



# SMS Gateway

## Reliable and Scalable SMS Hub

### Key Operator Benefits

- **Drives Revenue:** Allows operators to significantly expand their SMS service reach globally and generates new revenue streams.
- **Reduces Operational Costs:** Carrier-grade interconnection system supporting global messaging network reach through a single interface.
- **Customer Loyalty:** Increases subscribers' satisfaction by enabling them to send and receive messages globally to a larger network coverage.
- **Intelligent SMS Routing:** A multi-PLMN (Public Land Mobile Network) solution that allows the hub operator to manage all international traffic to and from each mobile operator separately.
- **Efficient Global Interoperability:** Facilitates the delivery of two-way international SMS messaging in a reduced time and at least costs to more subscribers, of more mobile networks, in more countries.
- **Network Optimization:** Efficiently handles SMS traffic to cope with complex flows and high load scenarios. It allows the routing and optimization of traffic across multiple SMSC's in the global mobile network flexibly.
- **Message Broker Architecture:** For quick and easy scalability on network.

### Market Dynamics

*Short message service (SMS) has been a killer application since its introduction and increasing number of text messages are sent globally every year. Regardless of the size of the mobile network or its maturity, subscribers expect to be able to send and receive text messages to and from other subscribers regardless of the mobile network they are on or the country they live in.*

*Only last year, more than a trillion text messages were sent globally with increasing rates of international SMS traffic. This rapid growth of text message exchange beyond borders is placing pressure on mobile operators to rethink the way they handle international mobile interoperability. Mobile operators need to deploy a solution that increases their global SMS coverage across all GSM networks and that keeps their subscribers happy while reducing the heavy operational costs of maintaining bi-lateral agreements.*

### Product Overview

Defne's **SMS Gateway** solution solves this problem by offering a highly efficient and scalable hub that exchanges the international SMS traffic between operators and allows them to significantly expand the reach of their SMS services by simplifying their interworking arrangements. The SMS Gateway can also co-exist with other SMS hubs. The SMS Gateway eliminates the need for multiple bi-lateral agreements. It enables mobile operators to reduce the complexity and the cost of managing SMS interworking agreements by sending and receiving all international SMS traffic through a single connection.

The SMS Gateway can be deployed at the international telecommunications network border of the operating country where all international SMS traffic would be exchanged over the SMS Gateway, both from international to local operators, and vice versa. In order to facilitate efficient connectivity, the solution can also be installed and operated in a central location between local operators. The SMS Gateway can also be connected to international SMS Hub providers, through international carriers. This new connectivity architecture supported by Defne's SMS Gateway, relieves local operators from the burden of maintaining bi-lateral agreements with every foreign mobile operator and offers seamless SMS interworking.

The SMS Gateway allows mobile operators to reach a larger international coverage through a single technical, legal and billing relationship rather than managing multiples of roaming agreements. It significantly reduces the operational overhead in an environment with an ever increasing number of mobile operators worldwide and also brings inherent support of legal auditing.



## Key Features

- Real-time message delivery
- Inbound and outbound traffic throttling to/from any of the client operators, according to the limits configured by the system administrator
- Flexible selection of interconnectivity to other operators
- SMS Gateway will reject any SMS which is destined at its own global title, rather than the GT of the SMSC of the mobile subscriber
- Fraud detection by SCCP and MAP address consistency checks
- Anti-spam and anti-spoof capability. SMS Gateway includes the capability to detect and block SMS flooding attempts, based on the volume of traffic generated from a "Roaming Partner" in a given period of time
- Blacklist support
- CDR generation for each relayed SMS. Support clearance between operators, as well as, legal interception of certain targets
- Reporting and online management tools
- Fully redundant, carrier-grade platform design (but not geographically redundant).
- Based on common off-the-shelf (COTS) hardware, such as rack-mount servers and blade systems

## Features

- Defne's SMS Gateway functions as a router between foreign mobile operators and local mobile operators for the exchange of SMS messages. The routing is generally based on the recipient MSISDN or the SMSC global title, depending on the type of message being processed. It offers a wide range of routing capabilities on mobile-terminated (MT) SMS. It provides multi-layer routing of SMS messages so that SMS traffic can be routed efficiently.
- The SMS Gateway provides transparent delivery of MT-SMS messages to and from local mobile operators. It does bring a change in the operational configuration of the SMSC's of client operators (such as GTT and point code configurations), but does not necessitate a software upgrade in the SMSC's.
- The SMS Gateway does not store the contents of the processed SMS messages (i.e. it does not work in a "store-and-forward" mode). It only stores basic data which is essential in carrying out its functionality, such as mapping an alert from the HLR to connected client operators, for a limited time.
- The SMS Gateway supports both conventional SS7 over TDM (both LSL and HSL options) and SIGTRAN over IP. According to regulator policy or connected architecture these connectivity options can be configured.
- The SMS Gateway incorporates virtual counterparts of commonly used network nodes in SMS delivery, namely vSMSC, vMSC and vHLR.

## Standards Compliance

- GSMA IR.75<sup>1</sup>
- ETSI, 3GPP, ITU, CDMA standards (GSM 3GPP TS 23.040)
- Protocol Compliance:

Protocol	Standard
MTP	ITU-T Q.701-Q.704
M3UA/SIGTRAN	IETF RFC 3332
SCTP	IETF 4960
SCCP	ITU-T Q.711-Q.714
TCAP	ITU-T Q.771-Q.774
MAP	3GPP TS 29.002 ETSI TS 100 974 (GSM 09.02)
IP	IETF RFC 791

<sup>1</sup> with some exceptions as stated in the solution document.

### Corporate Headquarters:

ITU Ayazaga Kampusu, Ari-2 Teknokent A-Blok 3-1, Maslak 34469, Istanbul, Turkey

### MEA Office:

Dubai Silicon Oasis HQ Building, 4th Floor, Wing C, Dubai Silicon Oasis, Dubai, 341041 UAE

### Asia Pacific Office:

807, 8th Floor, Ithum Tower A, Plot No A40, Sector-62, Noida, Uttar Pradesh, 201309 India

Phone: +90.212.285.7575

Phone: +971.4.372.4037

Phone: +91.120.4570667

[www.defne.com.tr](http://www.defne.com.tr)  
[sales@defne.com.tr](mailto:sales@defne.com.tr)