π PROTEI

SMART SOLUTIONS FOR TELECOM OPERATORS

WWW.PROTEI.COM

Price is what you pay. Value is what you get.

Warren Buffett.

Today's world is changing very quickly. Yesterday was just an incredible dream, today becomes a reality. New technologies require constant upgrades and changes. When competitive pressure increases and "average revenue per unit (ARPU) » declines, operators constantly need to introduce new services to keep subscribers base and increase income.

How we can help:

PROTEI has 15 years of expertise developing communication equipment and provides a comprehensive range of carrier-class products for mobile operators and service providers designed with customer in mind. Scalable, flexible and future- proofed telecommunication solutions give ability to PROTEI customers to utilize advanced technologies and offer innovative revenue generating services to get ahead of the competitors.

MESSAGING SOLUTIONS

PROTEI SMSC is a carrier-class high-performance SMS center that includes traditional and innovative SMS features. Range of the supported protocols allows deploying PROTEI SMSC through GSM or IS-41 (D-AMPS, CDMA) networks. Support of SIGTRAN allows easy deployment across the next generation mobile networks. Flexible delivery scenario management, embedded "First Delivery Attempt" feature, policy management, convenient licensing principles (no licensing by peak load) and powerful SMS routing subsystem make SMSC a perfect choice for Operator's needs. Routing and bandwidth configuration tools support unrestricted SMPP interface with efficient access policy for interaction with external applications. Horizontal scaling architecture allows to achieve high reliability and to adjust SMSC performance as network grows. Features like SMS forwarding, auto-reply and detailed report increase service convenience for subscribers.

Fixed Line SMSC

PROTEI Fixed Line SMSC is intended for exchanging SMS messages between fixed, mobile and PSTN phones. Advanced functionality and flexible configuration allow fast system deployment and easy integration with operator's environment.

USSD Server

PROTEI USSD server exchanges USSD messages between the mobile subscribers and the external applications through GSM networks. With help of PROTEI USSD server operators will provide balance enquiry, voucher activation and other customer care services using the most efficient and convenient way. PROTEI USSD server supports flexible USSD message routing based on the service keys, message body and source of MSC address with possibility of access policy and bandwidth management for each application individually. USSD stage I and stage II are supported - that allows creating dialogue USSD services with multilevel USSD-menu. In addition PROTEI USSDS has embedded tools for convenient and flexible USSD-menu construction and supports Open XML and ODBC interface for integration with external information systems and databases

MMS Center

PROTEI MMSC gives a possibility to GSM operators to provide customers with multimedia messaging between mobile phones and between mobile phones and computers. Also using MMSC functionality the subscribers can order multimedia resources from the content providers. PROTEI MMSC can use external WAP gateways and supports wide range of standard interfaces giving access to external content conversion and profile management systems. Embedded push-proxy gateway allows easy interconnection with third- party SMSC. Powerful management tools contain subscribers' profiles that can be automatically corrected on the basis of MMS-messages transfer information. The profile can include information about terminal features and type of the service (maximum message size, service ability, etc.). PROTEI MMSC will define if the user's terminal is MMS capable after the first successful message delivery from sender.

SMPP-Proxy/Router

SMPP proxy/router serves the purpose of exchanging messages between one or more SMS/USSD centers and external applications, using several routing criteria, and intended for mobile operators and content aggregators. Flexible policy and bandwidth management allow creating complex routing algorithms (based on message's type, recipient and sender numbers, application IP address etc.) and that creates a possibility to deploy SMPP proxy/router as a key element of content provider's access system.

Cell Broadcast Center

PROTEI Cell Broadcast center helps operators and service providers to distribute geographically dependent information directly to subscribers' handsets across the networks using GSM Cell Broadcast technology. The System supports open SMPP interface for content-providers. Broadcasting would be addressed to all subscribers in the segment of operator's network (set of Cell ID, set of LAC) as determined in the system configuration for particular information channel. BSC interconnection is supported by X.25 or TCP/IP The system is compatible with the equipment of all major BSC vendors.

SMS-to-ICQ Gateway

SMS-to-ICQ Gateway allows deployment of message exchange between mobile network subscribers and ICQ Internet-service users via SMS. The service supports basic ICQ functionality (status management, sending and receiving messages, contact searching, and contact list management). Interaction with SMSC is performed via SMPP protocol. Interaction with ICQ servers is performed via XML protocol.

Global SMS Server

"Global SMS Server" gives a unique opportunity for mobile operators to offer SMS Value Added Services worldwide to their own customers, while they are in roaming, and also to the clients from other networks that have a roaming agreement with the current operator. Using Global SMS Server operators can increase their revenue, benefiting from servicing roamers and making their networks more attractive to the customers.

E-mail SMS Gateway

E-mail SMS gateway give a convenience of exchanging messages between mobile network subscribers and e-mail service users via SMS. The service supports sending and receiving messages, account management and alias management. Easy to use command interface for account management increases service usability. Interaction with SMSC is performed via SMPP protocol. Interaction with external e-mail servers is performed via SMTP protocol.

Intelligent Network & VAS

CAMEL Gateway

PROTEI CAMEL gateway is intended for fast and easy Intelligent Networks (IN) services deployment in the mobile networks using CAMEL Application Part (CAP) protocols. CAMEL gateway is a key element for successful real VHE services deployment. The server allows controlling calls in real-time mode, SMS- and GPRS-sessions in GSM networks, using external applications that communicate with CAMEL gateway via Application Programming Interface (API). Horizontal scaling architecture provides high reliability and the possibility to increase system throughput according to the network growth. SIGTRAN support allows easy integration of PROTEI CAMEL gateway into the next generation mobile networks. One of PROTEI CAMEL gateway unique features is the possibility to forward initial DP (service request) to the external SCP (CAMEL-proxy mode) that permits using this system simultaneously with already installed SCPs.

Standalone CAMEL SSP

Deployment of PROTEI standalone SSP gives to operators highly demanded opportunity to organize CAMEL-roaming for subscribers in the networks that don't support CAMEL technology. The most important is that it does not require any alterations or upgrades from roaming partners' network. PROTEI-SSP usage provides an opportunity to access services that are supported by the intelligent platform (SCP) of the home mobile operator for inbound roamers registered in the visited networks at MSCs that haven't integrated SSP functionality and don't support CAMEL technology. The system allows providing voice services (Prepaid, etc.) according to CAMEL phase 2, 3 specifications.

Missed Call Notification ("Who called")

The PROTEI missed called notification system ("Who Called") is intended for very convenient service – giving information about the calls that were missed by the subscribers, during the period when they were unavailable, by sending SMS with the list of telephone numbers from where the calls were originated. It also can notify the calling party when the recipient is back to the network or when it becomes available for the incoming calls (the "Notify Me" sub-service). Deployment of the solution increases successful call share that directly increases operator's revenues. PROTEI missed called notification system is a cost-effective, high performance and scalable solution with a wide range of features to suit both new and existing mobile operators and can be deployed as an addition to existing voicemail system or standalone service package. Solutions integrated with PROTEI voicemail system are also available.

Voice Mail

With PROTEI Voicemail System Operators can provide feature-rich services to meet the needs of any subscriber. In addition to standard voicemail options PROTEI VMS also provides a wide range of innovative features. Flexible profile management allows adopting system functionality to the preferences of any particular subscriber's group. Features as SMS notification about message listening and "one key" direct call back from voice mail owner menu to the message sender increase service convenience. Possibility of transferring voice message to e- mail or MMS allows to save investments and effectively use system during 3G networks deployment and Unified Messaging technologies development.

Call Back

PROTEI call back server provides convenient and efficient way to access the telecommunications services for non-CAMEL roaming subscribers. Calls can be ordered by sending SMS or USSD messages. System supports flexible routing functions, powerful policy management (including subscriber location analysis) and open interface (CAMEL or XML) for integration with the third party Prepaid platforms.

Logic Line

PROTEI logic line server provides universal solution for PBX-like and FMC services for small/medium corporate customers (Virtual Number, Virtual Call Center, and Virtual Private Network). Service provides intelligent termination hunting functionality for mobile subscribers. The service is triggered when the subscriber from any network calls to the service or the customer's number. Mobile agents provisioned for a specific customer are all monitored and the incoming call is routed to the most suitable agent based on the predefined hunting rules (depending on CgPN, calling and called party location, time schedule etc). Self-service WEB based administration toolkit is available for Virtual number customers

Private Ring Back Tone

PROTEI personal ring back tone server allows Operators deploying PRBT service being one of the most popular last generation content services. This service gives to the operator unique personification opportunities for subscribers. Instead of standard ring back tones and announcements, a subscriber can set her personal choices that would be matching her preferences. PROTEI PRBT server supports advanced profile management subsystem allowing the service user to configure tones and prompts separately for different subscribers and subscribers' groups with possibility to configure different tones depending not only from CgPN but also from the time schedule (e.g. to set different tones for working hours and for non-working periods). Content management can be performed via SMS, USSD or WEB.
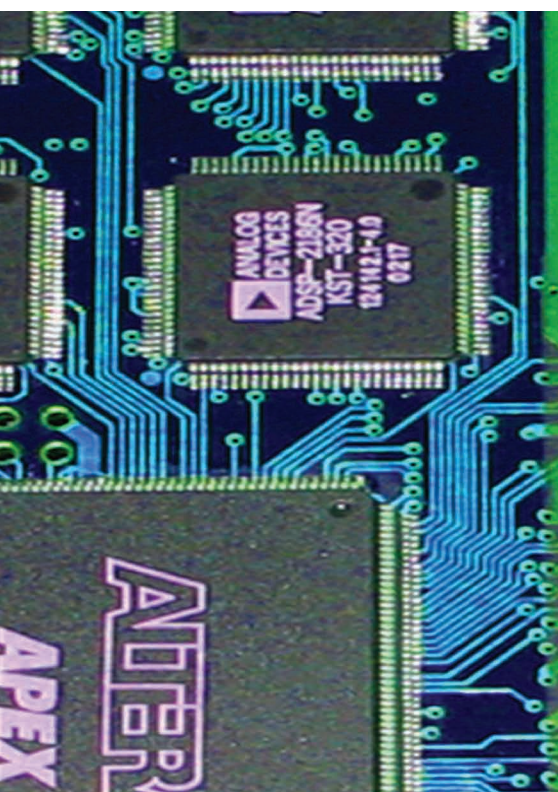
LBS Enabler

PROTEI location based service enabler gives to Operator the possibility to provide services related with subscriber's criteria (e.g. weather, traffic and entertainment information), tracing services (used for security purposes, for rendering, technical support, emergency help, searching objects), resource control services (allow to provide vehicle, traveling personnel manipulating etc.) and navigation services (used for informing subscribers about optimal directions from one destination point to another.). Integration with external system for geographical coordinates calculation on the base of Cell ID is available. Flexible access policy management allows creating and managing access lists that permit access to the LBS information only for trusted providers.

Mobile Portal

Mobile portal is a universal flexible solution for content- and service-providers intended to offer wide range of content and entertainment services. By using this solution Operator or content-provider can easily deploy services like sending SMS- and WAP-content 'on demand' (pictures, texts, logos, music, including random services) or by subscription (information, weather forecast etc). Voting and quiz services could also be easily deployed. These services enable efficient on-line interaction with wide subscribers' base for quizzes, polls, marketing researches etc. People can participate in the voting using SMS, USSD or voice voting/quiz channels. System supports convenient WEB-interface for system administration

and watch for voting course; fully configurable visual appearance of the voting results chart; manual or scheduled voting start and stop. Integration with PROTEI IVR is supported for voice voting, content listening and ordering etc.

Customer Care

Call-centre

Protei Call Center is a new generation cost-effective solution for any companies that provide information, help desk, booking and other similar kind of services. New generation technologies: VoIP and WEB are widely used in PROTEI call center. Subscriber can access PROTEI call center services by standard way from PSTN/PLMN, from Internet via WEB/e-mail call-back order, by e-mail or by making VoIP call and that gives an opportunity creating geographically distributed call centers. The system supports unlimited number of the agents' groups and service access numbers with a possibility to organize any number of services in one system. Several types of call routing algorithms (on the base of dialled number, CgPN, time/day, state of the service queue) and flexible call distribution (including skill level differentiation) are implemented. This allows tuning up the Call Center according to the needs of the particular customer. The System has embedded call recording and call monitoring systems. Call center Supervisors and System Administrator has efficient tools for service quality monitoring.

IVR

PROTEI IVR is a carrier-class automatic voice service system geared towards various customer care and information services. This system enables interactive self-service capability and outbound subscriber notifications. The system covers standard IVR functions and account operations including balance inquiry, payment registration, services activation/deactivation, tariff change, low balance notification etc. In order to get information on his/her account, to change the supplementary service settings (e.g. call barring settings etc.), to make a payment by voucher (scratch card) the subscriber should dial the correspondent

IVR number from the own mobile phone or from PSTN. By using DTMF, subscriber can navigate to a particular menu item, e.g., number activation/deactivation or balance enquiry. If it is necessary IVR can interact at any point of dialogue menu with external information systems (e.g. mobile Operator's billing system) to retrieve the requested information or to change necessary settings in the subscriber's profile. All menu schemes can be defined by the System Administrator by using voice menu constructor. Outbound notification is initiated by the request from the billing system or by the System Administrator

Voucher Management System

A fully functional voucher management system allows efficient administration, activation management and control of voucher usage. Also it can be used as the embedded PIN-generator or the external PIN-generation system during the voucher generation. The system allows controlling and managing parameters like voucher expiry date (life duration), date of voucher transfer to dealer, date of voucher activation that allows efficiently controlling all voucher lifecycle and card resellers' activities. The system has convenient and powerful WEB-based administration tools with different access levels that allow easy system integration into existing Operator's business-processes. Voucher activation via IVR, USSD and SMS or from all center agent workplace is available.

Roaming Solutions

SMS Welcome

PROTEI SMS welcome system is a very efficient tool for mobile operators to provide a range of services both for subscribers when they are in roaming in foreign networks and for foreign subscribers registered in the network of the mobile operator. "Welcome SMS" and "Bon Voyage SMS" services allow subscribers receiving the information about that network where subscriber got registered now, price information for main services in the network, information about the country etc. The Service implementation would favourably distinguish mobile operator at the telecom market and increase both loyalty of subscribers and roamers. The system supports flexible delivery scenario, dynamic content delivery, SMS language management depending on the home country of the visitor, network and subscriber black lists, interconnecting with SMSC via SMPP v.3.4 protocol.

Roaming Assistant

PROTEI roaming assistant is a great tool for intelligent correcting dialling errors of the visitors, that are registered in the Operator's network, that allows the travelers continue using their familiar short codes for home-based VAS while roaming (for example, voicemail, customer care, directory assistance, etc.). Roamers can continue using their familiar short codes instead of some international numbers and duration of the authentication sessions, just like at home. Networks supporting CAMEL can deploy this service for outbound roamers addressing this key growth sector.

Local Number for Visitors

This solution gives to the Operator the unique innovative functionality: providing local number for long-term business roamers that can be used for accepting incoming calls without necessity to purchase separate local account, and saving activity of the main number.

Roamers with local number save the costs of expensive incoming calls and get more closely to their business partners because of the "presence effect" (no need to dial international number from the country where the subscriber currently resides). Operator can use this solution to increase its revenue by deploying new attractive services for inbound roamers and saving traffic in the network.

Optimal Router

PROTEI optimal router is an efficient solution that helps to save the traffic in the network for calls between two subscribers from another country decreasing cost for roamers and increasing Operator's revenues. To call another person registered in the same network, using "optimal route", foreign subscriber should dial the destination number with special prefix. The call will be routed to PROTEI optimal router that checks the location of the called subscriber and if this subscriber is found in the same network, the system makes the call using optimal routing rules without creating a voice loop via roamers home network.

Company profile

PROTEI R&D Center is a privately owned subsidiary of DEMAREST Technologies LLC (USA) that develops wide range of telecommunication service platforms for mobile and fixed line operators. Under PROTEI brand we present reliable, cost effective, carrier class solutions. Using the latest convergent technologies implemented in our products mobile operators can utilize all of the possibilities given by NGN.
Well-known services such as SMS, USSD, customer care services can be delivered with maximum efficiency. Our products are highly customizable and can be altered according to any requirements. PROTEI service platfroms will help Operators to keep subscriber loyalty, increase revenues and reinforce a position on a highly competitive market. The list of our satisfied customers includes many national wide mobile and fixed line operators around the world that serve more than 25 millions subscribers.

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