datasquirt™
connecting everyone, everywhere

SMS connectivity

SMS features and capabilities

Connecting to SMS partners

CONTACT™ provides all necessary functionality to connect to SMS aggregators in most countries for both sending and receiving of messages.

Inbound SMS messages are received through the CONTACT message gateway which acts as a proxy to translate the message passed from the aggregator or carrier into a format to be processed by CONTACT.

Outbound messages are sent using the messaging service which is configured to deliver the message using the appropriate aggregator or carrier, based on sender/receiver number and geography.

MT/MO

CONTACT supports two-way SMS communication. The industry uses specific terms for SMS messaging:

- MO – mobile-originated messages being sent from a mobile phone
- MT – Mobile-terminated messages being sent to a mobile phone.

Carrier connectivity

CONTACT generally provides connectivity to all carriers within a country, either using direct connections to the carrier networks or through third party aggregators.

The territorial coverage matrix (Figure 1: SMS Coverage) lists our current capabilities.

Shortcodes

Shortcodes are four- to eight-digit numbers that can be used to provide a unique 'mobile address' for a business. Shortcodes usually have to be registered with a central body then provisioned on each carrier within a country. Many businesses incorporate shortcodes as part of their brand identity. In some countries vanity codes are available and can be used in a similar way as 1-800 word numbers.

Customers can send text messages to a shortcode and these messages will be routed into CONTACT. Corresponding messages from CONTACT can be sent using the shortcode as a 'sender' value so that when the customer replies the message is routed into CONTACT.

Shortcodes are country-specific – a US shortcode will only work within the US region (including on US handsets roaming outside the US). This is a legal and regulatory constraint.

Different numbering options are available in each territory – these are generally controlled by either the carriers themselves or by a central governing body.

Costs for shortcodes vary from country to country – contact Datasquirt for details.

A note on roaming: we have experienced varying success with roaming handsets being able to send messages to shortcodes outside their home countries. For example, a US carrier handset is unable to send a message to a Canadian shortcode while roaming in Canada. This is a limitation imposed by the carriers themselves.

Long Numbers (MSISDNs)

Mobile subscriber integrated station directory numbers (MSISDNs), or long numbers, are available in most countries and provide a lower cost alternative to shortcodes.

Datasquirt can provide MSISDNs in the UK, Germany and Australia. Technically, the implementation process is the same but the process of allocating a long number

is less involved and time-consuming than the process of allocating a shortcode, as there is no requirement to apply for the number through a central governing body.

Message Length – Standard Messages and Long Messages

The GSM standard specifies a message length limitation of 160 characters for a single SMS message, using a 7-bit character set. This length can vary from carrier to carrier, dependent upon their underlying messaging gateways.

Support is available for 'long messages' – messages broken into individual components, each 153 characters in length (the additional 7 characters are used for header information, which the handset uses to reassemble the components into a single message).

Carriers will charge for each component, so a 450-character message will cost three times that of a 160-character message.

Additionally, not all handsets support long messages. Our current estimate is that this functionality is supported by approximately 95% of handsets.

Messages containing double-byte character sets (e.g. Asian languages) are limited to 70 characters in length.

CONTACT monitors message length in the message console, broadcast message console and message template editors, and can limit the maximum length to a preset value.

Message throughput and delivery timeframes

Message throughput is a measure of the number of messages that can be sent per second.

The message throughput rate is dependent on a number of factors that exist beyond the control of CONTACT. A primary factor determining message throughput is the volume of messages traversing the carrier networks at the same time that a message is sent.

You can expect a maximum throughput rate in most countries of 10-20 messages per second; which equates to between 36,000 and 72,000 messages per hour.

It is important to note that this throughput only measures the rate at which messages can be delivered to the carrier network and queued within their systems. Other factors – such as message volumes, network outages, etc. – may also affect the time it takes to deliver a message to the end-user handset.

In general, assuming average conditions with no technical issues, messages arrive at the handset within 10 seconds of being sent from CONTACT.

Delivery guarantees

On account of the many factors that can affect message delivery (such as those mentioned in the throughput rate above) and our reliance on the carrier network to deliver the messages to the end-user handset (and vice versa), there can be no guarantee of message delivery or throughput performance over and above a 'best effort'.

Message receipts

Many carriers support delivery receipts. While delivery receipts are not technically part of the SMPP standard, they provide details about the delivery of the message to the handset.

Delivery receipts provide confirmation as to whether the message was delivered, or if and when the carrier has expired the message from its queues due to the handset being switched off, or outside coverage areas. Expiry time varies from network to network and can be anywhere between 12 hours and three days.

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Premium rating

There are a number of charging models for SMS messaging. These can be broadly grouped into two types, premium and non-premium.

Premium rated models involve charging the end-user additional fees over and above their standard messaging rates. For example, many TV-based SMS competitions and voting campaigns are premium rated at $0.50 or $0.99 – this amount is charged to the end-user's account.

Carriers run premium-rated models using a 'revenue share' or out-payment system where a percentage of the revenue collected from the end-user is shared with the company running the campaign. The out-payment amount varies widely from carrier to carrier and is dependent on the rate.

Premium-rated services are only available with shortcodes, and there are stringent regulations in each country around opt-in/opt-out and maximum billing amounts.

Non-premium

Non-premium models are simply charged at the 'standard message' rate being dependent on the end-user's charging plan.

SMS territorial coverage matrix

The matrix below lists our current MO and MT coverage capability. Note that MOs and MTs using international long numbers (e.g. +44 7797803458) work in most countries except the US and Canada; be aware that the end-user will pay an international charge to send MO messages to the number though.

	USA	Canada	UK	Australia	NZ
Shortcodes	Y	Y	Y	Y	Y
Shortcode length	5 or 6 digits	5 digits	5 digits Limited number ranges	6-8 digits	4 digits
Long numbers	N	N	Y	Y	N
Network coverage	Alltel AT&T/ Cingular Cellular One/ Dobson Nextel/ Boost Sprint T-Mobile Verizon Virgin	Bell Fido Telus Rogers Virgin	Vodafone Orange 02 Three T-Mobile Virgin 3	Optus Vodafone Telstra Virgin Hutchison 3	Vodafone Telecom
Shortcode provisioning time	12 weeks	12 weeks	8 weeks	6 weeks	6 weeks
Delivery receipts	T-Mobile Verizon	Rogers	Y	Y	Y
Message length	160	132	160	160	160
Contracted throughput (mugs/sec)	20	20	20		30

Figure 1: SMS coverage