



## **Advanced Services - Overview**

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HSL provides mobile messaging services through its "Advanced Services" to allow customer applications to communicate using SMS with mobile devices throughout the UK, Europe and the rest of the world. Customer applications link into HSL's system over an Internet, ISDN or leased line link to send and receive SMS messages.

### Short Message Service

The Short Message Service (SMS) is part of the GSM specification and allows messages to be sent to and from mobile devices on GSM mobile networks throughout the world. A single short message can contain up to 160 characters and comprise of words, numbers or an alphanumeric combination. Short messages can be received simultaneously with voice, data and fax calls. SMS also provides confirmation that a short message has been delivered to its destination. Non-textual short messages can also be sent that carry 8-bit binary data. Messages comprising of Unicode character sets which include Arabic and Chinese characters can also be carried in SMS.

SMS is a store and forward service where a short message is sent via a Short Message Service Centre (SMSC). An advantage of this is that the destination mobile device does not have to be on the network at the time when the message is sent. If a mobile device were not available for a delivery the message it typically delivered when the mobile device becomes available. Delivery of a short message takes a matter of a few seconds from SMSC to mobile device.

SMS Messages can be up to 140 octets or 160 characters in length and can carry information coded in different ways. The most common 'coding' scheme is the GSM default alphabet. This allows a simplified text alphabet to be coded into 7-bits per character.

More advanced applications will typically use 8-bit data where the SMSC makes no assumptions on the coding scheme and allows applications to use the 140 octets as they wish.

Each short message has a number of standard header elements, in addition to the 140 octet user data, which dictate the behaviour of the network and associated applications when handling the message. Examples are:

1. Validity period – assuming the message has not already been delivered, specifies how long message remains valid before the SMSC will delete it;
2. Service Centre Time Stamp – allows the SMSC/users/applications to track and control individual messages;
3. Protocol Identifier (PID) – indicates certain types of telematic interworking etc;
4. Data Coding Scheme (DCS) – indicates how the data is encoded within the message;
5. Source and Destination address of the message;
6. Address of the SMSC that handles the message.

### Suitable Applications

- Voice mail notifications
- Fax mail notifications
- Internet Email Alerts
- Corporate Email (e.g. OpenMail)
- IVR systems
- Critical alerts
- Unified Messaging
- MMS Notifications
- WAP Push
- Vehicle Tracking
- Dispatch Services (e.g. taxis, postal, courier services)
- Remote Point of Sale (POS)
- Remote Monitoring (e.g. telemetry, GPS)
- Information Services (Internet Access, weather reports, stock prices, jokes, timetables)
- Smart Messaging (e.g. logos, ringtones)
- m-Commerce
- Billing and Customer Care systems
- Corporate Database Access

### Connecting to the HSL SMS Gateway

A number of interfaces are provided to allow customer applications to access HSL's SMS Gateway services. These interfaces include protocols used in communicating directly with a mobile network operator's SMSC, programming and e-mail interfaces. All necessary assistance is provided by HSL in order to facilitate the successful development and integration of the customer's application with the service.

**SMPP** – Short Message Peer to Peer. Protocol originally developed by Logica Aldiscon for communicating directly with a mobile network's SMSC.

See <http://www.smsforum.net/>.

**HTTP** – HyperText Transfer Protocol. As typically used for transferring HTML documents on the World Wide Web.

**SMTP** – Simple Mail Transfer Protocol used on the Internet to carry e-mail messages between mail servers. Allows a message to be composed in an e-mail and sent to a mobile device by using a mobile e-mail address that has the format **mobile-no@sms.your-domain**.

**Web Services** (SOAP/XML) - An application supporting Web Services can send SMS directly to HSL's systems for delivery to mobile telephones.

### HSL SMS Solutions

**Alertbroadcast** - HSL's AlertBroadcast solution provides clients with a two-way alert system between a controller and team members.

**EmailSMS** - HSL's EmailSMS solution allows the sending and receiving of text messages (SMS) through existing email software (e.g. Microsoft Outlook, Lotus Notes).

**WebSMS** - HSL's WebSMS solution allows the sending and receiving of text messages (SMS) through a regular web browser with a dedicated login page and service site.



## Networks

Mobile networks operated in the UK by O2, Vodafone, T-Mobile and Orange are supported by HSL's systems. Messages are typically delivered to mobile telephones in the UK within five seconds of being received by our systems from a customer's application. Internationally, our systems support over 400 networks directly and indirectly that employ GSM, CDMA, TDMA, pager and satellite technology. A list of mobile networks support can be found at <http://www.hslsms.com/>.

## Security

The security of communications between the computer systems of the customer and HSL's systems is available through an IPSEC compliant VPN (3DES encryption). GSM SMS provides security of data whilst being carried over the mobile network.

## Support

Technical support is provided to customers to assist them through the process of connecting their applications to the service. Ongoing technical support from system engineers is available 24-hours a day, 365 days a year through special support telephone numbers and via e-mail. Support services provided is dependent on the service level requested by the customer.

## Service Level Agreements

SLAs are available to provide guarantees of service performance and support.

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## Pricing

Set-up includes all reasonable development of HSL's systems and consultancy required to provide service to a customer. The prices below reflect access to the service by IP over Internet. Alternative access methods include ISDN and leased line.

Intro Level	
SMS capacity of up to 50 SMS messages per day. VPN not available	
Set-up charge	Nil
Service charge (monthly)	£25

Entry Level	
SMS capacity of up to 250 SMS messages per day. VPN not available	
Set-up charge	Nil
Service charge (monthly)	£30

Contact Level	
SMS capacity of up to 2,500 SMS messages per day. VPN not available	
Set-up charge	Nil
Service charge (monthly)	£60

Base Level	
SMS capacity of up to 25,000 SMS messages per day. IPSec VPN available (3DES).	
Set-up charge	Nil
Service charge (monthly)	£93

Corporate Level	
SMS capacity of up to 250,000 SMS messages per day. IPSec VPN available (3DES).	
Set-up charge	Nil
Service charge (monthly)	£150

Current message pricing is available online at <http://www.hslsms.com/coverage-and-pricing/>.

All prices are subject to UK VAT where applicable and are correct as of 1<sup>st</sup> July 2010.