PROTEI Steering Platform

PROTEI Steering Platform is field proven and fully functional roaming management solution intended for optimizing roaming cooperation between operators. The system allows powerful and flexible network selection management for outbound roamers to stimulate 'right' roaming network choice for subscribers (Steering of Roaming concept).

Registration procedure control for outbound roamers is performed in full accordance with IR-73 regulation, issued by the GSM Association. Flexible roaming steering policies allow efficient influencing to roaming partners with a view to optimizing roaming agreements and providing the required quality of service.

In addition to traditional steering functionality powerful profile management functionality is supported by the system as well. Statistical subsystem accumulates all information related to roamers' behavior and makes possible detailed and efficient analysis of this information together with roaming traffic structure using appropriate reporting tools.

Registration Procedure Management

Flexible registration procedure control for roamers allows effective deployment of Roaming Steering services having main target to optimize roaming agreements and provide the required quality of service. Additional operations related to fraud prevention activities and profile modification are supported also.

SS7 based methods are being used by operators for steering of their roaming traffic onto preferred networks. Lists of countries and roaming partners are defined in the system configuration. The system supports real-time processing of Update Location, Cancel Location, Insert Subscriber Data and other MAP transactions related to outbound roamers' registration management.

For each partner, a set of parameters can be configured to define signaling traffic processing rules for the traffic from that partner's network (MCC+MNC, VLR list, proportion of successful registrations in the network over a specified period of time, minimal allowable threshold for successful registrations over a specified period of time, share of unique IMSI concurrently registered in the particular network).

Integration with Operator's Network Infrastructure

PROTEI Roaming Steering platform is active solution that passes all signaling traffic related to registration management through. System processes MAP and CAP traffic between VPLMN's MSC/VLR and SGSN from one side and Operator's HLR and SCP from another side.

Advantages

- Fully compliant with applicable ETSI standards and GSMA regulations
- Flexible network selection management in real-time mode
- Steering procedure may be based on several network selection criteria like number of unique IMSIs registered in particular network, network priorities etc
- Effective roaming traffic structure analysis
- Compatibility with any external SIM-based roaming management systems
- Subscriber profile modification functionality
- Efficient roaming traffic analysis tools with convenient WEB-based reporting framework
- API for integration with external platforms (Bon Voyage SMS, Anti-Fraud etc)
- High throughput, horizontal scaling

Variety of supported connectivity scheme enables solution deployment in the networks having different topology and core network routing capabilities. Supported connectivity schemes make able keeping roaming available in case of the platform failure to secure Operator's business; at the same time the system can't be bypassed and almost not overridden by anti-steering platforms deployed in visited networks.

Profile modification functionality

The system has the functionality of modifying subscriber profiles, allowing the operator to flexibly control the behavior of roamers, without the necessity to perform complex operations in the HLR. Profile management functionality includes:

- Capability to set various barrings upon registration in particular networks (like BAOC – barring all outgoing calls, barring of data services etc)
- Capability to restrict fraud-risky supplementary services (conditional call forwarding, call hold, conference-calls) for particular subscribers (by service key) in particular networks
- Capability to add or exclude CAMEL-profile upon registration in particular network, increase or decrease CAMEL phase, change SCP address etc.

Interfaces

The system is integrated with Operator's core network either via E1 trunks with MTP/SCCP/TCAP signaling or using SIGTRAN/M3UA. In case of E1 connectivity either standard Low Speed Links (64 kbps) or High Speed Links (Q.703 Annex A) can be used

ETSI (3GPP) SCCP, TCAP, MAP v 1..3 and CAP v1..4 are supported. Multihoming for SIGTRAN is supported.

Administration and Maintenance

Steering platform allows remote administration and management via secure connection TCP/IP/SSH. WEB-based administration and maintenance kit can be used also.

CDR generation

PROTEI Steering platform generates CDRs for each processed transaction. CDRs are generated in "raw" csv format and may be available for further processing by other applications.

System itself includes powerful and convenient reporting framework enabling efficient collecting and displaying of statistical information by countries and networks (roaming partners). Information may be displayed as histograms, diagrams or tables.

Queries per particular IMSI are available also for customer care purposes

SNMP and Alarm Indication

System supports SNMP for integration with external alarm monitoring systems and OSS solutions. SNMP-traps generation in case of alarm situations and statistical SNMP-traps generation are supported; these traps contain information about traffic parameters, application SW state and HW components state.

System Scaling

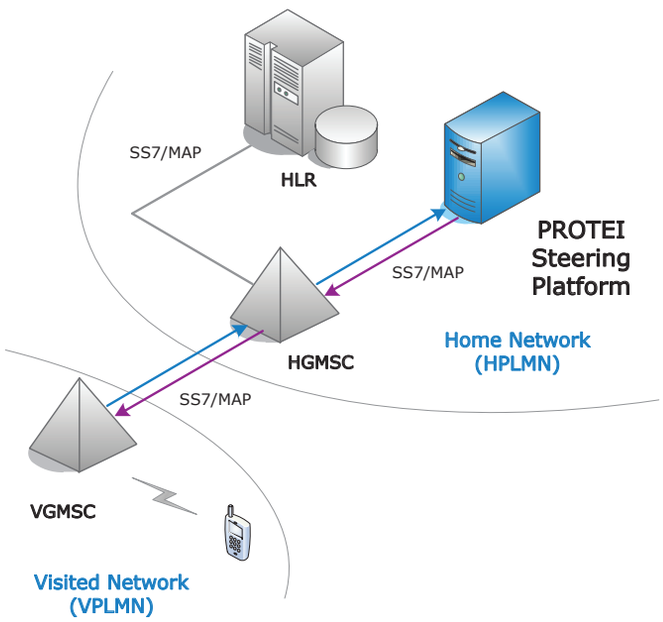
The system can be scaled horizontally according with growing operator requirements. Modular structure of the system provides high reliability and enables cost-efficient system scaling according to growth in service usage and the operator's requirements.

One unit can serve up to thousands transactions per second. Several units can operate either in load sharing or in hot standby mode.

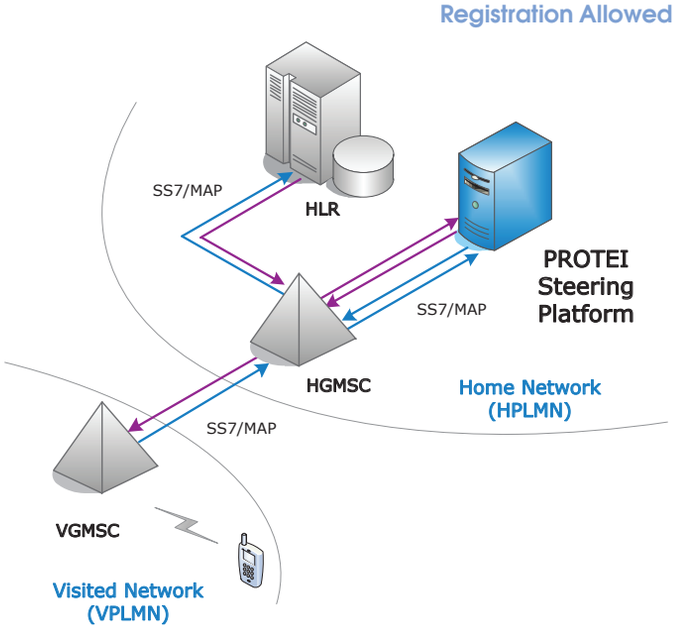
Redundancy

System redundancy is provided by installing several units of the same type (interface subsystems, service logic subsystems) working either in load sharing or hot standby mode.

Registration Prohibited



Registration Allowed



Hardware and Software

- x86 platform based on proven HW like HP Proliant DL/BL servers or similar;
- Servers may be equipped with dual processors, redundant PSU and raid controller for HDD;
- Linux operating system

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