User and Payment Processor in the context of a refill transaction.

## 1.2. Scope

The scope of this document is to provide information on the communication protocol to be used during the refill process more specifically targeting the Prepaid Trigger Engine Management.

## 1.3. Audience

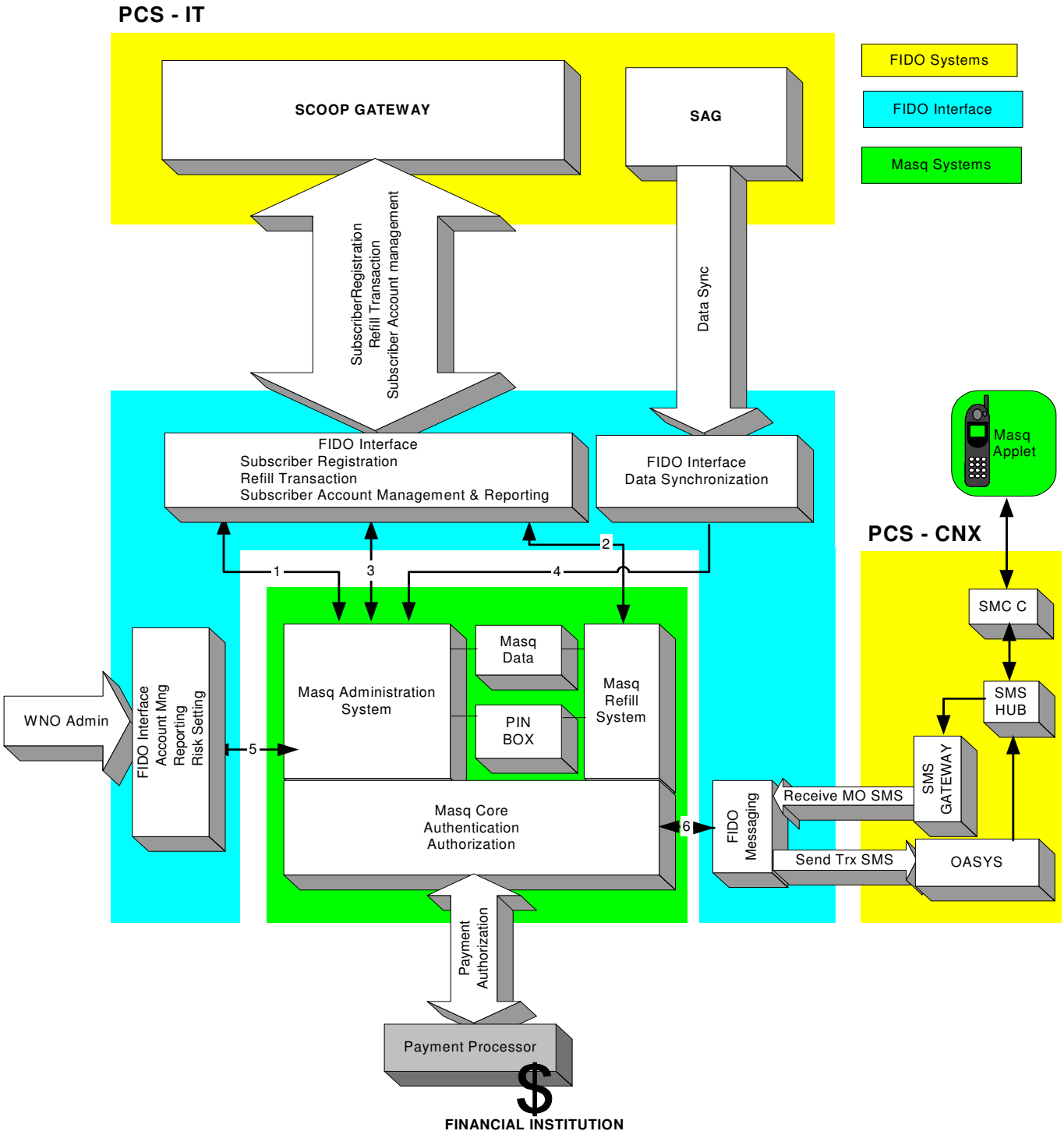
This document is addressed to FIDO.

## 1.4. Organization

This document first gives an overview of the integration architecture. Then it presents the communication protocol with sequence description and data exchange.

# 2. HIGH LEVEL INTEGRATION ARCHITECTURE

A high-level integration architecture supporting FIDO refill processes is presented in the figure below. It highlights the main integration tiers as well as the interaction points.


PCS - IT
FIDO Systems
FIDO Interface
Masq Systems
SCOOP GATEWAY
SAG
SubscriberRegistration
Refill Transaction
Subscriber Account management
Data Sync
FIDO Interface
Subscriber Registration
Refill Transaction
Subscriber Account Management & Reporting
FIDO Interface
Data Synchronization
Masq
Applet
PCS - CNX
1
2
3
4
SMC C
SMS
HUB
WNO Admin
FIDO Interface
Account Mng
Reporting
Risk Setting
5
Masq Administration
System
Masq
Data
PIN
BOX
Masq
Refill
System
Masq Core
Authentication
Authorization
6
FIDO
Messaging
Receive MO SMS
SMS
GATEWAY
Send Trx SMS
OASYS
Payment
Authorization
Payment Processor
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FINANCIAL INSTITUTION

# 3. COMPONENTS DESCRIPTION

## 3.1. MASQ APPLET VERSION 1.0

On the client side, Masq Refill version 1.0 requires that a Masq Applet be installed and activated on the user's SIM card prior to performing a mobile transaction. The purpose of this applet is to compute a cryptographic response to a given challenge, using a secret stored in the smart card and a Personal Identification Number (PIN) known only by the subscriber, thus achieving a two factor strong user authentication.
The applet uses the 3DES-encryption algorithm and is compatible with today's most prevailing technologies. It is easy for mobile users to use, and is secure yet generic enough to support all of the services that the Masq identity infrastructure enables. The applet itself requires less than 6k of EEPROM space and can be implemented on 32k and eventually 64k smart cards.

**In coverage mode**

The applet is activated by an incoming SMS message (MT-SMS). This message contains a text, a challenge and a transaction value. The subscriber is prompted with the text and the transaction value. To accept the transaction, the subscriber must enter his PIN, and confirm the request to proceed. The applet will then compute the response, create an SMS message containing the response composed with the challenge, transaction value and subscriber PIN, and send it back to authorize the transaction.

**Out of coverage mode**

Masq Refill 1.0 does not currently support out of coverage replenishment transactions. The reason for this is that there is no real-time communication between the mobile operator network and the transaction platform. This being said, there is no way to confirm that a subscriber is in fact still authorized to use the Masq refill service when they are not within the coverage area.

**Language**

Both the French and English languages are currently supported.

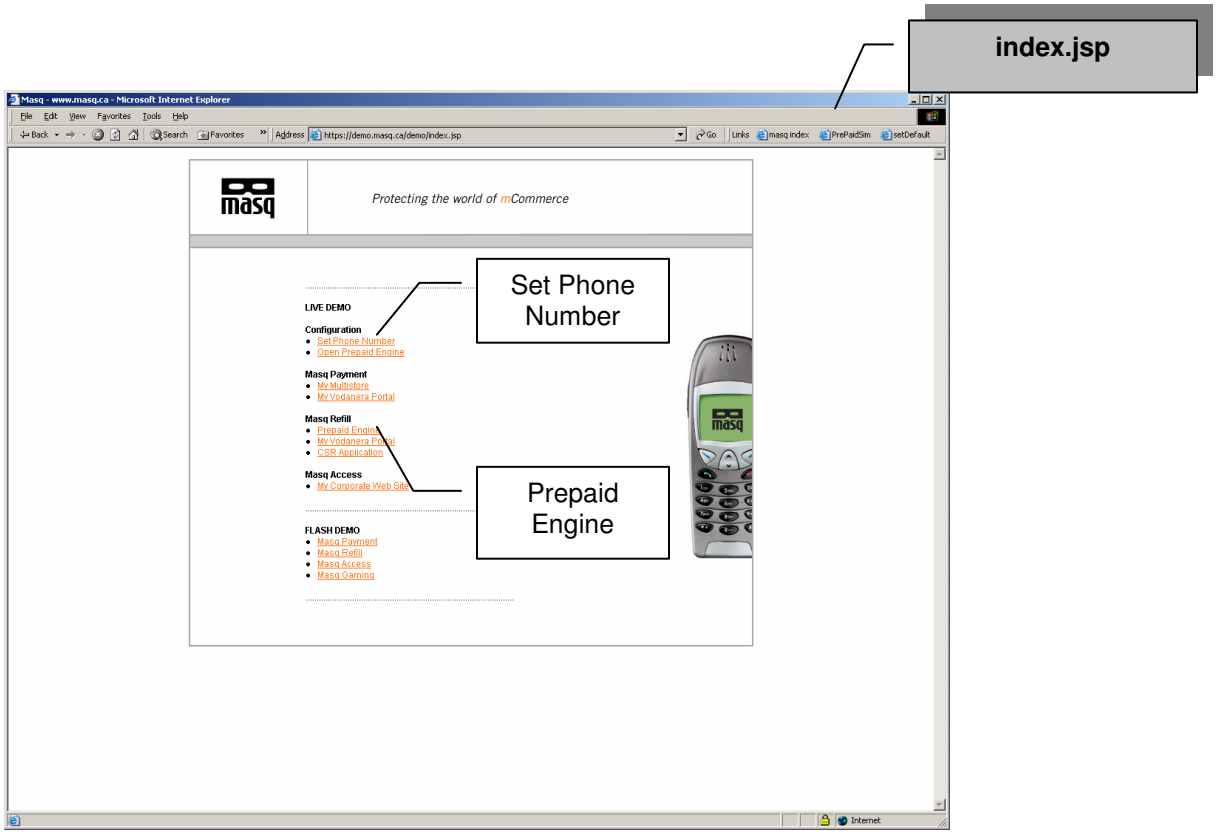
**Applet Distribution**

It is the responsibility of the Wireless Operator to ensure that their SIM cards contain the Masq Applet and that they are distributed and activated prior to utilizing the Masq Refill service. Through partnership agreements with both major card distributors, (Oberthur and Schlumberger) Masq is able to work with the WNO in order to implement an applet distribution solution.

# 3.2. WEB BASED INTERFACES

## Live Demo Interface

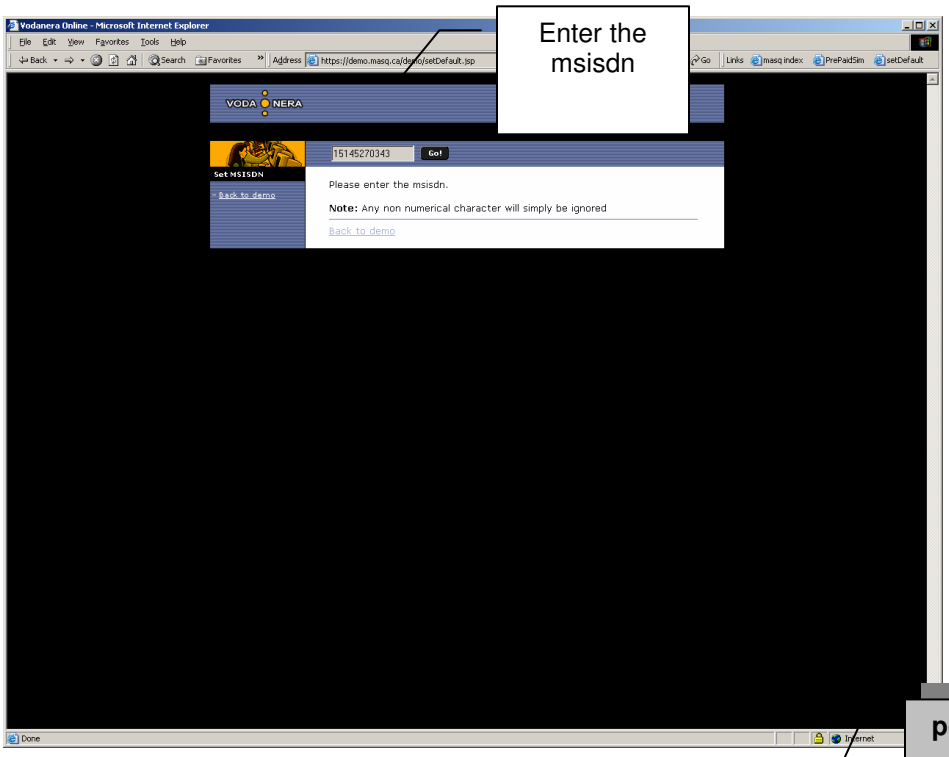
The Live Demo interface allows the demonstrator to make a presentation regarding the refill transaction process. The demonstrator is able to send a replenishment transaction request to the Masq Refill System via a web based portal.



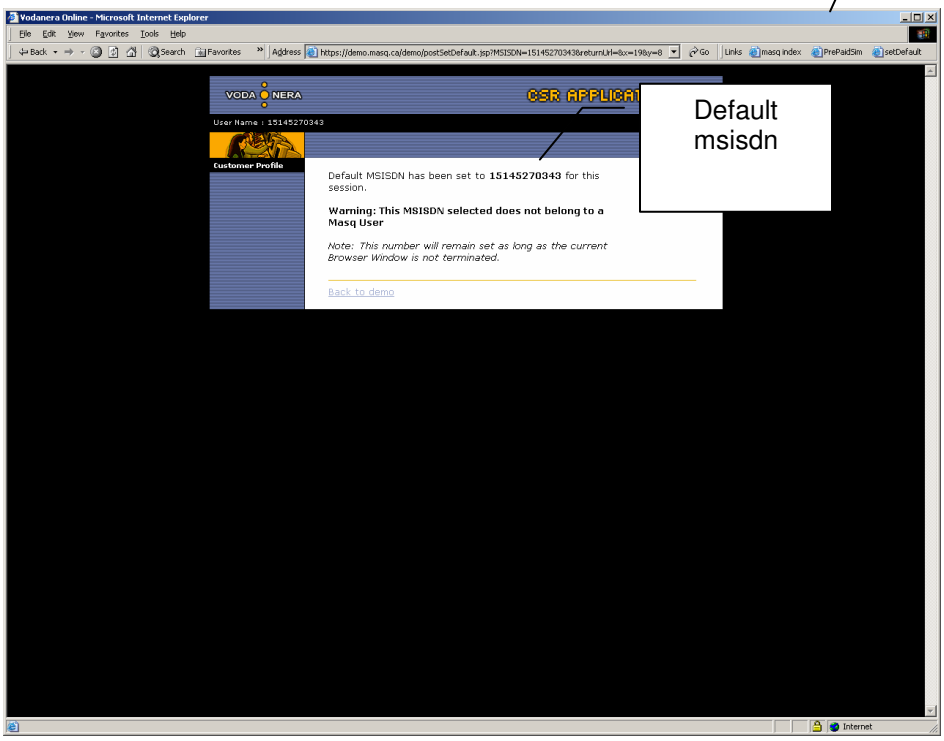
## CSR Interfaces

The Customer Service Interfaces allows the demonstrator to identify and validate the subscriber's service.

**setDefault.jsp**



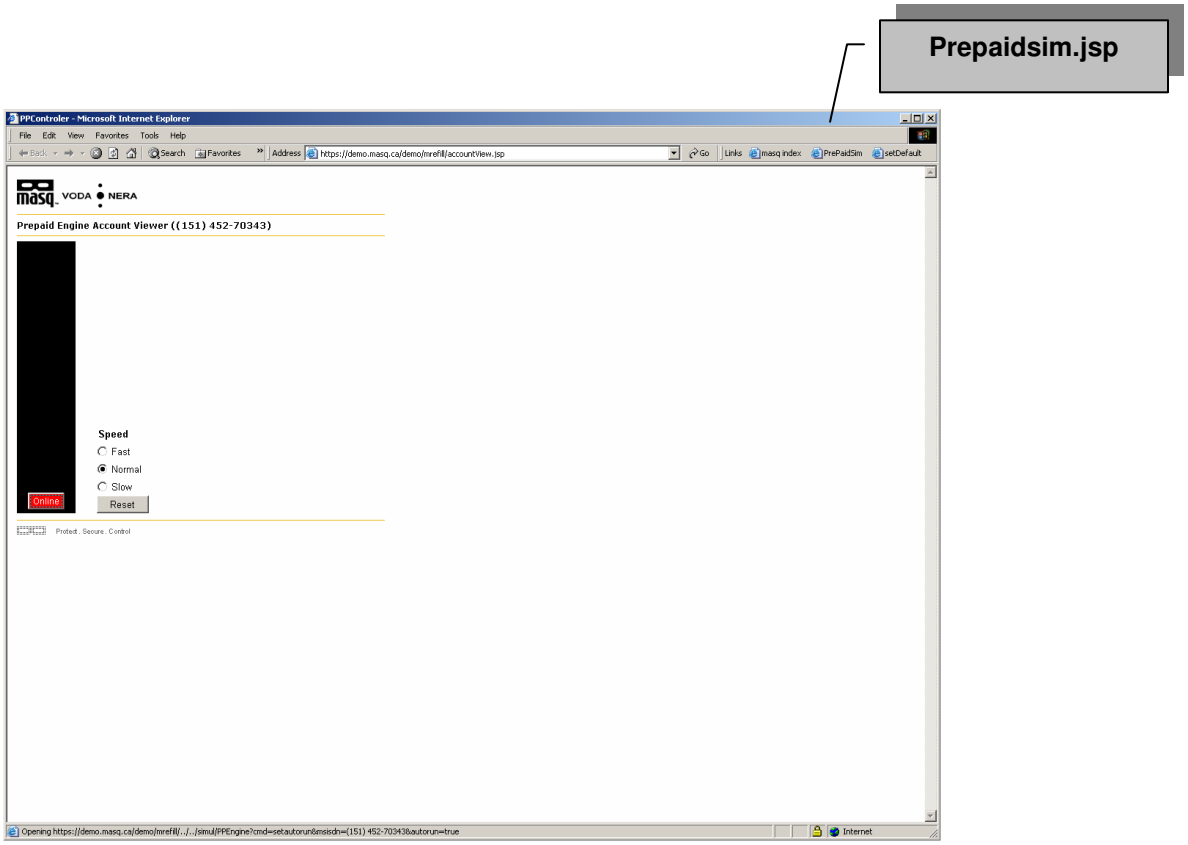

**postSetDefault.jsp**



## Prepaid Engine Interface

The Prepaid Engine Interface allows the demonstrator to process a replenishment transaction request to the Masq Refill System via a web based portal.

The demonstrator is able to initiate automatically a replenishment request when the subscribers' account balance threshold or period threshold is reached. The subscriber has already predefined their replenishment profile including the replenishment default amount and the payment method to be used.



# 4. PREPAID TRIGGER ENGINE - SEQUENCE DIAGRAM

The process sequences are presented below: