

Swiss TPH



Swiss Tropical and Public Health Institute
Schweizerisches Tropen- und Public Health-Institut
Institut Tropical et de Santé Publique Suisse



openIMIS

Mobile phone and payment integration in Tanzania

4th September 2019

Dragos Dobre, Patrick Delcroix, Siddharth Srivastava

Mobile payment in Tanzania

Development started in 2018

Pilot will start in Schinyanga district

USSD integration

Enquiring (for HF with no Internet)

Renewal (by EO)

Control Number request for one policy

GePG integration

Generates and sends control number

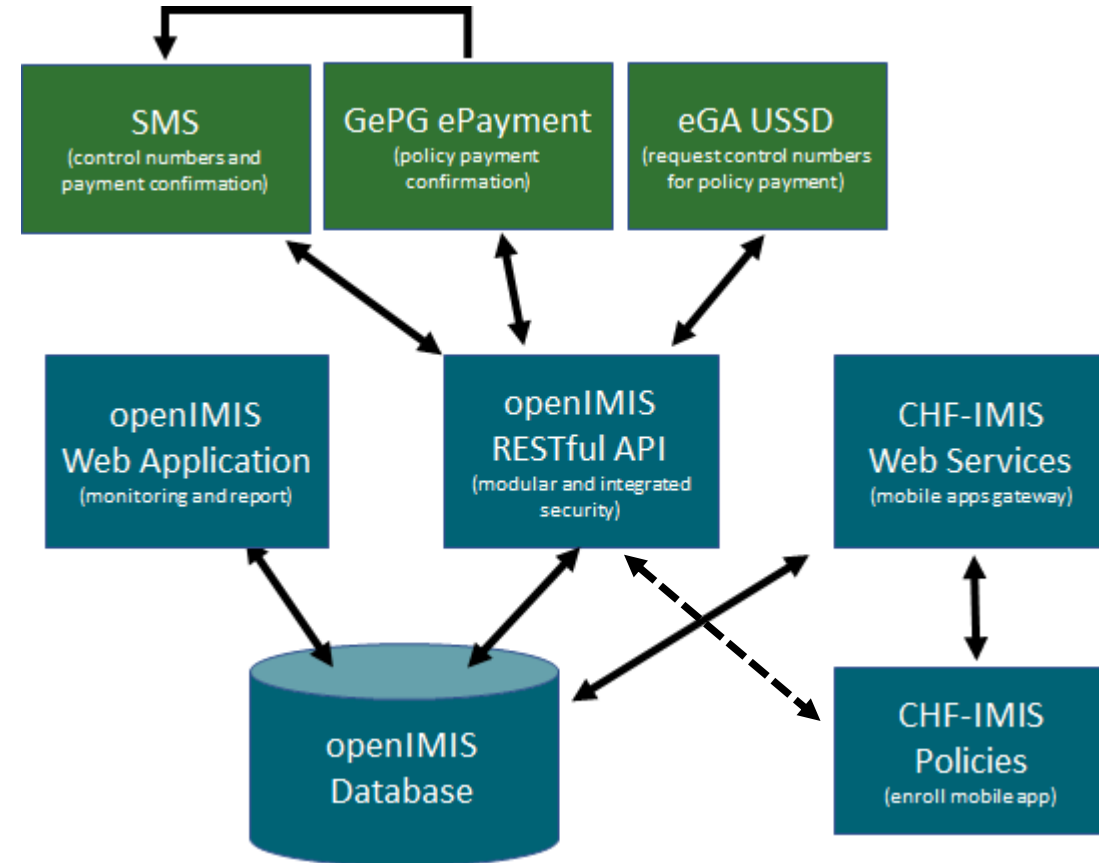
Acknowledge payment

SMS integration

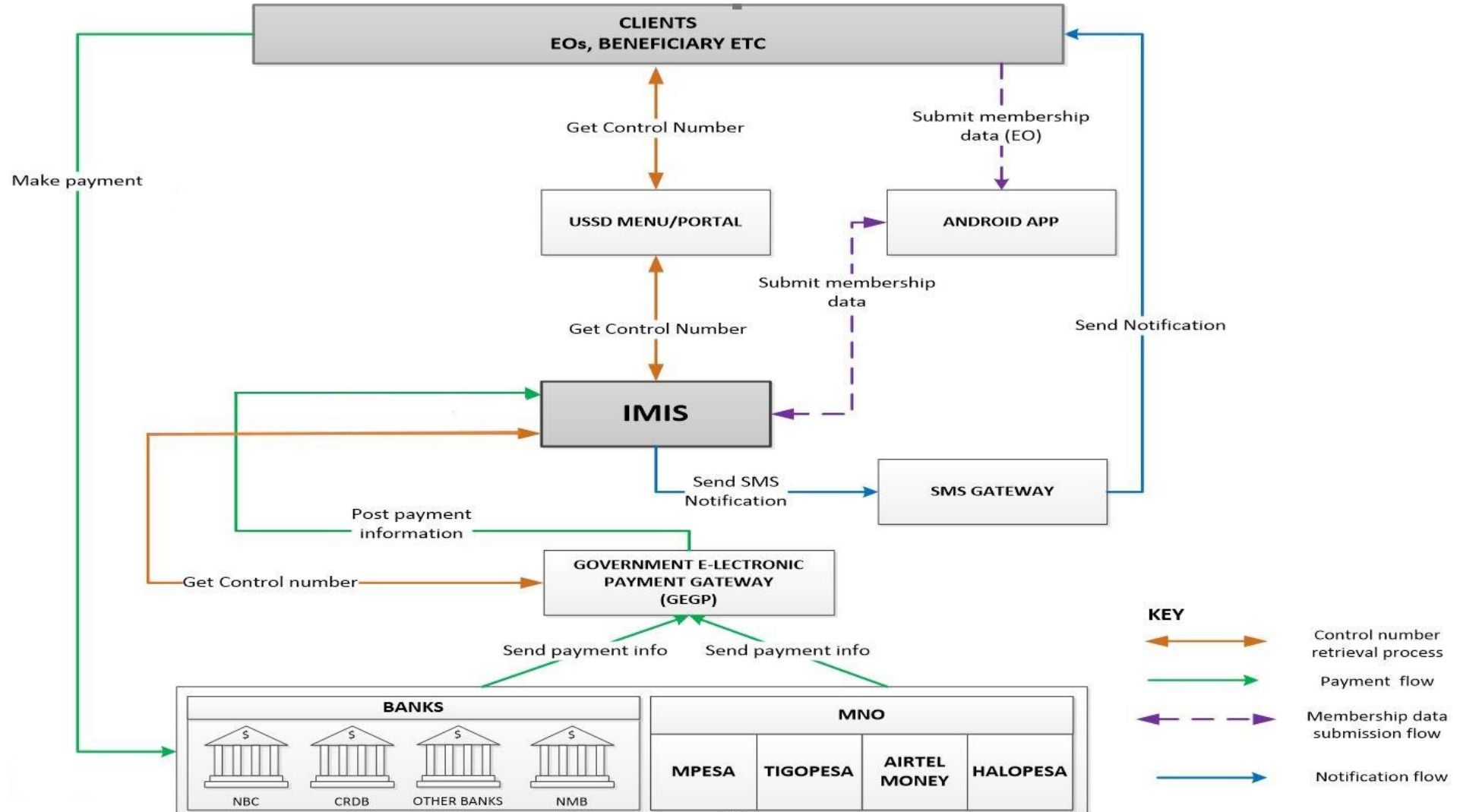
Sends enquire information, control number, payment validation

CHF-IMIS Policies mobile app

Control number request for group of families



Mobile payment high level architecture



USSD and SMS integration

The following functionalities are implemented in the USSD solution:

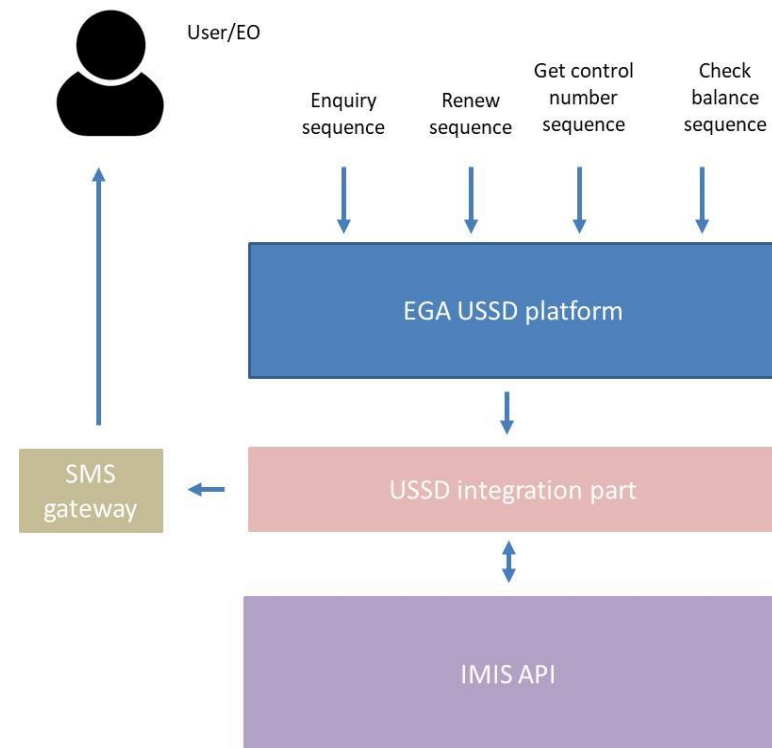
- Enquiry (on coverage of an insure)
- Renew (a policy)
- Request control number (only for one family)
- Check commission balance (EO commission)

SMS integration

Sends enquire information, control number, payment validation

Constraints

- USSD session timeout => 2min
- Payment per SMS => limit SMS length



Example of USSD call

Enquire functionality

Executed at Health Facility level

Parameters

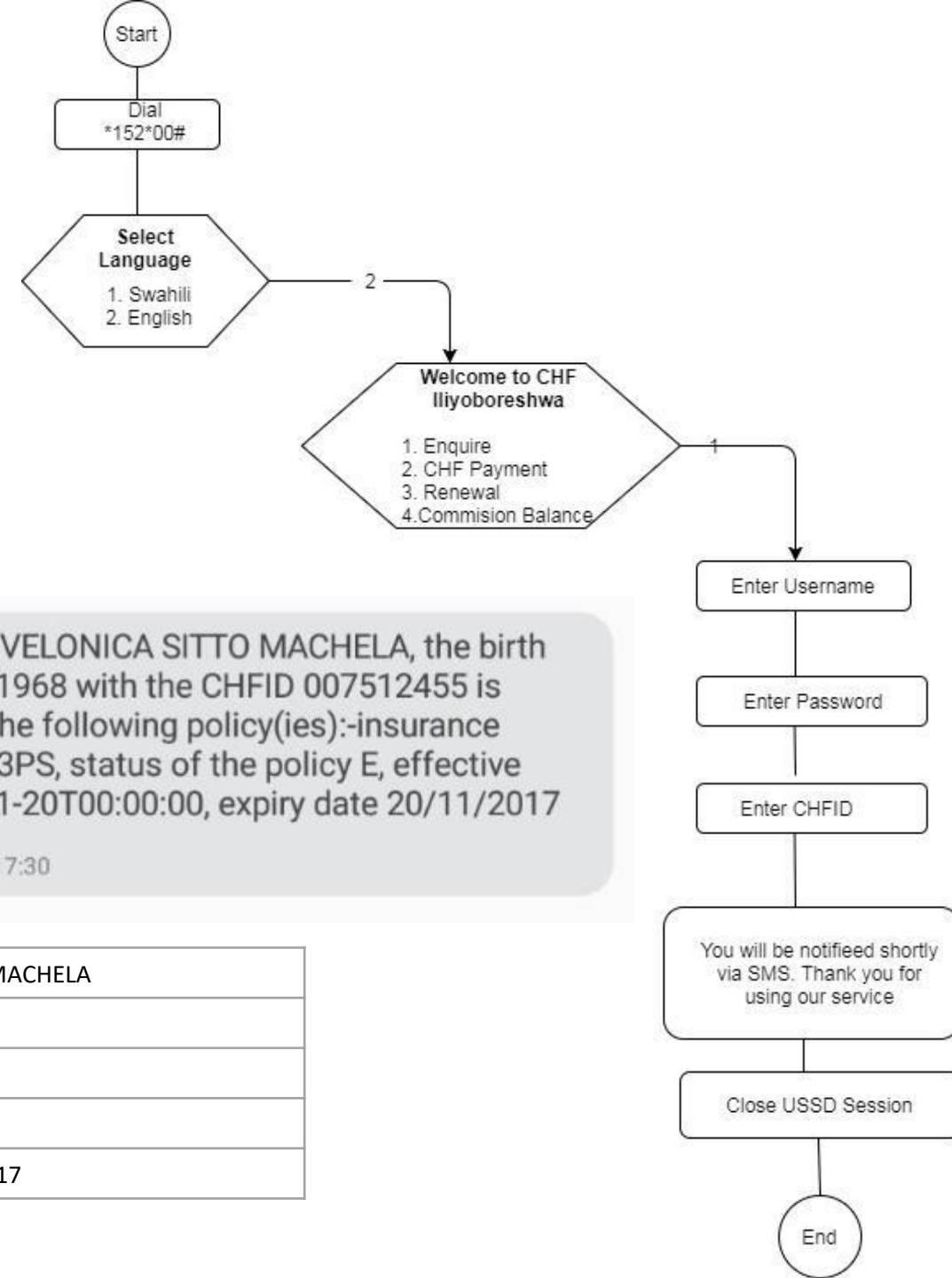
Username

Password

Insuree number (CHFID)

The SMS responses are based on templates

- 1 Model currently implemented
- 2 Proposed shorter version



1 The insuree VELONICA SITTO MACHELA, the birth date 12/12/1968 with the CHFID 007512455 is covered by the following policy(ies):-insurance product 2003PS, status of the policy E, effective date 2016-11-20T00:00:00, expiry date 20/11/2017

VodaCom 17:30

2

VELONICA SITTO MACHELA
BOD: 12121968
CHFID: 007512455
PROD: 2003PS
STAT: EXP 20112017

ePayment module

Master Version (generic) implementation

Part of next legacy REST API release

New database tables

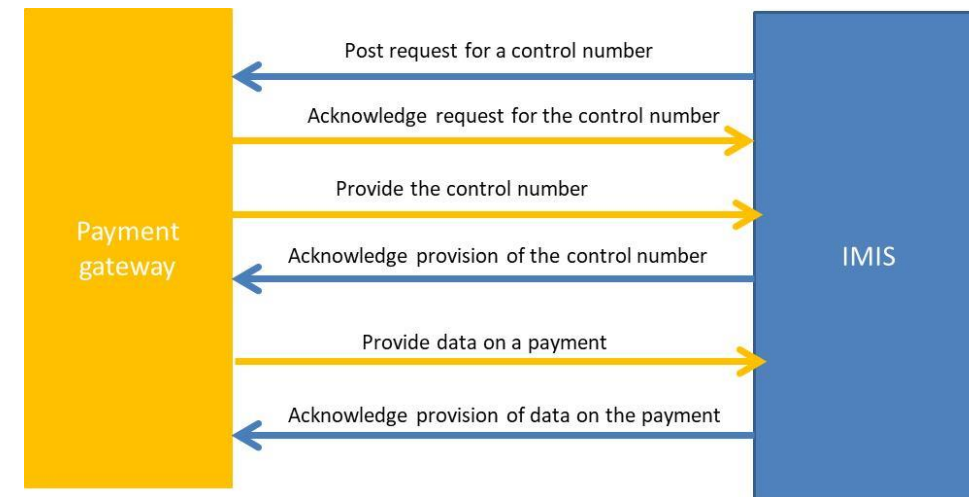
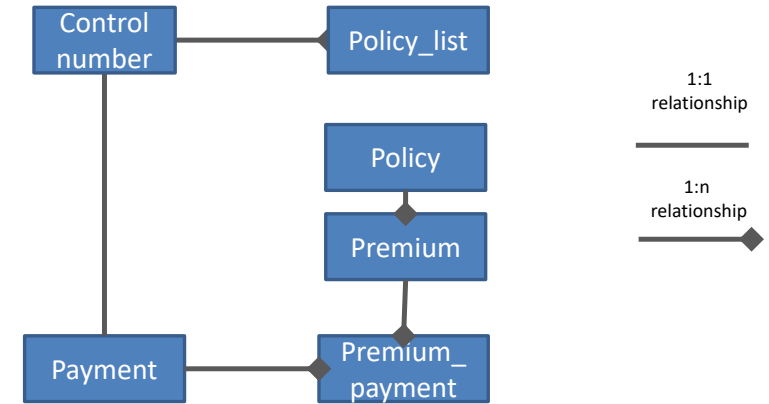
Control number

Payment & PaymentDetails

Several new Stored Procedures ☹️

Communication with Payment gateway is expected to be asynchronous

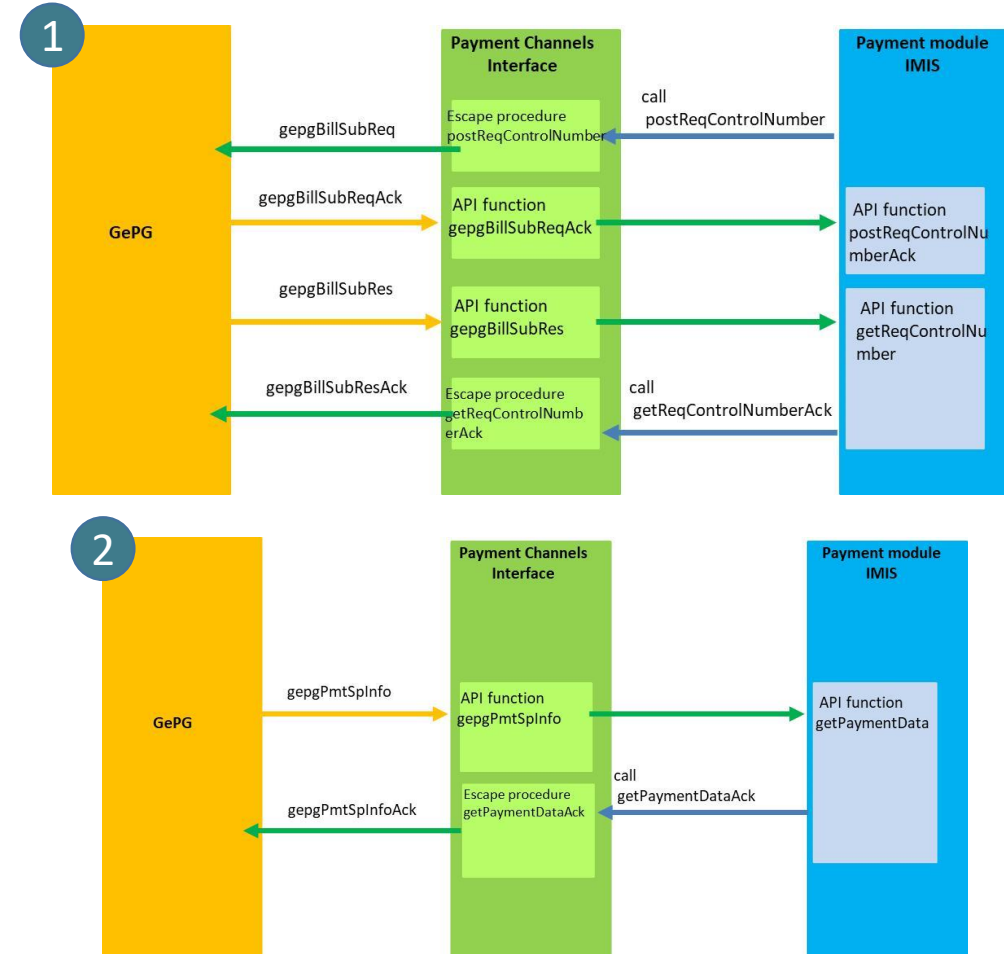
The policy activation (matching of payment with policy value) is scheduled during night



ePayment module implementation in TZ

Custom implementation of the Master Version
 Extension mechanism of the generic module
 Implements Tanzania GePG specific
 communication protocol

- 1 Get control number flow
- 2 Acknowledge payment



Calculation of transfer fee for payments

Policy cost is 30.000 TZS

Mobile payment requires 1.1% for fees

Bank Transfer and Cash require 0% for fees

Solution to match payments (based on escape procedures)

If TypeOfPayment is "Bank Transfer" or "Cash"

Then TransferFee is 0

If TypeOfPayment is "Mobile Phone"

Then TransferFee is $\text{ROUND}(\text{TransferredAmount} * 0.011, 0)$

Remaining issues to solve

Update SMS templates

Automatic activation of policies when customer pays through GePG

IMIS E-payment related reports

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