

Sometimes subscribers can not establish connection with each other, for example, if a subscriber is busy or not available, misses a call or does not have sufficient funds to make a call.

The **SC.SmartConnect™** platform provides the following services to ensure the connection of subscribers in mentioned situations:

- Voice mail
- Notifications about a subscriber appearing in the network and about missed calls
- Various options of call back
- Calls at the expense of the call recipient
- Promised payment and more

When performing the voicemail functions, **SC.CallCompletion** will independently record voice messages, store them, notify the recipient of an incoming message, and provide an IVR interface for playback.

The system has a modular architecture and is easily scalable according to the customer's requests.

## Key features

- Collection of information about missed calls, subscriber availability in the network, and subscriber status (line busy/free)
- Package of **MCA** (Missed Calls Alert) services:
  - "Missed call" service. SMS notification about calls missed by Subscriber B
  - "Now available" service. SMS notifications about the appearance in the network subscribers which previously were unreachable
  - "Now available" block. The prohibition on sending notifications about the appearance in the network
  - "Line free" service. SMS notification about the previously busy subscriber becoming free again
- Package of **VM** services (Voicemail):
  - Voice message recording and storage. Noise detection support
  - Voicemail box with flexible logic for old messages replacement
  - Voice message playback is possible either by a call to the short number corresponding to the message or through the IVR menu of the mailbox. Visual Voicemail support
  - SMS notification of the subscriber about a new message received in the mailbox, the mailbox being full or nearly full, message storage time expiry, or access to their mailbox through the web interface
  - SMS notification of the subscriber about his message having been played back
  - Management of voice greetings through the IVR menu
  - Delivery of voice messages by MMS (Voice2MMS) or to email
  - Personal greetings management: capability of recording the user's own greetings on the answering machine and setting playback rules
  - Automatic deletion of old messages
- **Pay4Me** services package:
  - Outbound call with insufficient funds on the subscriber's personal account. Subscriber may be paid for by the call recipient, if he/she is a subscriber of the same MNO. The callee will be notified of this and can to refuse
  - SMS notification of subscribers of other MNOs. A subscriber cannot call at the expense of another MNO's subscriber; however, it is possible to send an SMS notification asking them to call back or use **Notify Call** service
  - Formation of CDR records according to which the call recipients are billed instead of the

subscribers who make the call

- **Promised Payment** services package:
  - Balance crediting on trust without breaking the call
  - Various options to choose the top-up amount (voice menu entry, SMS/USSD commands, dynamic amount setting, etc.)
  - Cooperation with the billing system within the service
  - SMS notification to Subscriber A about the status of the Promised Payment request
- **Notify Call**. This service is made as an alternative way of notifying subscribers signed up for the MCA and the Promised Payment services. If notification of called party B is required the Beep Call service can generate a fake call in the way as it was originated from the number of party A. In this case connection is not established, but the called party will see a real a missed call on his/her mobile phone's screen. Unlike SMS notifications this service provokes more call backs
- The **CallBack an Undefined** service allows subscribers to order a call back to hidden numbers. Subscriber requests can be received in various formats, such as SMS, USSD, IVR. A subscriber (service requester) can hide the phone number realizing a call back or leave it visible.
- The **Voice Call Auto CallBack** service allows to order an automatic call back if a call recipient is busy or out of network. During a call to such subscriber's number a proposition to order the service is played. After the request is accepted the platform starts tracking the status of the subscriber who was tried to connect with. As soon as the subscriber is available (not busy), the platform initializes the request processing and makes a call back. The procedure of dialing and switching to a subscriber is flexibly configurable. The platform also can send the proposition to benefit from the USSD Push service. The service requester is informed about the request status by SMS.
- **IVR**. Any voice menu logic implementation with accordance of customer requirements
- Configuration of SMS notifications
  - Adjustment of SMS notification texts without interrupting the operation of the service
  - Either the service number or the caller number may be indicated as the sender number
  - Adjustable logic of handling the calling line identification restriction
  - MNO's and subscriber's black and white lists for SMS notifications
  - Adjustable logic for group or single missed call notifications
  - Different delivery modes at different times (day/night)
  - Adjustable period for storage of missed call information
  - Parental control: SMS notification copied to the second number
- Adding advertisements at the end of SMS notifications. Flexible configuration of simultaneous use of several advertising messages
- MNP support
- Multilingual user interfaces (SMS/USSD/IVR/Web)
- Provisioning interface for profile management
- Subscriber-side services management through SMS/USSD/IVR/Web
- Administrator web interface (system operation reports, online monitoring, subscriber profile review and editing, playback of recorded voice greetings)
- Wide opportunities for combination and options for the use of services:
  - Default subscriber profile can be used
  - Voicemail facilitates the creation of several service classes to use the service. They can be used to create a flexible pricing policy and stimulate connection of additional services. Two service classes are configured in the system by default:
    - Dynamic voicemail (with minimum capabilities)
    - Static voicemail (full configuration capabilities and extended message storage period)

## Benefits & advantages

**SC.CallCompletion** has the following advantages:

- Performance and reliability — the system tested heavy loads 10+ million processed events daily
- An internal SMSC can be included in the installation package to save the MNO's legacy SMSC
- Voice routing possible using either ISUP or SIP
- Call signaling can be transferred using ISUP, SIP, SIP-I, SIP-T, MAP, INAP and CAMEL protocols
- Either E1 or SIGTRAN channels can be used for connection to the SS7 network
- Wide set of functions with possible improvements according to the Customer's requirements
- Documented HTTP interface to manage the voice engine allowing the MNO to establish new voice services based on the solution

The solution is characterized by high reliability:

- Failure of a single node does not cause the provision of services to be stopped or significantly delayed
- All system components are redundant
- The performance reserve of the system is at least 50% of the planned load
- The system includes backup tools. Both full and incremental backup are possible
- Backup copying does not interrupt the system's operation
- A set of spare parts is supplied together with the proposed solution

## Integration scheme

In the minimum configuration, the system is installed on 2 dedicated servers. The servers are connected to a fail-safe cluster. SMSC integration is optional.

