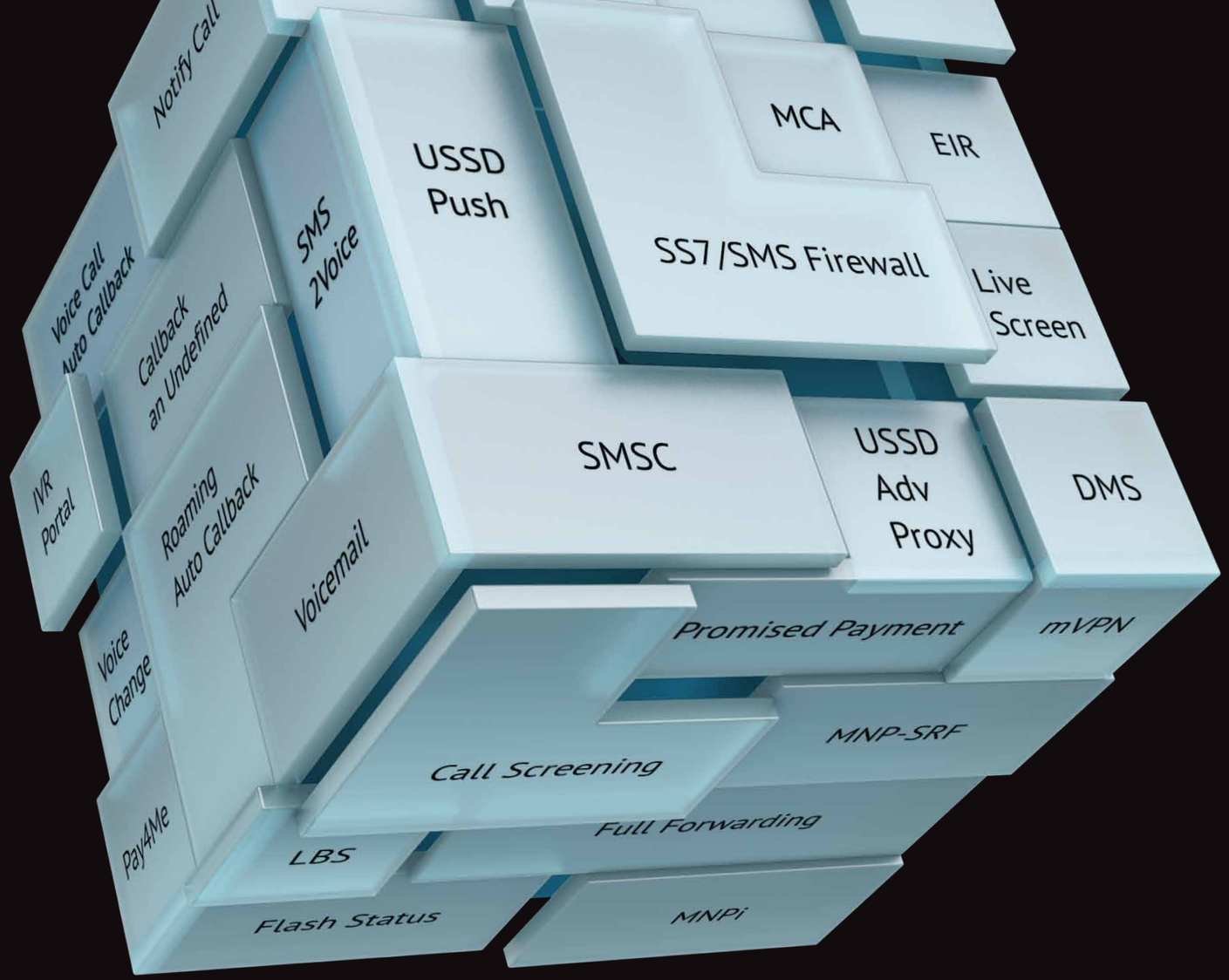
SC.SOFT



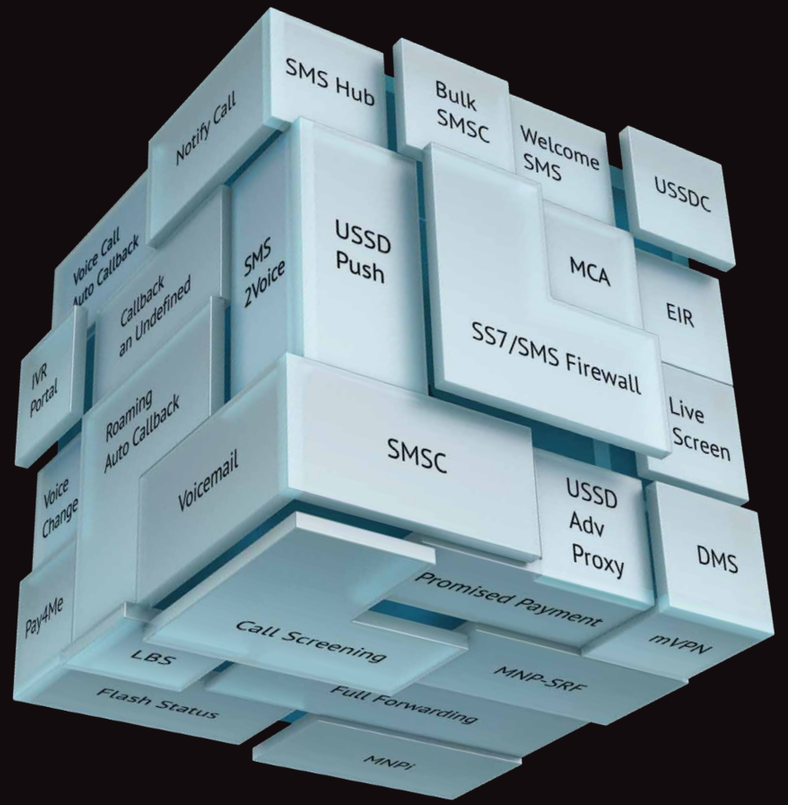
Multiplatform

SC.Multiplatform

SC.Soft, the developer of software for mobile network operators (MNO) and content providers, presents a new product for organizing the operation of multiple communication services based on the **Multiplatform** universal solution.

The solution contains two cores: Messaging and Voice. The Messaging core ensures SMS, USSD exchange and contains more than 20 modules, which are used for running different message exchange services. The Voice core modules organize the operation of voice services.

Depending on the services to be implemented, **Multiplatform** is installed with a varying set of modules. If necessary, the content of Messaging and Voice cores may be supplemented or modified without significant expenditure.



ACCELERATED DEVELOPMENT FOR YOUR BUSINESS

When installed, **Multiplatform** is integrated with the key components of the MNO network: billing, MSCs (SIGTRAN, SIP), etc. Multiplatform's deeper integration allows the launch of new services within the shortest possible time (up to 1 month).

In this catalog, you will find a description of the main services which may be deployed using **Multiplatform.**

REDUCTION OF COSTS

Replace many outdated, separate systems with a universal solution and decrease the cost of maintenance:

- free space in the server room,
- reduce the cost of maintenance services delivered by various suppliers,
- reduce the number of HR resources through a single interface for managing different services.

When a service is no longer needed, **Multiplatform** will ensure the reuse of hardware resources for the organization of new services.

Flexible sales model — CAPEX or OPEX.

FREE TRIAL PERIOD FOR MULTIPLATFORM-BASED SERVICES

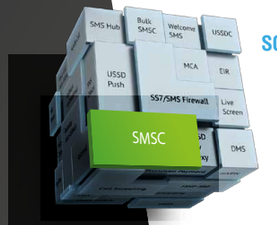
Test the service for a clear understanding of the efficiency and peculiarities of performance in the conditions of your mobile network.

We offer deployment of **Multiplatform-based services** in free demo mode in record-breaking time, from 2 to 4 weeks, without modifications or additional equipment.

Our clients

vodafone
VEON
ADAMN MAGTI
mobiuz
Kcell
Tcell
MTS
TELE2
MEGAFON
telemach
روشن ROSHAN
Ucell
MITC
smart YOUR WORLD, YOUR VOICE
UZTELECOM
viahub
MOBILFON
mobstudio
LANCK TELECOM
GMS
CLICK
VisionLabs MACHINES CAN SEE
BAMBOO GROUP
SMSCENTRE
SILKNET
Moldtelecom

Content:



SC.Multiplatform. SMSC

Short message service, as well as USSD interaction, remains one of the basic services of MNOs. A significant contribution is made by additional services based on these technologies.

SMSC module provides message exchange in SMS and USSD formats in mobile communication networks. It increases the bandwidth and quality of the SMS exchange service.

SMS Bulk service (page 8) is important for **SMSC**, while the interface of activation of the following additional services and various queries is important for USSD: balance, weather, currency exchange as well as the purchase of concert tickets or a callback request in roaming — **RACB** (page 44).

Additional features

- Receiving/sending of USSD, support of USSD dialogs, USSD processing with any business logic, and USSD-like service support for CDMA subscribers
- SMS-Extra:
  - Inbound SMS message redirection to other subscribers or an email address
  - Black/white list for subscribers
  - Delayed delivery (SMS calendar)
  - SMS-nick
  - SMS Answering Machine
  - SMS Signature
  - SMS Secret (password-protected SMS messages)
  - Copy2Email (copying inbound/outbound SMS messages to email)
  - Individual mailing lists
- Message transliteration
- Generation of text and special delivery reports by several customizable criteri
- Identification of the subscriber's LAC/Cell ID, uploading this information to the CDR

An important advantage is readiness to demonstrate **SMSC** in action. Our unique offer is a 4-week pre-installation of **SMSC** in the MNO network, which allows the customer to make a realistic assessment of the technical potential and high commercial efficiency of the solution.

SC.Multiplatform.

Bulk SMSC/USSDC

This module is intended for bulk mailing of short messages (SMS, USSD). It allows the MNO to provide the service on favorable terms to external partners in any areas where communication with clients is required: content providers, banks, stores, advertising agencies, emergency services, etc.

Using **Bulk SMSC**, the MNO can run interactive surveys and polls, and various advertising and marketing campaigns.

It is distinguished by high performance efficiency and fail-safety.

USE CASE:

- Bulk mailing sessions by the MNO for promotion of its services
- Attraction of third-party clients for organizing bulk mailing sessions to subscribers

Implementation results

SMS technology was developed more than 20 years ago, but it still meets modern requirements of the business. **The Bulk SMSC module organizes streamlined processes of communication with the MNO's subscribers.** Bulk SMS sending suits almost all areas of business and all sizes of companies.

One server cluster (master-slave)

per second

SC.Multiplatform. SMS Hub

The module enables the configuration of flexible SMS traffic routing with connection to several MNOs.

USE CASE:

- Task — organize bulk SMS sending
- For an optimal solution of the task traffic needs to be divided:
  - by time
  - by sender
  - by Least Cost Routing
  - by KPI (share of successfully delivered messages)
  - by connection stability
  - based on the reason for failure of the previous delivery attempt
  - based on the limits for channels or channel groups
  - based on the subscriber number (with account for MNP)
  - by predefined load distribution between channels (percentage routing)
  - by priority (weight ratio) of the channel
- The following provisions must also be made:
  - in case of KPI reduction — fallback to the previous activated mode
  - repeated delivery attempts
  - possibility of making active network queries (SRI)
  - exposure of attempts of third-party SPAM sending sessions and their blocking on the fly
  - Anti-Spoofing
  - Anti-Flooding
  - black and white lists for each client
  - …

The SMS Hub can be used for optimal solving of the above tasks. The solution may be deployed both by the MNO and by an independent player on the telecommunications market.

Welcome SMS

SC.Multiplatform. Welcome SMS / Bon Voyage

Module to inform roamers:

- Own subscribers in the guest networks or in other macro-region of the MNO (if the network is divided into macro-regions) — the **Bon Voyage** service
- For registration of subscribers from other networks — the **Welcome SMS** service

USE CASE:

When registered, the subscriber can receive an SMS with useful information:

- Greeting messages with information about the network of location upon the registration of a subscriber in another network
- Information on roaming services available for activation
- Sending of bulk SMS with advertising initiated by the MNO when the subscriber is in a given country

Implementation results

For subscriber:

- Savings when roaming during connection of additional services

For MNO:

- Increase of income. Promotion of roaming services based on the rules created by the MNO
- Increased efficiency with roamers through the availability of detailed statistics and bulk messaging
- Increased subscriber loyalty

SC.Multiplatform. **USSDC**

A flexible and reliable module for delivery, processing and accounting of USSD messages aimed at expansion of the MNO's existing technical facilities, allowing a quantitative and qualitative increase in the network bandwidth as regards the transfer of USSD messages.

USE CASE: USSD query

1. The subscriber has arrived in Europe on vacation. In the airplane he/she turned on his/her phone and registered in the guest network
2. The subscriber sends a USSD query *127# (free) and receives roaming rates for the country being visited
3. He/she requests the balance with USSD command *100#
4. The subscriber remembers that **Roaming Auto Callback (RACB)** is available, but that the service had not been activated. There is no Internet at hand to activate this service through My Account
5. The subscriber remembers that a USSD query **1# may be sent for activation. This query reaches **USSDC** and initiates activation of **RACB** service

All these queries from the guest network are FREE for the subscriber (possibly only **RACB** activation was performed according to the home MNO's rates).

Implementation results

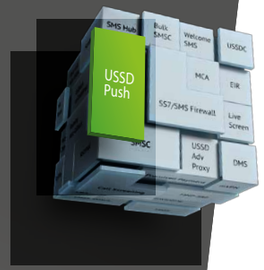
For MNO:

- Support of USSD dialogs (surveys and interactive advertising)
- The dialog can also be initiated by the MNO (USSD Phase II)
- Implementation of USSD-like service for CDMA networks
- Support of flexible billing schemes
- A harmonious addition to the short messages service

For subscriber:

- Free use of queries in roaming!
- Interactive real-time interaction with applications
- The messages are displayed on the screen and don't swamp the phone's memory

USSD Push



SC.Multiplatform. USSD Push

The module is intended for bulk sending of USSD Push messages. It supports both regular USSD messages and dialogs (USSD menus). The structure and text of the USSD menu are formed using a special constructor in the web interface of the system. Services are activated in the billing when the subscriber selects a service in the USSD menu.

USE CASE 1:
Sending of USSD messages or USSD menus by the subscriber list with a possibility of running several marketing campaigns simultaneously. The frequency of messages per subscriber is individually controlled. If necessary, the **USSD Push** module processes subscribers'responses and supports the possibility of USSD dialog, e.g., for a survey or for offering an additional service.

USE CASE 2:
Adding texts with advertising in USSD messages from other services in the MNO's network.

USE CASE 3:
Transfer of USSD services to the module for freeing up licenses of the regular USSDC.

Implementation results

Use of interactive USSD menus for interaction with subscribers reduces the time and the number of requests to the MNO's Call Center for performance of various operations.

USSD Advertizing Proxy

SC.Multiplatform. USSD Advertising Proxy

A tool for adding advertising messages at the end of responses from the MNO's USSD services. It will allow the relaying of information to subscribers in a reliable and effective way.

USE CASE 1: processing of any USSD queries
The module requests the balance through a USSD-MO query to the existing USSD center of the MNO just as a subscriber would. The response received is supplemented with advertising information according to pre-defined parameters.

The following parameters can be considered during the modification of USSD messages:

1. Subscriber number
2. USSD query text (prefix)
3. Time of day specified for each advertising message
4. Total length of the modified USSD response (limitation of USSD response length)
5. History of ad displays per subscriber (e.g. an advertisement should not be displayed more than once per day)

USE CASE 2: to specific USSD queries
Only specific queries are routed to the module. The module forms the response text and adds advertising information to USSD text.

Implementation results

For MNO:

- Real-time interaction with subscribers
- Addition of advertising endings to existing USSD services. Intellectual mechanisms of advertisement targeting, depending on: the subscriber's region, OS, mobile device, data traffic volume, ARPU, etc.
- Support of USSD dialogs (surveys and interactive advertising)

For subscriber:

- Free use of queries in roaming!
- Interactive real-time interaction with applications
- The messages are displayed on the screen and don't swamp the phone's memory

DMS Remote configuration of services on mobile devices

SC.Multiplatform.

Device Management System (DMS)

DMS module for automatic sending of INTERNET/WAP/MMS settings to subscribers. Auto-settings are sent as soon as a new device appears in the network. Thus, subscribers can use the MNO's services without any obstacles.

The settings can be also sent following the order from the MNO's external systems or manual order by subscribers through SMS, USSD, IVR.

Additional functionality

The module can be used as a marketing tool to obtain data on subscribers' terminals — the system stores information on numerous parameters of mobile devices. The use of this data will help generate unique offers for subscribers and obtain more detailed information on devices in the network.

USE CASE:

1. The subscriber registers in the MNO's network. In so doing, he/she doesn't enter any commands to get the settings for Internet access
2. **DMS** determines the model of the subscriber's device and sends the respective INTERNET/WAP/MMS settings
3. The subscriber saves the settings
4. The telephone has been configured and the subscriber can use INTERNET/WAP/MMS services

Implementation results

- Increase of subscribers' INTERNET/MMS traffic
- A 50% decrease in the number of approaches to the Call Center
- Obtaining an effective tool for subscriber base analysis
- Simplified creation of new services based on statistical data
- The ability to maximize profits from a selected subscriber group

A 50% decrease in the number of approaches to the Call Center.

SC.Multiplatform. Over-The-Air (OTA)

The OTA module allows MNO to remotely manage SIM card files and applets on its network. SIM cards and the OTA communicate via SMS.

USE CASE:

- SIM card data update with no need to re-issue:
  - IMSI
  - Service Provider Name
  - List of networks, where registration is allowed
  - DSTK
  - SMSC number
- Javacard-applet installation and removal, as well as review of the existing applet list
- Sending commands to an applet (depends on applet features). For example, DSTK menu command servicing, when OTA performs SIM actions via an applet (a call or sending SMS/USSD command, opening URL in a browser, etc.). There is also the option to send push messages and conduct interactive campaigns

Implementation results

- Savings on new SIM card issue for old subscribers
- Providing new services based on OTA and SIM applets (see details at LiveScreen, page 60)

Average sending speed during campaigns — 2000 SMS **a second**

Cost reduction up to 50%

SC.Multiplatform. SS7 / SMS Firewall

The module analyzes, modifies and filters messages of SS7 traffic which home subscribers have received from external networks. It balances and transfers traffic between the MNO network components.

USE CASE:

- **SMS spam identification and blocking:**
  Firewall identifies attempts of third-party SPAM messaging and blocks them. The incoming SMS statistics are grouped by unique SMSC (GT) number bundles and sender's addresses. Blocking is configured for a defined sender within one SMSC for a certain period of time. The module can identify and block such SPAM types as SMS-Spoofing and SMS-Smishing
- **Modification of the SMS TP-Reply-Path flag on the fly:**
  The TP-Reply-Path flag can be set by a phone during the sending of an SMS. This flag means that the response to a received SMS should be sent through the sender's SMSC. It does not allow the MNO subscribers to respond to an SMS received from another MNO's SMSC. The module allows the removal of this restriction by modifying the SMS Path-Reply flag on the fly
- **SMS history backup:**
  The module allows the storage of incoming SMS. All messages or only messages of subscribers who have subscribed to the SMS backup service can be stored
- **Black/White lists:**
  The "black/white lists" function restricts incoming messages received by the subscriber. The restrictions are formed in two ways — allowing messages from certain numbers (messages sent from other subscriber numbers and alpha-numbers will be blocked) or prohibiting messages from given subscriber numbers

Implementation results

The module blocks undesirable and fraudulent messages, which increases MNO loyalty. The solution can also be used as the basis for development and implementation of other products — SMS archiving, black/white SMS lists and SMS forwarding.

EIR

SC.Multiplatform.

Equipment Identity Register (EIR)

Subscriber and terminal registration and control module.

USE CASE:

- Blocking of network operation of black-listed devices. The module is integrated with the MNO's switching equipment and processes CheckIMEI queries, which are configured to contain IMSI and MSISDN, from it
- The following tasks may be solved during **EIR-DMS** interaction — identification of a new subscriber/terminal as soon as he/she/it appears in the network, sending Internet services settings to subscriber, and accumulation of each subscriber's history of device replacement
- The following tasks may be solved during interaction with billing: holding of marketing campaigns based on automatic activation of services to subscribers who meet certain criteria
- Legal control of devices may be implemented during interaction with the M2M platform

Implementation results

In addition to the above-described cases, the **EIR** module will enable the solving of additional tasks — obviating the need to locate specialized software on SIM cards for automatic order of settings. This will reduce MNO's operating expenses. A possibility of automatic enrichment of received doublets (triplets) both by MSISDN (only if IMSI+IMEI are transferred) — query to HLR, and by current location of the subscriber — PSI query to VLR.

Monitoring of customer service events and sending of information about events to external systems, for instance, to BigDATA systems, which will enable the creation of brand-new, unique cases.

SC.Multiplatform. Location-based service (LBS)

A module for organizing services based on the subscribers' location-based data.

USE CASES:

- Subscriber location determination services — "Parental control" with a possibility to receive notifications on entering/leaving a zone. Vehicle and cargo monitoring, and traffic stream control services
- Marketing services — provide information about a subscriber's location in a specific area. For example: the customer wants to inform all subscribers of a given MNO in a given area about the opening of a new store, restaurant, etc. To do this, the system operator only needs to determine the area and send the message text through API systems, which will result in all subscribers in this area receiving the sent text
- Additional checks for financial organizations — banking scoring. The subscriber's location data collected for a certain period of time helps ensure an additional verification of the subscriber's declared data. This case can also be considered for reviewing the subscriber's financial operations performed outside the regular zone of activities, for instance, when debiting the account outside the borders of the state, the banking operator will only have to send a query to the system — to determine whether or not the subscriber is really at given location
- Collection and sending of location-based data to BigDATA analysis systems for subsequent processing and analysis

Implementation results

LBS implementation will allow the MNO to offer new subscription services. Additionally, LBS-based services are popular with different marketing agencies and financial organizations.

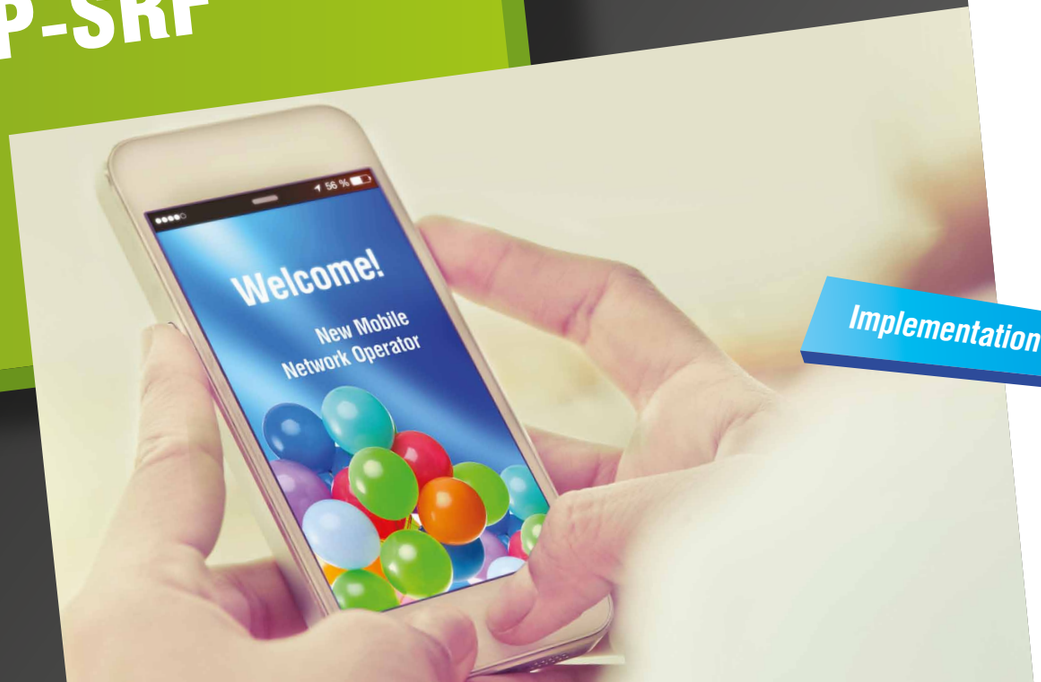
MNP-SRF

SC.Multiplatform. MNP-SRF

Module for ensuring and maintaining MNP processes (Mobile Number Portability).

USE CASE:

- Extraction of all information required for routing from the mail database of ported subscriber numbers
- The local servicing of SendRoutingInfo queries from all MSCs of the MNO in whose network the **MNP-SRF** is installed: receiving of all SRIs for voice calls and SMS, processing of SRI queries, and responding to them with a routing number (MSRN)
- Operation as proxy — the **MNP-SRF** module can receive all other traffic and process only the traffic intended for the module, transferring all other traffic to the HLR unaltered
- Operation as self-sustained and sole profile database — **MNP-SRF** does not need a permanent connection to the total base of ported numbers for processing SRI queries. This functionality is especially relevant to MNOs providing services over a large territory, as it significantly reduces the risk of losing the communication channel from the ported numbers database to other remote nodes involved in MNP processes



Implementation results

The module enables the porting of mobile subscribers. In combination with the MNPi module, the MNO will obtain a high-performance product for management of subscriber migration processes.

MNPi

SC.Multiplatform. MNPi

Mobile Number Portability interface (MNPi) automates the processing of subscribers' requests for (inbound or outbound) number porting. The web interface can create a request and track its processing.

Subscribers' data is verified. Erroneous porting can be canceled and services suspended if debt is revealed.

USE CASE 1: creation and automatic processing of a request for inbound porting of a subscriber's number

1. An employee of the subscriber service center creates a request for inbound porting: he/she enters the ported number and other data in the special web interface, where all necessary documents can be attached (for instance, scanned copies of porting applications, service agreement, etc.) to the porting application
2. The system automatically requests the capability to port the number from the Central Ported Numbers Database (CPNDB) and awaits confirmation of request content from the donor MNO
3. The temporary number on the subscriber's SIM card is replaced with the ported number
4. In the end, **MNPi** establishes new routing of incoming/outgoing calls and SMS and notifies the subscriber on successful porting

USE CASE 2: automatic processing of a request for outbound porting

1. When a porting request is received from CPNDB, the subscriber data is verified. If necessary, the scanned documents can be checked manually
2. A check is also made to see if the subscriber has indebtedness, and a confirmation of the possibility of number porting is sent. After this, at the time of porting, the number is deactivated

Implementation results

The **MNPi** number is easily integrated in the MNO's network and significantly accelerates porting request processing. All operations involving the creation of requests and monitoring of their status are performed through the web interface. Following the porting results, the module will send a notification to the subscriber via SMS or email.

SC.Multiplatform. Voicemail

This service is designed for recording, storing and managing voice messages, and for notifying subscribers of new messages in the voice mailbox.

With this module, the MNO provides high-quality service with various options to subscribers, for instance:

- recording of a personal user welcome message
- adding advertising information to SMS notifications from the service
- service management when roaming
- easy-to-use tools for voice mail management for subscribers — a mobile application (Android, iOS, WP), and a web interface

USE CASE 1:
Static voicemail — launch for part of the subscriber base. Full capabilities for service configuration and increased period for message storage.

USE CASE 2:
Dynamic voicemail — a service for all MNO subscribers but with minimal configuration capabilities. The launch of this service for the whole subscriber base is a very powerful driver of income growth from voice traffic inside one's own network and inter-MNO traffic. In this case, the service will ensure that potential voice traffic is not missed and is transformed into MNO income.

Implementation results

The experience of SC.Soft shows that the potential growth of income from voicemail traffic, including inter-MNO settlements, can reach 5% of voice traffic income.

SC.Multiplatform.

Missed Call Alert (MCA)

Notifying subscribers on missed calls using SMS.

USE CASES:

- **"Missed call"** — notifications of attempts made to reach a subscriber with "unavailable" or "line busy" status
- **"Now available"** — notification to the calling subscriber of the availability of a subscriber whose previous status had been “unavailable" or "line busy"
- **"Now available"** block — the ability to block the status identification of a subscriber who was called earlier
- **"Line free"** — notification about the availability of a subscriber who previously had "line busy" status

Implementation results

The **MCA** module is a basic element in the MNO network for notifying subscribers about missed events. Average response to notification of missed calls is 10–12%.

The best performance is achieved when the whole subscriber base of the MNO is connected to the service. The module is also capable of notifying the subscribers of other networks.

Average response to notification about missed calls is

SC.Multiplatform. Pay4Me

This service is designed for outgoing calls at the expense of the recipient.

USE CASES:

1. Subscriber A with an insufficient personal account balance calls subscriber B
2. Billing forwards the call to the **Pay4Me** module
3. The **Pay4Me** module plays a voice prompt with an offer to make a call at the expense of subscriber B
4. If subscriber A agrees, the **Pay4Me** module verifies that subscriber B belongs to the network of subscriber A's MNO
5. Upon verification, subscriber B will receive an incoming call with a voice message to accept the incoming call from subscriber A at his/her own expense
6. If subscriber B agrees to pay for the call, the **Pay4Me** module connects subscribers A and B
7. If the call is rejected or subscriber B is a subscriber of another network, the **Pay4Me** module can terminate the connection and send a command to external notification systems **(MCA/Notify Call)** to notify subscriber B of subscriber A's attempted call

Implementation results

Pay4Me is an organic addition to the **Promised Payment** service. Both services can work together and be provided to the subscriber according to the sequence set by the MNO. For instance, if subscriber A cannot be offered the **Promised Payment** service, the MNO may offer him/her the **Pay4Me** service instead. **The service may be offered without call interruption. Average level of service penetration — 0.3–0.5% from the total number of connections made.**

SC.Multiplatform.

Promised Payment

Communication services for subscribers with a zero or negative balance.

USE CASE:

1. Subscriber A with an insufficient personal account balance calls subscriber B
2. Billing forwards the call to the **Promised Payment** module. The possibility of a call with a zero balanceon the personal account is verified (according to criteria determined by MNO for the subscriber, for instance, ARPU value)
3. If the **Promised Payment** is approved and deemed possible, the module offers to top up the account instantly. The subscriber is also informed of the terms of this service
4. If subscriber A has used the service, a command is sent to billing to send the selected amount of the promised payment to the subscriber's account and permit further connection
5. If subscriber A cannot be offered the service (he/she fails to meet the criteria) or he/she has turned down the service, the **Promised Payment** module terminates the connection and can send a command to external notification systems **(MCA/Notify Call)** for notifying subscriber B

Implementation results

Statistically, around 2–3% of calls fail because of insufficient on the calling subscriber's account. Additionally, the service boasts better penetration compared with other, similar services, as upon his/her connection with subscriber B.

Service penetration level is about **2–2,5%** **of the total number of calls made**

SC.Multiplatform.

Notify Call

A module for notifying subscribers about missed calls using pseudo-calls instead of SMS. A pseudo-call is a special signal call on behalf of the calling subscriber, when the connection is not established but a real missed call is displayed on the recipient's telephone.

USE CASE 1:

- Subscriber A, with an insufficient calling balance, calls subscriber B. The connection will not be established and subscriber B will receive a notification in the form of a pseudo-call from subscriber A
- Subscriber A calls subscriber B who has "unavailable" status. When subscriber B is no longer unavailable, he/she will receive a pseudo-call from subscriber A

USE CASE 2:

- Subscriber A initiates a notification about a missed call for subscriber B by sending a USSD command
- If the line is busy, subscriber B will receive a notification in the form of a missed call from subscriber A's number as soon as he/she ends the call

Implementation results

Response level exceeds the same indicator of the **MCA** module and comprises around 20–25% depending on the used case. The service can interact with the **MCA** module, complementing or fully replacing it. The module can also notify third-party network subscribers according to the algorithm set by the MNO.

Response level is 20–25% depending on the used case

SC.Multiplatform. Voice Call Auto Callback (VCACB)

Order of an auto-call to a busy or unavailable subscriber. The service is used to attract more voice traffic by providing an easy means of communication between subscribers. Connecting is easy!

USE CASE 1:

1. Subscriber A tries to call subscriber B
2. Called subscriber B has a "busy" or "unavailable" status
3. A message will be played for subscriber A with an offer to request an automatic call to subscriber B when he/she is back on the network or when subscriber B's line is free again
4. After the request is accepted, the service tracks the status of subscriber B
5. As soon as the subscriber is available (or free again), the service initializes request processing and makes a call back to subscriber A
6. After subscriber A takes the call, **VCACB** connects to subscriber B
7. If subscriber A has not listened to the service message until the end and terminated the connection, he/she will be sent an SMS with information about an unsuccessful attempt
8. If subscriber B is unavailable for the whole tracking period, as established by the service, the service may send information on the missed call to subscriber B to the MNO's **MCA/Notify Call** systems

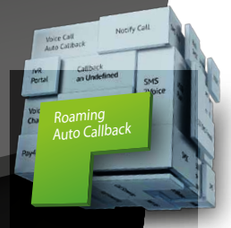
USE CASE 2:

1. Subscriber A tries to call subscriber B
2. Called subscriber B has a "busy" or "unavailable" status and has an active **Voicemail** service
3. Subscriber A does not wish to leave a voice message for subscriber B and ends the call
4. Subscriber A receives an SMS or USSD offer to use the **VCACB** service
5. Thereafter the rules of Use Case 1 apply

Implementation results

The service may be offered to a subscriber during a failed calling attempt. Due to this, the service's level of penetration is 25–27% from all calls to busy lines.

The service's level of penetration is **25–27%** **from all calls to busy lines**



SC.Multiplatform.

Roaming Auto Callback (RACB)

A callback service if a subscriber is in the roaming MNO's network. It is used to increase the affordability of voice communication services in the event of high rates of roaming partners for outgoing calls.

USE CASE 1:

1. Subscriber A orders a call to subscriber B using a USSD command or by sending an SMS to a service number
2. After that, subscriber B receives an incoming call from the service, specifying subscriber A's number and a voice prompt with information about the call
3. If subscriber B agrees to accept the call, the service calls subscriber A and connects subscribers A and B

USE CASE 2:

1. Subscriber A, when roaming, calls subscriber B. **RACB** intercepts the call and terminates the call for subscriber A
2. Subscriber B receives an incoming call from the service, specifying subscriber A's number and a voice prompt with information about the call from subscriber A
3. If subscriber B agrees to accept the call, the service calls subscriber A and connects subscribers A and B

Implementation results

As a rule, the cost of an incoming call in roaming is much less compared with outgoing ones. This is what **RACB** service advantages are based on.

For subscriber:

- Low per-minute call cost. The subscriber can save up to 80% when roaming.

The subscriber can save up to 80%

For MNO:

- Additional subscriber traffic due to higher affordability of roaming services.
- Increase of income. The delivery of a call to a roaming subscriber has a higher marginality than an outgoing connection. **The service will raise additional income for the MNO — 50–60% higher than income from the roaming subscriber's outgoing call.**

SC.Multiplatform. Callback an Undefined Caller (CBU)

A module for ordering automatic call back to a subscriber who called with an active "hidden number" service.

USE CASE:

1. Subscriber A receives a call from subscriber B with a hidden number
2. After the call ends, subscriber A receives an SMS or USSD notification from the **Callback an Undefined Caller** service: "To call subscriber B, send 1: if you want to know the number of the caller, send 2."
3. Selecting one of the options, subscriber A can learn the number of the caller or call back straightaway
4. The MNO can configure the options for determining the hidden number — whether to provide them or not, as well as the parameters for calling back the hidden number

Implementation results

Service penetration is 10–15% of all calls made from hidden numbers. The penetration statistics include both the calls made to hidden numbers and queries to obtain the calling subscriber's number.

Service penetration is 10–15% of all calls made from hidden numbers

SC.Multiplatform. Call Screening

A module for filtration of incoming/outgoing calls and SMS messages.

USE CASE 1: for the B2C and B2B segments

- "Black list" — the system blocks incoming and outgoing calls and SMS messages according to the black list. All calls from numbers in this list are blocked.
  The subscriber can create a voice or SMS response unique to each number
- "White list" — the system blocks incoming and outgoing calls and SMS messages according to the white list rule — all calls and messages to the numbers in this list are allowed. This service is popular with the B2B segment for organizing communication of employees with a limited set of addresses, and with the B2C segment as a "Parental control" service

USE CASE 2: for MNOs

- Number Blocking Solution — functionality for blocking messages and calls of subscribers at the MNO level, which is used to remove spam in the MNO network

Implementation results

Service penetration is 1,5–2% of the total number of the MNO's subscribers. The service's monthly ARPU, depending on the end cost, is 2–3 US dollars. Numbers of any MNOs, including prefixes or number masks, can be added to the black or white list. There is a web interface, or mobile applications based on iOS, Android, and Windows Phone for simplified configuration of the service settings. The NBS (Number Blocking Solution) functionality allows the MNO to remove spam from the network, thereby increasing subscriber loyalty, or monetize incoming traffic.

Service penetration is 1,5–2% of the total number of the MNO's subscribers

SC.Multiplatform. mVPN

mVPN allows mobile phones to be united in a mobile Virtual Private Network. Within this network, subscribers can enjoy convenient functions from the arsenal of corporate automatic telephone exchange (PBX).

USE CASE:

- Creation of a personal numbering plan with in a private mobile network. For instance, a group of numbers in 1XX format can be allocated for employees of one of the units, which limits the timeframe during which each of them can be reached. Additionally, a single number for a group of can be set and, if necessary, a conference call can be made through a single call. The rules described for calls also apply to SMS, the same text could be sent to everyone in the group via a single SMS
- The **mVPN** module supports restrictions for outgoing and incoming calls and SMS inside the group — black and white lists. In so doing, the module can differentiate calls and SMS by sending destinations: for example, it could permit inter-city calls at a certain time and international calls at another
- Conversation recording — pressing * at any time during a conversation allows the user to receive the recorded conversation in his/her email box or listen to it online

Implementation results

For MNO:

- Simplified installation and use for corporate clients and, consequently, increase of ARPU and loyalty
- Web interface and mobile application branding for service management
- Flexible configuration of calls and SMS filtration rules

For the client:

- Organization of a simple communications system for employees
- Easy-to-use communications control tool
- Cost optimization

SC.Multiplatform. Full Forwarding

A module for smart forwarding of incoming/outgoing calls/SMS.

USE CASE 1: Unassisted forwarding by subscriber:

1. The subscriber has lost a mobile phone (forgot, lost, etc.)
2. In order to forward all calls and SMS to a new subscriber number, the subscriber calls the service's service number from another phone and enters the preset PIN of the service corresponding to his/her previous number
3. After that, all calls and SMS will be forwarded to a new number (from which the subscriber has made a call). The service can also be controlled with SMS and USSD
4. To deactivate forwarding, the subscriber only needs to make a voice call or send an SMS from the previous number

USE CASE 2: Forwarding by a Call Center operator:

The subscriber dials the MNO's support service number and submits his/her PIN for service activation and a new service number. The MNO forwards calls and SMS to the subscriber's new number

Implementation results

Almost everyone has lost or left a mobile phone at home, in the office, or in the car. In such a situation, **the Full Forwarding service allows the subscriber to activate forwarding in the quickest and simplest way and to continue receiving calls and SMS.** This solution will enable the MNO to increase subscriber loyalty, attract income from the new service and make up for the loss of expected profit.

SC.Multiplatform. SMS2Voice

A module for sending text messages which are read to the recipient with an intellectual voice synthesizer to numbers of any MNO.

USE CASE 1: B2C

- The subscriber sends an SMS to the number of the fixed-line operator. **SMS2Voice** receives this message, calls the recipient's number and, once the connection has been established, reads the text of the SMS using a voice synthesizer. In this case, the subscriber sending the message doesn't have to do anything except select the recipient's number and enter the text of the message
- The MNO's subscriber can send a message for the MNO's subscriber. In this case, the recipient's number needs to be added to the text message and the message sent to the service's service number

USE CASE 2: B2B

The MNO may offer its corporate clients the automatic delivery of voice messages to subscriber groups.

The system operator only needs to form a campaign — create a list of target subscribers, a text for mailing, the date and time of message delivery. Based on the results of the campaign, the MNO will receive a statistical report on its results. Client data and message texts can be created in the system's interface, received from the external platform or downloaded as files.

Implementation results

The MNO will attract additional income by launching innovative services — the possibility of sending voice SMS for all subscribers and the provision of a bulk calling service to corporate subscribers. **Based on the existing practice, 0,5–0,7% of all SMS messages have been sent to the numbers of fixed-line operators without being successfully delivered.**

SC.Multiplatform. FlashStatus

A module for creation of a personal message in the form of Flash-SMS which will be displayed on the mobile device's screen before the call.

USE CASE 1:
For outgoing calls — **FlashStatus** will allow the subscriber to set an individual message with short information about him/herself. In this way, the call recipient will be informed when receiving the call, and a call from an unknown number will not provoke any distrust or anxiety.

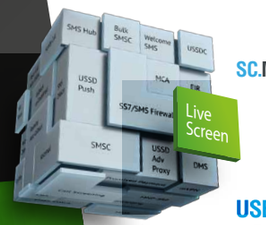
USE CASE 2:
For incoming calls — when the subscriber is unable to answer the phone, all callers will be automatically informed as to why the call recipient is busy.

Implementation results

Nowadays user statuses are very popular — they are present in social networks, different media applications, groups and they add individuality to the user.

FlashStatus module cases are popular with different subscriber segments — in B2B/B2G for brand promotion and service quality improvement, in the B2C sector — for customization of one's own status.

LiveScreen



SC.Multiplatform. LiveScreen

A module for displaying different text content on the mobile device's screen.

USE CASE 1: account balance

- Displaying the current account balance and the cost of the last transaction on the mobile device's screen. This service allows the subscriber to control the balance and top it up in due time. The functionality also delivers messages to roaming subscribers. Text information is displayed by Idle Mode Text in real time
- Display of the current account balance and the cost of the last transaction on the mobile device's display after the end of an outgoing voice connection by sending Flash SMS
- Creation of a branded mobile application — widget — for primary mobile operating systems: iOS, Android, Windows Phone

USE CASE 2: initiation of an interactive menu call for service management

After termination of the voice connection, the subscriber may be sent an interactive USSD or STK menu with various functional capabilities, such as topping up the account (in the event of a low subscriber balance), or adding the most recent caller to the black list.

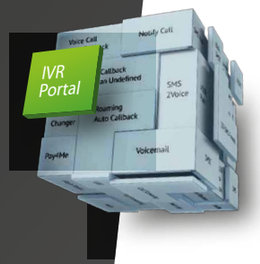
USE CASE 3:

In addition to the information from the above examples, it is possible to display the most varied content on the device's display: current air temperature at the subscriber's location, stock exchange indexes, currency exchange rates, and more. Using the widget allows high-volume, Twitter-style information distribution.

Implementation results

The results of the implementation of the "Account balance" case show the maximum level of service penetration in the amount of 12% from the total subscriber base. At the same time the level of service rejection is very low, which demonstrates high subscriber loyalty. Around 9–10% of the total MNO subscriber base use the "Weather" service, which shows current air temperature and weather forecast at the subscriber's location.

Service penetration is 12% from the total subscriber base.



SC.Multiplatform.

IVR Portal

MNOs often face important tasks the solving of which simply requires a user-friendly and reliable tool for creating and managing voice menu or en-masse subscriber notification. Not all such tasks can be solved efficiently with bulk SMS sending (page 8); it is advisable to implement some of them with the IVR Portal module, which, if used creatively, helps improve subscriber loyalty.

IVR Portal — a module for creating interactive menus, running promotional campaigns and service management.

USE CASE:

1. The list of subscribers is uploaded to the module (for example, from the billing or CRM system)
2. The module makes automatic calls based on the uploaded subscriber list. Event-based calling is also possible; for instance, for evaluating subscriber satisfaction after communication with the Call Center operator
3. After the subscriber picks up the receiver, a voice message is played (common for the list or individual). Connection with the Call Center operator is also possible (with allowance for the subscriber's status, operator's competencies, etc.)
4. A voice message can also serve as an entry to the IVR menu. Data on the subscriber's activities in the menu may be sent to external systems

Implementation results

The **IVR Portal** enables surveys and polls, the proposal and (upon confirmation), application of new subscriber services, and Independent voicemail creation. The implementation of the **IVR Portal** offers a unique tool for interacting with subscribers and accessing information, in addition to providing an answer to the question: "How to attract and retain clients."

SC.Multiplatform. VoiceChanger

The primary purpose of this module is to change the subscriber's voice in real-time. The voice is changed beyond recognition, which provides huge opportunities for practical jokes. VoiceChanger increases ARPU and contributes to the subscriber's loyalty to his/her MNO.

The service may be used for calling ALL MNOs.

An IVR menu and a mobile application (Anrdoid, iOS, Windows Phone) are offered for service ordering and demonstration of voice-changing effects.

USE CASE:

1. The subscriber calls the IVR menu
2. The subscriber selects a voice-changing effect (according to the company's experience, the female voice effect is the most popular)
3. He/she is connected to another subscriber
4. The voice of the service customer is changed for the duration of conversation

Implementation results

For subscriber:

- An unusual, entertaining service for playing practical jokes on friends and acquaintances.

For MNO:

- Increase of income. The service may be provided both as a one-off and based on subscription model terms. More than 1% of the total base use the service on a regular basis. When calls to other networks are permitted with this service, the service's profitability rises by 20%.
- The share of subscribers who used the service after being played a trick on: 38%.

When calls to other networks are permitted with this service, the service's profitability rises by 20%

Used the service after being played a trick on 38%

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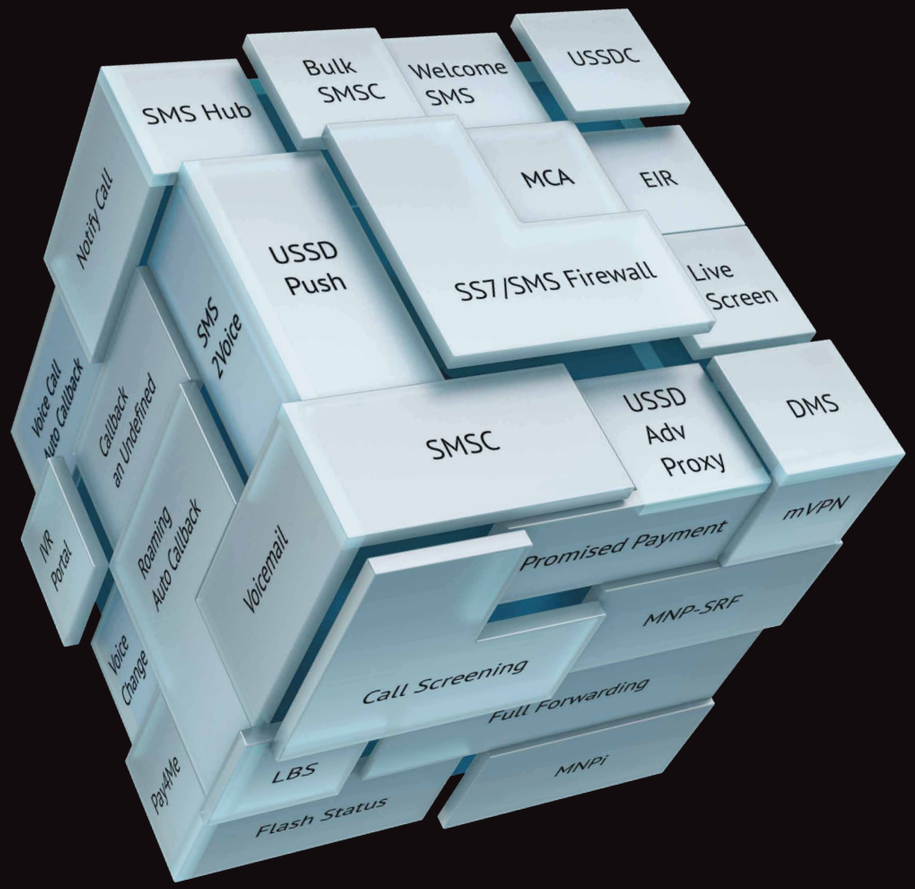

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