

概述

- 在SM-RL上的服务、消息和SM-TL的服务。7bit编码方式

记录

- sms术语
 - SM-AL Short Message Application Layer
 - SM-LL Short Message Lower Layers
 - SM-RL Short Message Relay Layer
 - SM-RP Short Message Relay Layer Protocol
 - SM-RS Short Message Relay Service
 - SM-TL Short Message Transfer Layer
 - SM-TP Short Message Transfer Layer Protocol
 - SM-TS Short Message Transfer Service
 - SSN Sub-System Number
 - TPDU Transfer protocol data unit

SM-RL服务

- The Short Message Relay Layer (SM-RL) provides a service to the Short Message Transfer Layer (SM-TL). This service enables the SM-TL to send Transfer Protocol Data Units (TPDUs) to its peer entity, receive TPDUs from its peer entity and receive reports about earlier requests for TPDUs to be transferred.
- 分类
 - RP-MO-DATA for transferring a TPDU from MS to SC
 - RP-MT-DATA for transferring a TPDU from SC to MS
 - RP-ACK for acknowledging an RP-MO-DATA, an RP-MT-DATA or an RP-SM-MEMORY-AVAILABLE
 - RP-ERROR for informing of an unsuccessful RP-MO-DATA or an RP-MT-DATA transfer attempt
 - RP-ALERT-SC for alerting the SC that the MS has recovered operation (information sent from the HLR to the SC)RP-SM-MEMORY-AVAILABLE for notifying the network that the MS has memory available to accept one or more short messages (information sent from the MS to the HLR)
 - Home Location Register (HLR): 归属位置寄存器 (HLR) 是一个数据库, 其中包含有关被授权使用全球移动通信系统 (GSM) 网络的用户的相关数据。存储在 HLR 中的一些信息包括每个订阅的国际移动用户标识 (IMSI) 和移动台国际用户目录号码 (MSISDN)。
- Messages for short message and notification transfer on SM-RL
 - RP-DATA: A phase 2 entity shall not reject a RP-DATA message where both address elements have a length greater than 0.
 - RP-DATA (Network to Mobile Station).This message is sent in MSC -> MS direction. The message is used to relay the TPDUs

- RP-DATA (Mobile Station to Network). This message is sent in MS -> MSC direction. The message is used to relay the TPDUs

Information element	Reference	Presence	Format	Length
RPMMessage Type	Subclause 8.2.2	M	V	3 bits
RPMMessage Reference	Subclause 8.2.3	M	V	1 octet
RPOriginator Address	Subclause 8.2.5.1	M	LV	1-12 octets
RPDestination Address	Subclause 8.2.5.2	M	LV	1 octet
RPUser Data	Subclause 8.2.5.3	M	LV	<= 233 octets

- RP-SMMA: This message is sent by the mobile station to relay a notification to the network that the mobile has memory available to receive one or more short messages.
- RP-ACK: This message is sent between the MSC and the mobile station in both directions and used to relay the acknowledgement of a RPDATA or RPSMMA message reception.

IEI	Information element	Reference	Presence	Format	Length
	RPMMessage Type	Subclause 8.2.2	M	V	3 bits
	RPMMessage Reference	Subclause 8.2.3	M	V	1 octet
41	RP-User Data	Subclause 8.2.5.3	O	TLV	<= 234 octets

- RP-ERROR: This message is sent between the MSC and the mobile station in both directions and used to relay an error cause from an erroneous short message or notification transfer attempt.

IEI	Information element	Reference	Presence	Format	Length
	RPMMessage Type	Subclause 8.2.2	M	V	3 bits
	RPMMessage Reference	Subclause 8.2.3	M	V	1 octet
	RPCause	Subclause 8.2.5.4	M	LV	23 octets

IEI	Information element	Reference	Presence	Format	Length
41	RPUser Data	Subclause 8.2.5.3	O	TLV	<= 234 octets