Welcome SMS System

General Description of the System

Protei SMS Welcome system is a highly efficient tool for mobile operators to provide a range of services both for their subscribers when they are in roaming in the foreign networks and for the foreign subscribers registered in the network of the mobile operator.

"Welcome SMS" and "Bon Voyage SMS" services allow the subscribers receiving information about that network where subscriber is registered now, tariffs for main services in this network for him, main information about the country and etc.

"Welcome SMS" and "Bon Voyage SMS" service implementation favorably distinguishes mobile operator at the telecom market and increases both the loyalty of the subscribers of the mobile operators as well as roamers loyalty.

SMS Welcome system Administrator software provides convenient and easy-to-use WEB-based tools for displaying the volume and the structure of the roaming traffics that allow marketing department working with roamers efficiently also for collecting information about the most visited networks etc.

Successful registration in the foreign network activates welcoming messages scenario. To detect this events special SS7 probe is used. This device monitors SS7 links to detect messages concerning Update Location and Cancel Location MAP procedures with . Distributed architecture of Protei SMS Welcome system enables scalability according to the carrier needs and adaptation to the customer's requirements. Hardware architecture allows to provide guaranteed reliability (system may use Raid 1 or Raid 5 protected striped hard drives, dual CPU motherboard and dual power supply unit).
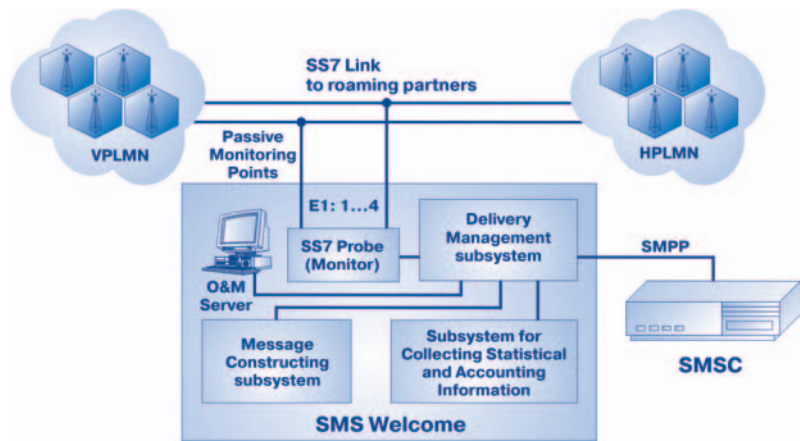
System Features

- Monitoring of SS7 links is used for interconnection with roaming partners in passive mode;

- Monitoring of Update Location, Cancel Location and Insert Subscriber's Data transactions in real time;

- Sending Welcome SMS message sequence to the visitors according to the specified scenario;

- Sending "Bon Voyage" SMS message sequence to the subscribers registered in the foreign networks according to the specified scenario;

- Choosing the language of Welcome SMS messages depending on the home country of the visitor;

- Support of the "prohibited hours." Subscribers who have registered in the network during the "prohibited" period will be welcomed when the period is over;

- Support of the subscriber's profiles. Subscriber profile allows enabling or disabling this service for the selected subscribers and to define message set and message delivery scenario for this profile;

- Support of the "Networks black list". Subscribers who registered in the networks from the list will not receive welcoming messages;

- Dynamically formed content can be inserted into messages (e.g. the current exchange rate of the currency of the visitor's country to the home currency);

- Statistical information collecting.

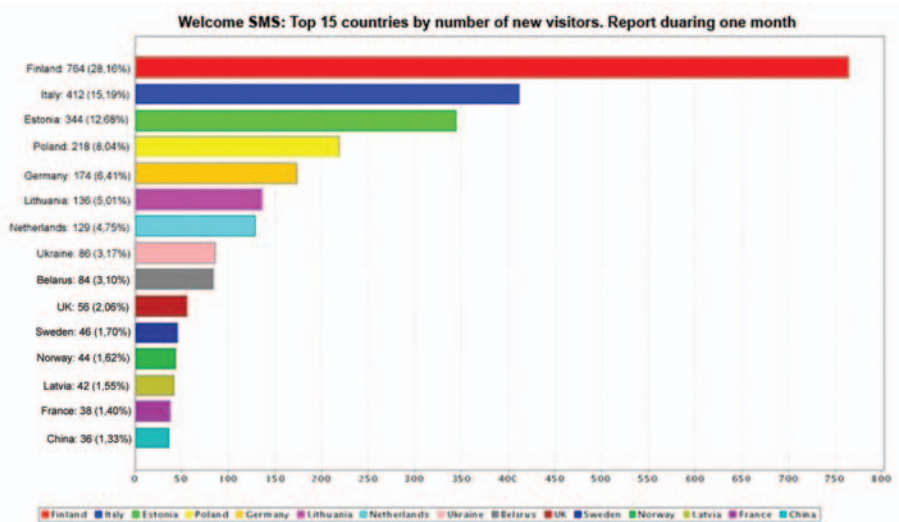## Administration and Maintenance

- Setting parameters of the home network;

- Setting parameters of the roaming partner networks;

- Welcome and Bon Voyage message sending scenarios management;

- Subscriber's profile management;

- Network black list management;

- Viewing and analyzing collected statistical information;

- Tools for mass data input (VLR list for MNC etc);

- Obtaining the lists of visitors registeredin the specified networks during the specified period;

- Alarm and Event monitoring.

The system collects the following statistical information:

- Counters and lists of Welcome and Bon Voyage messages that were sent is sorted by the countries, regions and networks;

- Number of the subscribers registered in the specified networks during the specified period;

- Number of the subscribers moving from one network to another during the selected time intervals more than "X" times;

- Number of the roamers from the specified networks during the specified period in the carrier home network.

Pic1. SMS Welcom Functional Structure

Pic2. Roaming Traffic analysis tool

WEB based management interfaces supports security policies for different categories of maintenance personnel (Administrator/ Message Manager/ Statistic Analyst).

All statistic reports can be displayed in the table or in the graphic format.

Message Manager Facilities

- Scenarios Management;

- Schedules and the period of activity of the management of each scenario;

- Message text and parameters (sender name, validity period) management;

- Message dynamic part configuration;
- VLR list configuration for each scenario;

- Subscriber's profile management;

- Network black list management.

Managers can also view the collected statistical information.