Welcome and Bon voyage Service

In order to inform outbound roamers (mandatory display of the roaming tarifs) Halys provides a comprehensive solution (with an integrated 3G/4G SMSC to have an optimal control of the deliveries of the messages) with the facility for groups of operators or carriers to centralize the service (*hosted service with full multi-tenant support*, "Welcome SMS Hub"). The server is flexible to be triggered by the full variety of mobility monitoring sources:
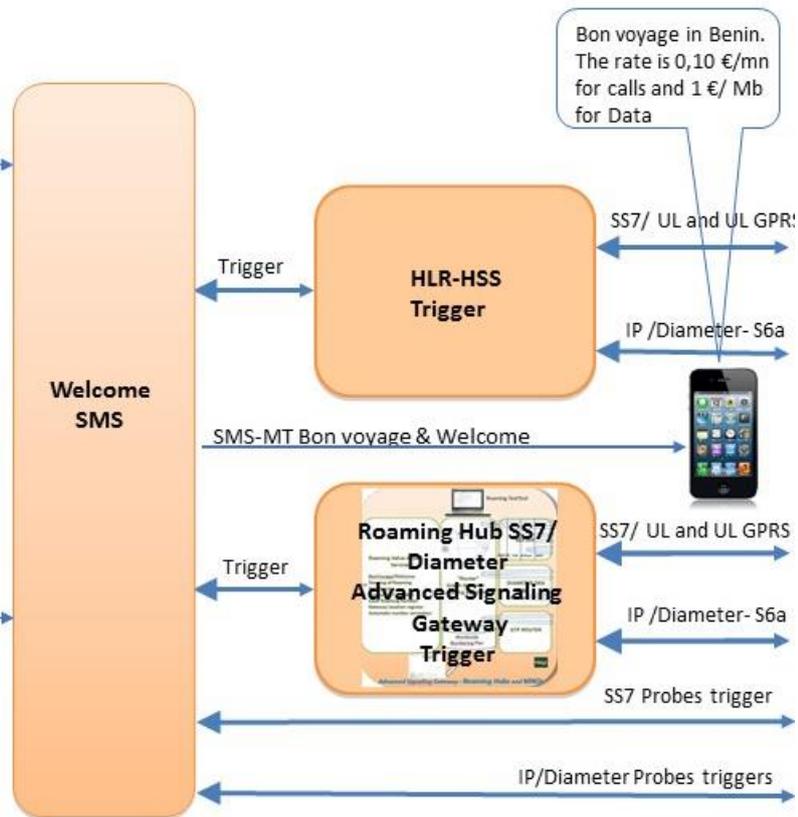
- "Bon voyage" can be triggered by the HLR-HSS, the front-end "Advanced Signaling Gateway" or by SS7 and Diameter probes,

- "Welcome or Come Back" for visitors can be triggered by the "Adanced Signaling Gateway" or by SS7 and Diameter probes.

Fig. 1 Halys Welcome/Bon Voyage

1- *Advanced Policies for the definition of messages :*

The Halys solution provides the capability to handle all occurrences of the arrival of subscribers in a network

   Home subscribers arriving in foreign networks and coming back home

   Third party roamers arriving in the MNO network and moving into another network

We provide then the classical Welcome and Bon Voyage services but also WinBack, ThankYou and Welcome Home services. The Halys service allows also to detect the geographical position of the subscriber at its arrival and customize properly the messages sent (eg to differentiate an arrival at an airport versus at the crossing of the border).

The Halys service can take into account automatically the profile of the subscriber such as postpaid, prepaid, GPRS and others. The service can interface the BSS servers of the MNO to retrieve the table of tarifs and OSS servers for additional customization of the messages.

The messages can also be personalized based on the customer's native language and the time the last message was sent..

2- Comprehensive 3G/4G Roaming Monitoring :

All the roaming signalling is analysed to produce the exhaustive recording of all transactions in a searchable Detailed Records Database. The analysis of the TDRs database allows to produce customizable Statistics and Reports. The operator can understand the moves of the subscribers but also appreciate the steering of roaming or anti steering services that are applied in the communications.
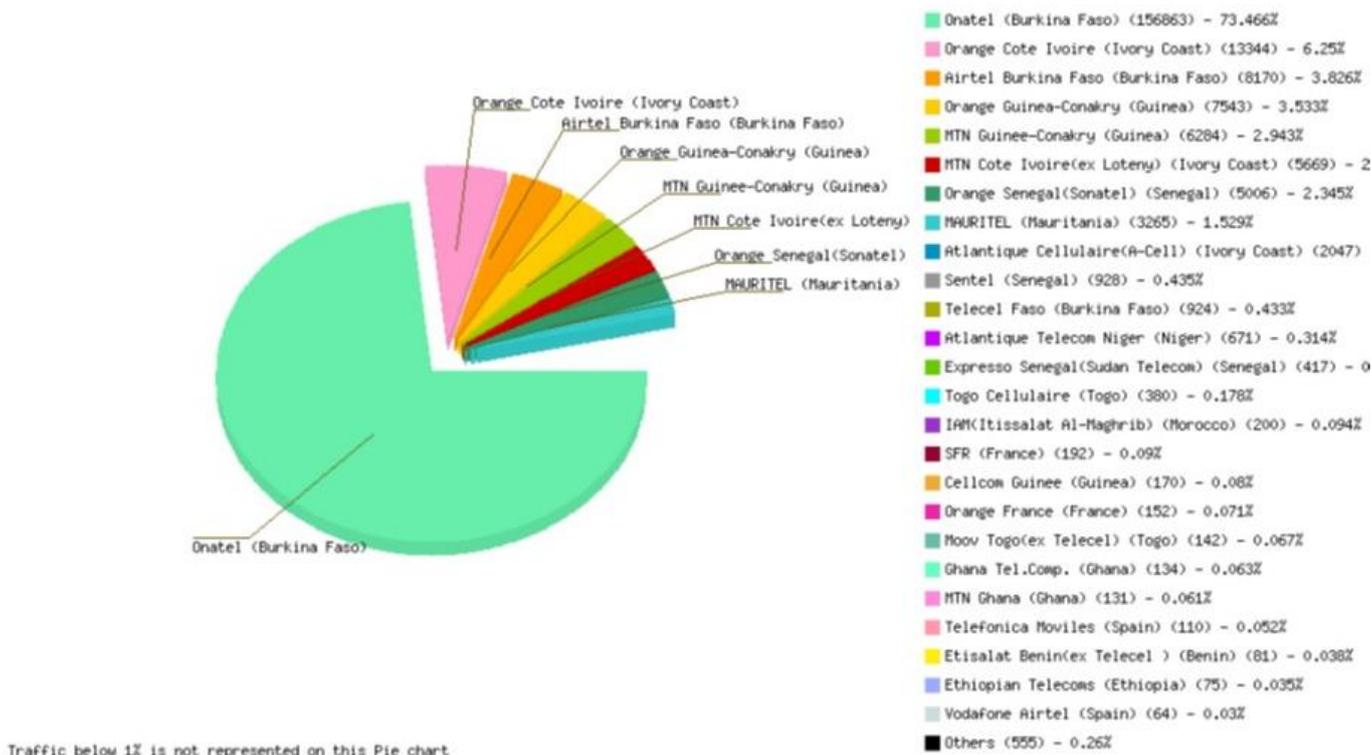

Traffic below 1% is not represented on this Pie chart

Fig. 2 Outband subscribers distribution per visited Network

3- Integrated 3G/4G SMS Center :

Legal and Marketing requirements ask for a precise control in particular of the time of arrival of the messages. Halys provides an integrated SMS Center service that has the full control of the MT deliveries and is ready to deliver 4G SMS for the VoLTE roaming case..

Direct MT delivery is provided that does not require the need of an additional SRI_FOR_SM, thus it works in the case of a SMS control in the visitor's HPLMN

Technical Data:
Linux OS on Intel Servers or Virtual Machines
Standards
[1] 3GPP TS 29.002 V14.3.0(2017-05), «Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); Mobile Application Part (MAP) specification », Rel 14. *Updated MAP with the support of IP-SM-GW notably*
[2] 3GPP TS 29..272 v12.8.0 (2015-5), «Universal Mobile Telecommunications System (UMTS); LTE; Evolved Packet System (EPS); Mobility Management Entity (MME) and Serving GPRS Support Node (SGSN) related interfaces based on Diameter protocol », Rel 12, *Mobility protocol S6a/Diameter.*
Licensing: Pay-as-you-grow capacity license based on the number of networks and the set of functions