SMPP (Short Message Peer-to-Peer) Protocol

AddPac Technology

2013, Sales and Marketing

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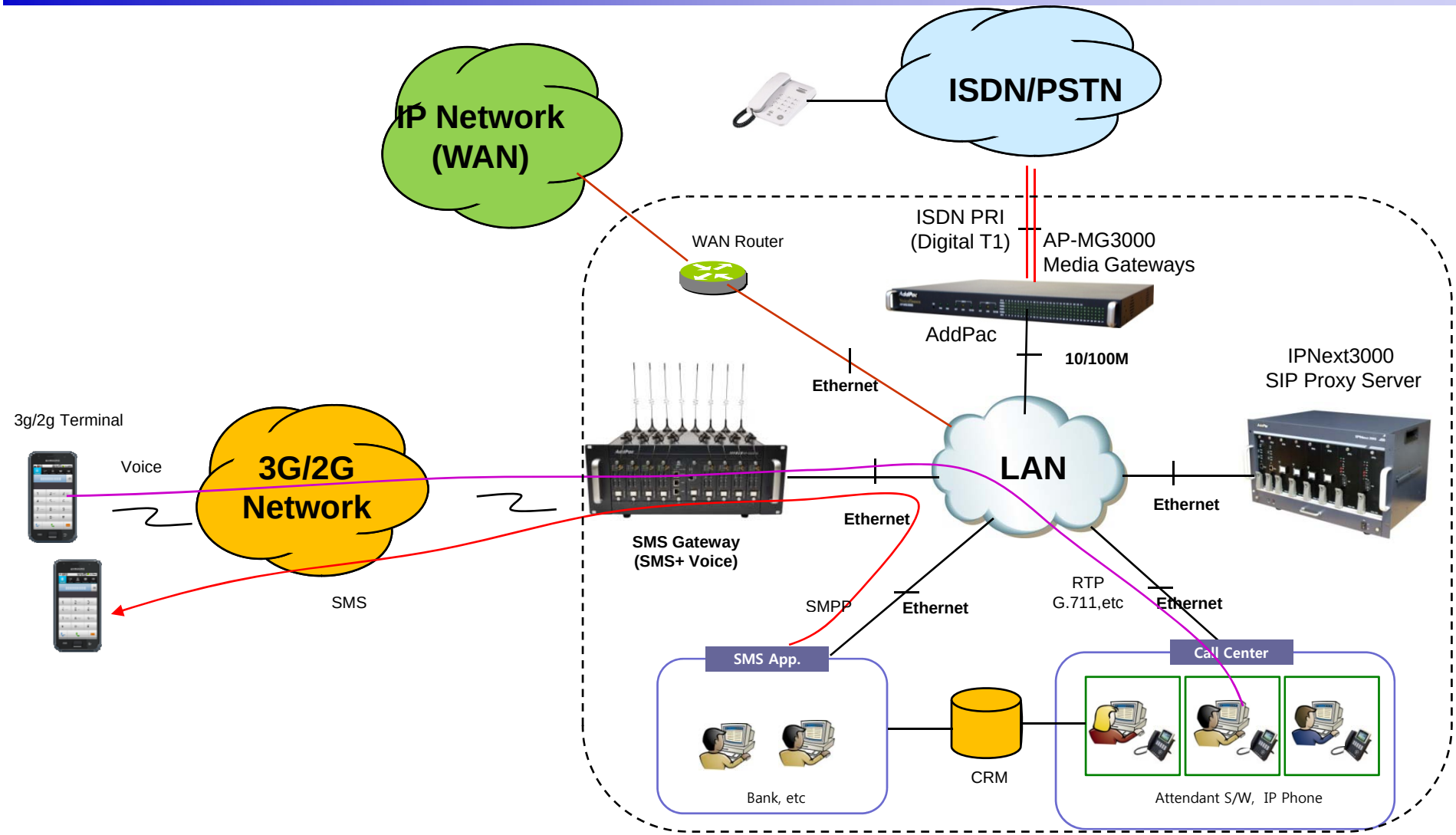
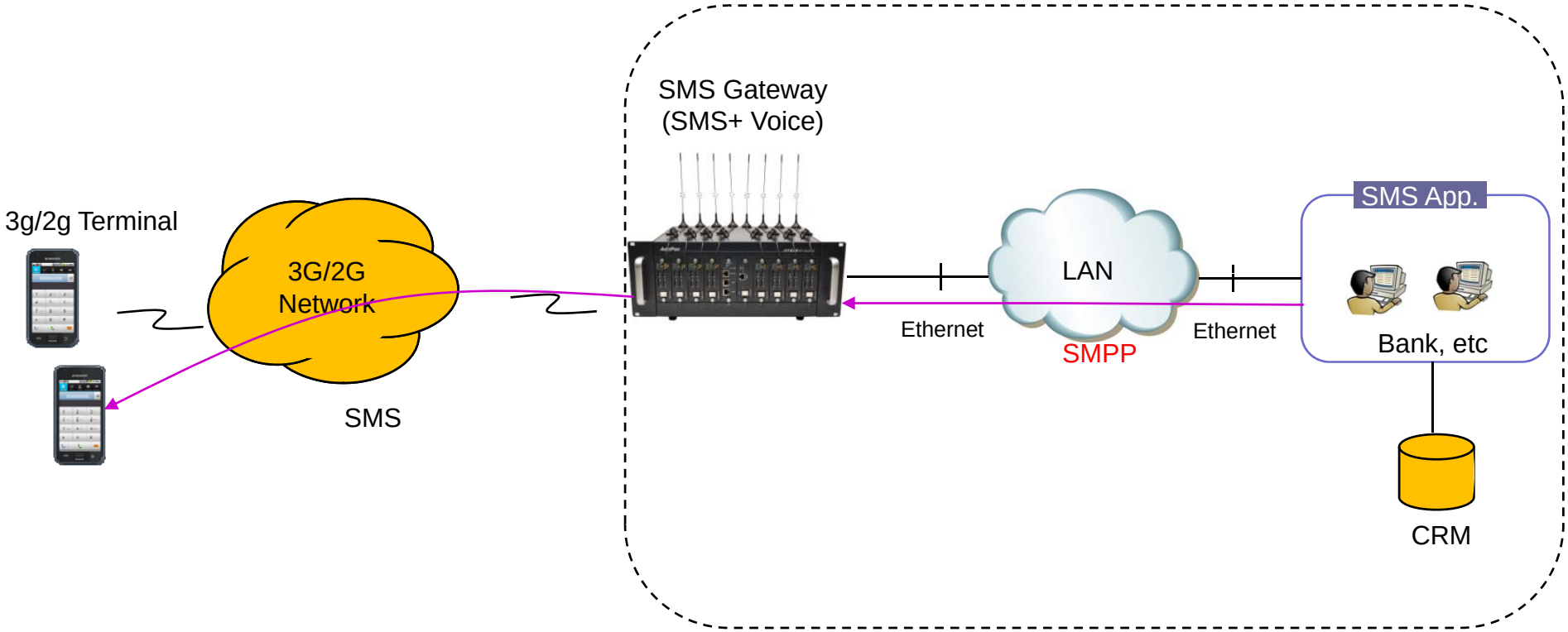
SMS Gateway Service Diagram



SMS Gateway Service Diagram



SMS Gateway Comparison Table

Model	AP-GS2500 	AP-GS3500 
Available Modules	AP-N1-3G4 AP-N1-GSM4 AP-N1-CDMA4 AP-N1-FXS8 AP-N1-FXO8 AP-N1-FXS4O4 AP-N1-E1	AP-N1-3G4 AP-N1-GSM4 AP-N1-CDMA4 AP-N1-FXS8 AP-N1-FXO8 AP-N1-FXS4O4 AP-N1-E1
Mobile Channel	Up to 16 Channel	Up to 36 Channel
Antenna	One(1) / 4 Channel Module	One(1) / 4 Channel Module
Module Slot	Four(4) Module Slots for 3G/2G, E1/T1 Modules	Nine(9) Module Slots for 3G/2G, E1/T1 Modules
LAN Port	2	2
Console	1	1
Power	Single PSU	Dual PSU (module)

SMPP Protocol ?

The Short Message Peer-to-Peer(SMPP) protocol is an open, industry standard protocol designed to provide a flexible data communications interface for transfer of short message data between a Message Center.

SMPP Protocol History

- Now is open protocol – SMS Forum
- Widely used
- SMPP version
  - SMPP v3.3 (developed by Aldiscon)
  - SMPP v4.0 (developed by Logica)
  - SMPP v3.4 (SMPP Developer Forums – Open Protocol)
  - SMPP v5.0 (SMS Forum)

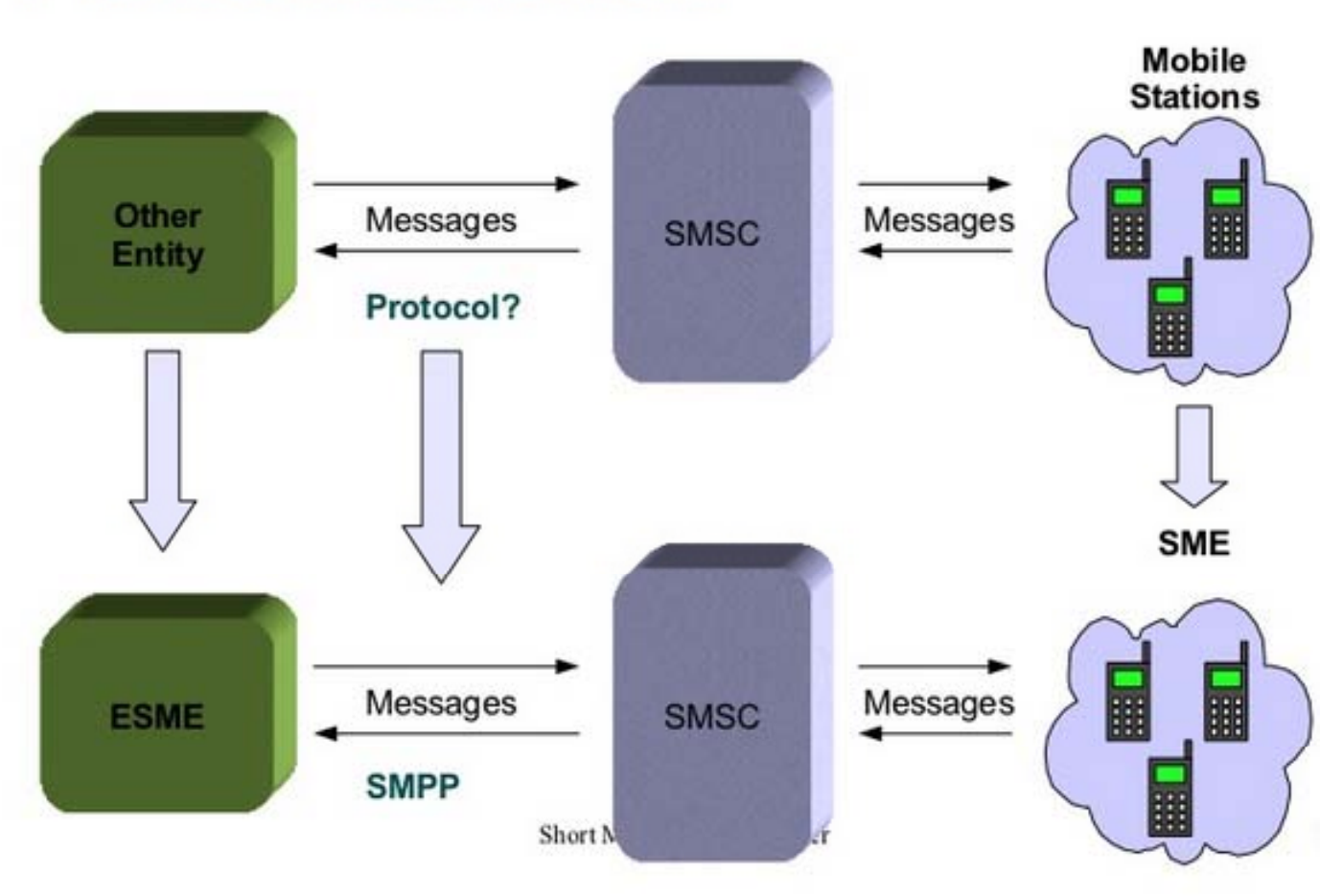
SMPP Target Application

- Mobile Commerce
- Mobile Banking
- E-Mail Gateway
- Information Service
- Notification/Security Application
- Cell Broadcast
- Directory Service
- Telemetry Application
- SMS Chat
- Polling Application
- Gaming/Quiz

SMPP Protocol Overview

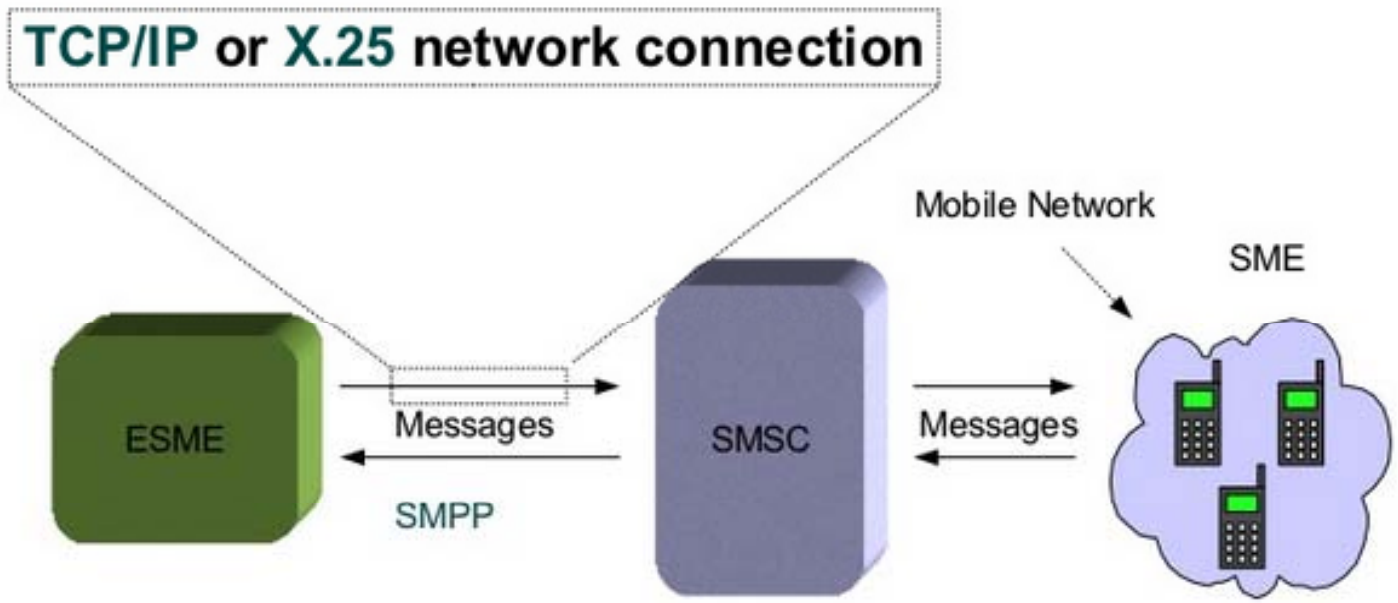
- Based on request and response
- The SMPP protocol defines
  - Set of operations and Protocol Data Units(PUDs)
  - Data

SMPP Protocol Overview



- SMSC (Short Message Service Center) : Route the message to ESME
- ESME (External Short Message Entity) : Mobile phone or other device

SMPP Protocol Overview



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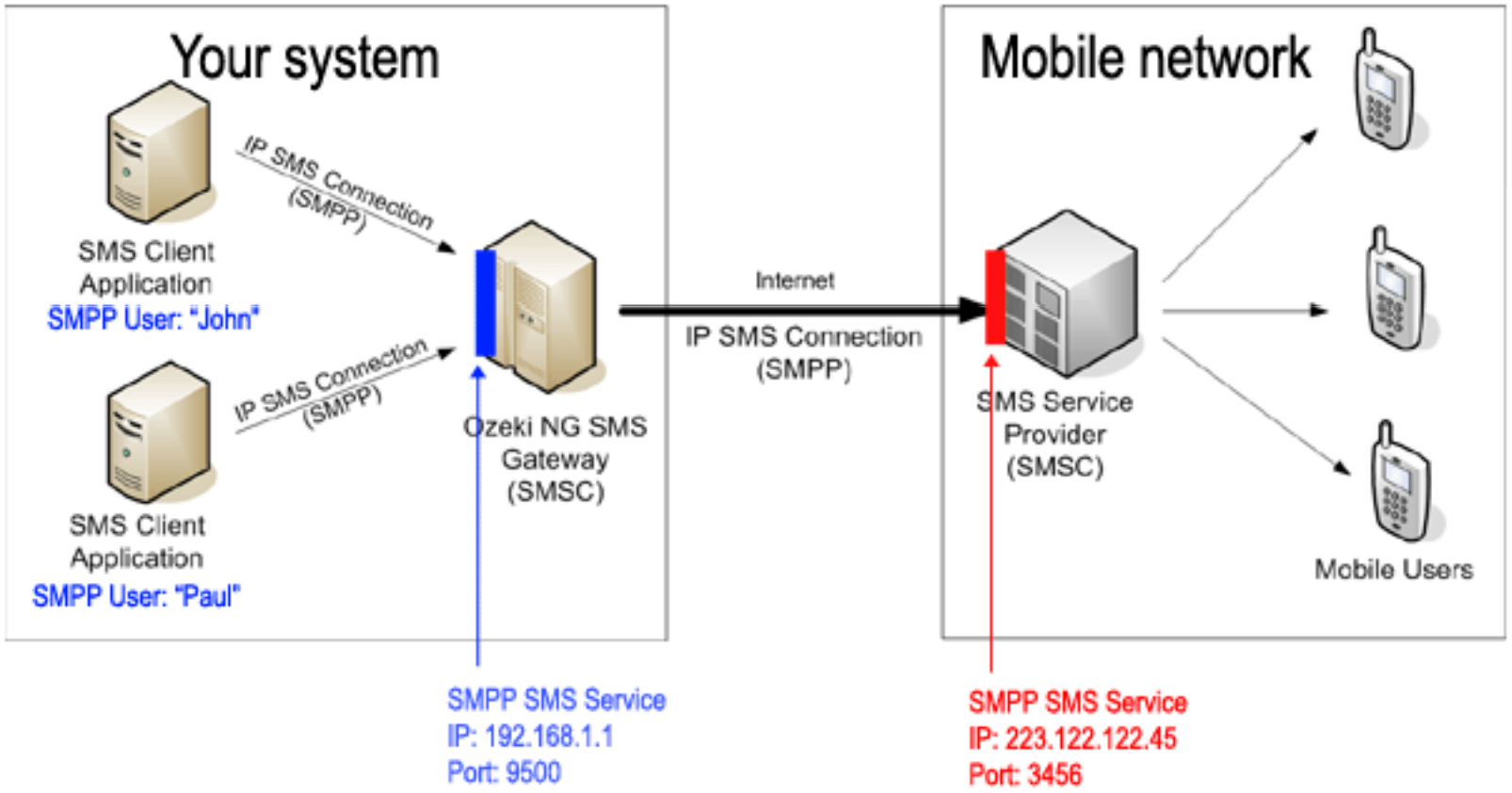
SMPP Protocol Overview



SMPP Session

- Session State :
  - OPEN (Network connection established)
  - BOUND_TX (issuing a bind_transmitter)
  - BOUND_RX (issuing a bind_receiver)
  - BOUND_TRX (issuing a bind_transceiver)
  - UNBOUND (only on SMPP v5.0)
  - CLOSED (Network connection closed)

SMPP PDU Format

SMPP PDU starts with a header, followed by a body:

SMPP PDU				
PDU Header (mandatory)				PDU Body (Optional)
Command length	Command Id	Command Status	Sequence Id	PDU Body
4 octets	Length = (Command Length value − 4) octets			

PDU Header [edit]

Each PDU starts with a header. The header consists of 4 fields, each of length of 4 octets:

- command_length: Is the overall length of the PDU in octets (including command_length field itself); must be ≥ 16 as each PDU must contain the 16 octet header
- command_id: Identifies the SMPP operation (or command)
- command_status: Has always value of 0 in requests; in responses it carries information about the result of the operation
- sequence_number: Is used to correlate requests and responses within an SMPP session; allows asynchronous communication (windowing)

All numeric fields in SMPP use the big endian order, which means that the first octet is the Most Significant Byte (MSB).

SMPP PDU Format

SMPP PDU				
PDU Header (Mandatory)				PDU Body (Optional)
command length	*command id*	*command status*	*sequence number*	*PDU Body*
4 octets	Length = (Command Length value – 4) octets			

- Protocol Data Units
- Set of bytes
- 8 bit = 1 byte = 1 octet
- PDU Header always mandatory

SMPP Command Length

SMPP PDU				
PDU Header (Mandatory)				PDU Body (Optional)
command length	*command id*	*command status*	*sequence number*	*PDU Body*
4 octets	Length = (Command Length value – 4) octets			

- Represent whole bytes length of the SMPP command

SMPP Command ID

SMPP PDU				
PDU Header (Mandatory)				PDU Body (Optional)
command length	*command id*	*command status*	*sequence number*	*PDU Body*
4 octets	Length = (Command Length value – 4) octets			

- Unique command identifier
  - bind_transmitter, bind_transmitter_resp
  - submit_sm, submit_sm_resp
- Request 0x00000001 having response 0x80000001

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Thank you!

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