

Short Message Service (SMS) and Dying Gasp

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SMS WARNING

SMS may be used by customers willing to leverage the Dying gasp feature (outgoing SMS) for their management solution. Any other SMS use, for example incoming SMS, is not recommended. Please read the following warning.

Warning Use of SMS on devices may create a security risk by permitting uncontrolled and/or unauthenticated access through the modem via SMS commands, if incoming SMS are allowed and associated with any active script. SMS are issued with commands issued in clear text and may also be subject to denial of services attacks.

As security best practices, Cisco strongly advises against the use of SMS for cellular accounts associated with LTE ports on IoT routers, particularly on critical infrastructure or where there may be safety implications for human life or property.

For better security, Cisco recommends that you ask your service provider to **DISABLE** SMS services on existing LTE accounts associated with networking devices. For new LTE accounts, please specify **NO SMS** services for the LTE service at the time the service is ordered.

Short Message Service (SMS) Capabilities

Some of the modems used on the cellular pluggable interface support receiving, transmitting, archiving, and deleting of SMS messages. This support includes the ability to view up to 25 received texts and archive more messages in a custom file location. SMS is supported on multiple carriers.

A sending device behind a cellular pluggable interface transmits an SMS text message over the cellular link through cellular towers until it the message reaches the recipient's router, which then notifies the recipient device, such as a cell phone. The receiving device uses the same process to return a reply to the sending device.

For SMS transmission to work, end users must have a text-capable device, and optionally, a text plan. If end users do not have a text plan, standard SMS rates apply to their text transmissions.

Configuring 4G SMS Messaging

Note For an 4G LTE Advanced, the *unit* argument identifies the router slot, module slot, and the port, and is separated by slashes (0/4/0).

Procedure

	Command or Action	Purpose
Step 1	**configure terminal** **Example:** `Router# configure terminal`	Enters the configuration mode.
Step 2	**controller cellular** <*unit*> **Example:** `Router(config)# controller cellular 0/4/0`	Enters the controller cellular configuration mode.

Step 3	**lte sms archive path** <*FTP-URL*>
	Example:
	`Router(config-controller)# lte sms archive path ftp://username:password@172.25.211.175/SMS-LTE`
		Specifies an FTP server folder path to send all the incoming and outgoing SMS messages. After the folder path is identified, it is appended automatically with outbox and inbox folders for the path to which SMS messages are sent and received, for example:
		`ftp://172.25.211.175/SMS-LTE/outbox`
		`ftp://172.25.211.175/SMS-LTE/inbox`

Step 4	**cellular** *unit* **lte sms view** { *all* | *ID* | *summary* }
	Example:
	`Router# cellular 0/4/0 lte sms view summary`
	`ID FROM YY/MM/DD HR:MN:SC SIZE CONTENT`
	`0 4442235525 12/05/29 10:50:13 137 Your entry last month has...`
	`2 5553337777 13/08/01 10:24:56 5 First`
	`3 5553337777 13/08/01 10:25:02 6 Second`
		Displays the message contents of incoming texts received by a modem.
		• **all**—Displays the message contents of up to 255 incoming text messages received by the modem.
		• **ID** —Displays the message contents for a specified ID (0-255) of an incoming text message.
		• **summary**—Displays a summary of the incoming text messages received by the modem.

Step 5	**end** **Example:** `Router# end`	Exits the configuration mode and returns to the privileged EXEC mode.
Step 6	**show cellular** *unit* **sms** **Example:**	Displays all the information in the text messages sent and received. Message information includes text messages sent

	Command or Action	Purpose
	Router#**show cellular 0/4/0 sms** Incoming Message Information ---------- SMS stored in modem = 20 SMS archived since booting up = 0 Total SMS deleted since booting up = 0 Storage records allocated = 25 Storage records used = 20 Number of callbacks triggered by SMS = 0 Number of successful archive since booting up = 0 Number of failed archive since booting up = 0 Outgoing Message Information ---------- Total SMS sent successfully = 0 Total SMS send failure = 0 Number of outgoing SMS pending = 0 Number of successful archive since booting up = 0 Number of failed archive since booting up = 0 Last Outgoing SMS Status = SUCCESS Copy-to-SIM Status = 0x0 Send-to-Network Status = 0x0 Report-Outgoing-Message-Number: Reference Number = 0 Result Code = 0x0 Diag Code = 0x0 0x0 0x0 0x0 0x0 SMS Archive URL = ftp://lab:lab@1.3.150.1/outbox	successfully, received, archived, and messages pending to be sent. LTE-specific information on errors in case of a FAILED attempt may also be displayed.
Step 7	**cellular** *unit* **lte sms send** *number SMS_Text* **Example:** Router# **cellular 0/4/0 lte sms send 15554443333** *<sms text>*	Enables a user to send a 4G LTE band SMS message to other valid recipients, provided they have a text message plan. The *number* argument is the telephone number of the SMS message recipient. **Note** 10-digit or 11-digit (phone) numbers are the proper numerical format for sending a text. For example, ########## or 1##########. Seven digits are not supported.
Step 8	**cellular** *unit* **lte sms delete** [**all** | *id*] **Example:** Router# **cellular 0/4/0 lte sms delete** *[all | id]*	(Optional) Deletes one message ID or all of the stored messages from memory.

Dying-Gasp SMS Notification for Supported Modems

Prerequisites:

- A modem that supports dying gasp
- Cisco Network-advantage license

Pluggable Interface Modules (PIMs) using the EM7430, EM7455, or P-LTEA18-GL modem have extra capacitors to supply power to the modem in case of loss of power to the module. This allows a graceful power

off of the modem. When loss of power is detected, the modem is expected to send out dying gasp SMS when configured.

The following is an example of configuring dying gasp with a phone number and SMS message:

```
#controller Cellular 0/4/0
#lte dyinggasp sms send 9119110911 "Losing Power"
Warning: Enabling Dying Gasp SMS configuration completed successfully.
Please reset Modem for the changes to take effect
```

Configuration Steps

Step	Command	Purpose
1	**configure terminal**	Enters the global configuration mode.
2	**controller Cellular** <*slot*>	Enters the interface command mode for the cellular module controller slot.
3	**lte dyinggasp detach enable**	Enable dying-gasp feature with send detach request
4	**lte dyinggasp sms send***&# <phone number> <SMS message>;*	Configure the phone number to receive SMS text message and the content of text message to be sent by the modem when platform or module powered down.
5	**exit**	Exit configuration
6	**write mem**	Save changes to the router configuration

Configuration Example

The following example shows how to enable dying-gasp feature on cellular module in slot 0/1/0, specify phone number receiving the SMS, and the specific SMS text message to be sent by modem upon power failure.

```
router# configure terminal

router(config)# controller cellular 0/4/0
router (config-controller)# lte dyinggasp detach enable
router (config-controller)# lte dyinggasp sms send 4081112222
 IR1800-#999_EM7455_powered_off!
```