

3G SMS Gateway Solution

Bulk SMS Service Technical Issues



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Sales and Marketing

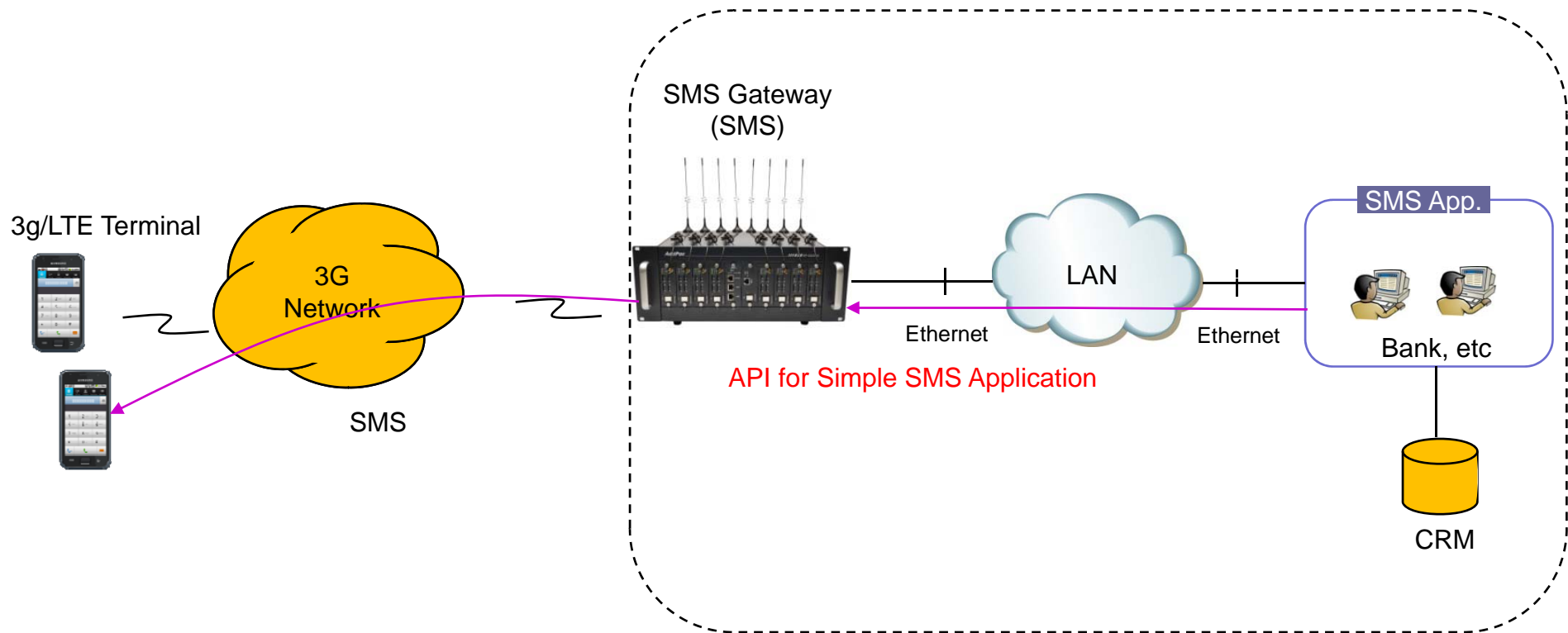
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 - AP-GS3500(36ch)
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- **Technical Issues for Large Capacity SMS Bulk Transfer
: Port Number, Deployment Issues**

SMS Gateway Service Diagram

Legacy SMS Service



SMS Gateway Comparison Table

Model	AP-GS2500 	AP-GS3500 
Available Modules	AP-N1-3G4 AP-N1-GSM4 AP-N1-FXS8 AP-N1-FXO8 AP-N1-FXS4O4 AP-N1-E1	AP-N1-3G4 AP-N1-GSM4 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)

4-Port 3G Module



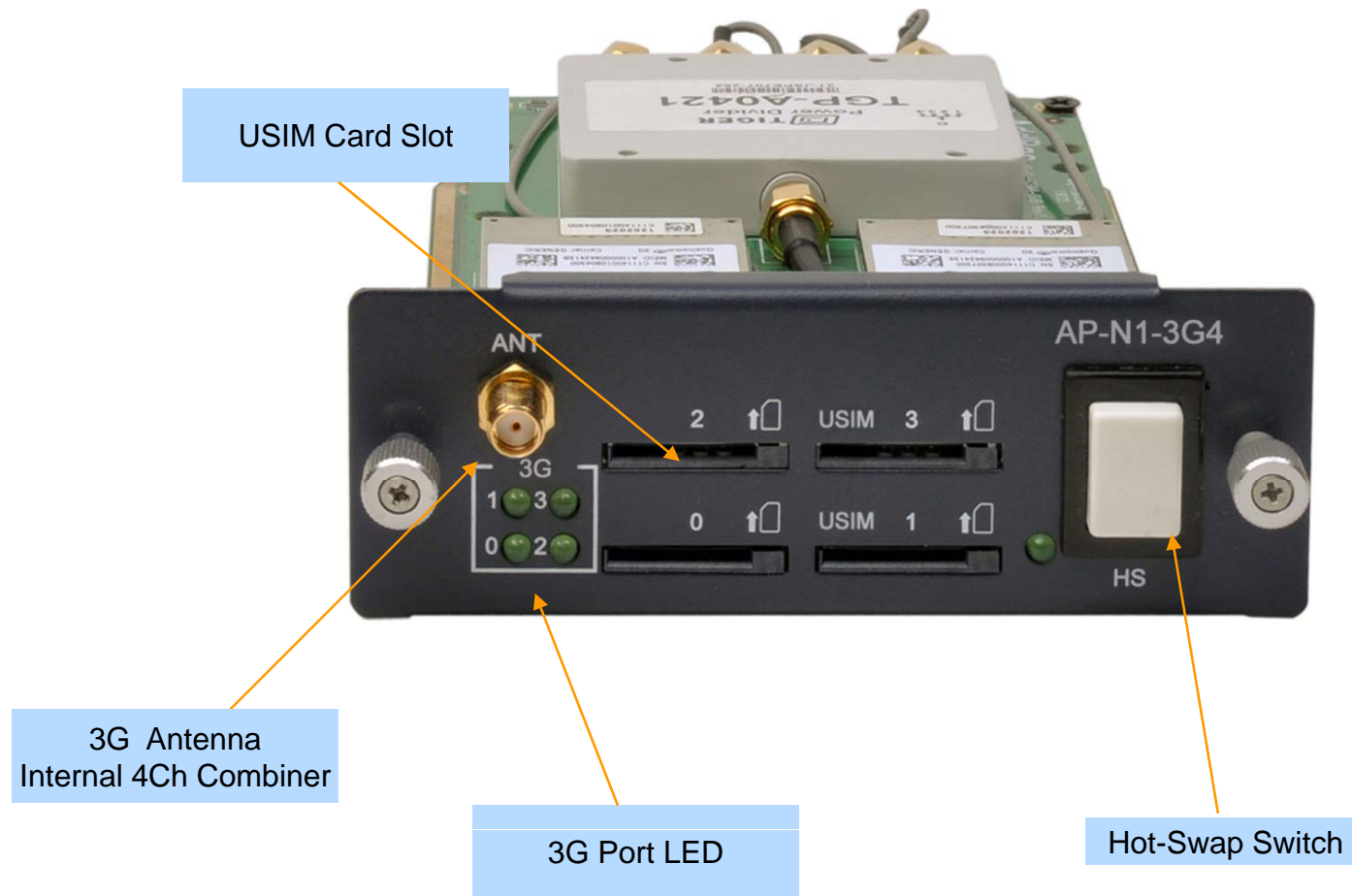
4-Port 3G Module

AP-N1-3G4 4-Port 3G Module

- WCDMA 2100MHz - Power Class 3 + 24dBm , etc
- GSM 900Mhz – Power Class 4 -2W
- GSM 1800MHz– Power Class 1-1W
- Network Backward Compatibility
- USIM Slot Interface
- Data Transfer Rate
 - HSUPA : Up to 7.2Mbps
 - HSDPA : Up to 3.6Mbps
- 4-Port 3G Module(AP-N1-3G4)
 - 4-Port USIM Card Slot
 - Port LEDs for Link Activation Indication
 - One(1) 3G Antenna Interface (Internal 4 Channel Combiner)
 - Hot-Swap Button

Hardware Specification

AP-N1-3G4 4-Port 3G Module





SMS Gateway Series



AP-GS3500 SMS Gateway

Main Features

AP-GS3500 Multi-Port 3G Gateway

- Ten(10) Module Slots for 4-Port 3G Module, 4-Port GSM Module, 8FXS/8FXO Analog Interface (Up to 36-Port 3G, 36-Port GSM, Up to 36-Port CDMA, Digital E1/T1 Module, CPU Module)
- H.323/SIP/MGCP Triple Concurrent Stack Embedded
- High Performance RISC & Programmable DSP Architecture
- G.711/G.726/G.723/G.729, T.38 Fax , VAD, etc
- Powerful Network Protocols (PPPoE, DHCP, Static Routing, etc)
- Two(2)10/100Mbps Fast Ethernet
- One(1) RS-232C Port for Command Line Interface
- Firmware Upgradeable Architecture
- VPMS (VoIP Plug&Play Management System) & NMS for Large Scale Deployment
- Advanced Voice QoS Mechanism
- Powerful Web based Management
- Rack Mountable Chassis with Dual Internal Power Supply

Hardware Specification

AP-GS3500 Multi-Port 3G Gateway

RISC
CPU

High-end
DSP

- RISC Microprocessor Computing Power
- Ten(10) Module Slot for 3G, GSM, CDMA, Analog/Digital Interface
- 4-Port 3G Module(AP-N1-3G4), Hot-Swap
 - One(1) 3G Antenna Interface (4 Channel Combiner), 4-Port USIM Card Slot
- 4-Port GSM Module(AP-N1-GSM4), Hot-Swap
 - One(1) GSM Antenna Interface (4 Channel Combiner), 4-Port SIM Card Slot
- 4-Port CDMA Module(AP-N1-CDMA4), Hot-Swap
 - One(1) CDMA Antenna Interface (4 Channel Combiner), 4-Port RUIM Card Slot
- VoIP Interface Module, Hot-Swap
 - 8-Port FXS Module, Digital E1/T1 Module (AP-N1-FXS8, AP-N1-FXO8, etc)
- Network Interface
 - Two(2) 10/100Mbps Fast Ethernet (RJ45)
- RS232C Console Interface for CLI
- Run LED, LAN LED, Port LEDs
- Dual Power Supply



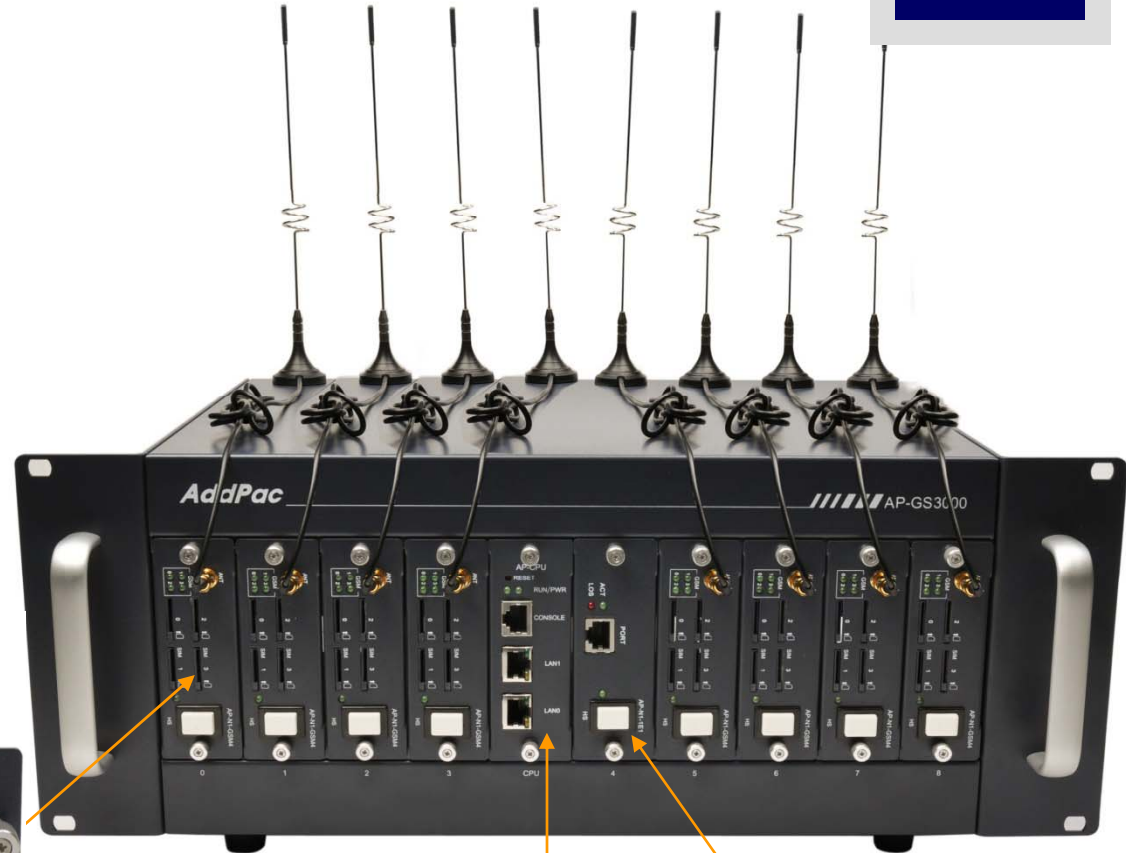
Hardware Specification

AP-GS3500 Multi-Port 3G Gateway

RISC
CPU

High-end
DSP

Front Side View



4-Port 3G Module

3G Antenna
Internal 4Ch Combiner



Port LEDs

USIM Card Slot

Hot-Swap Switch

CPU Module

VoIP Digital E1/T1 Module

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Hardware Specification

AP-GS3500 Multi-Port 3G Gateway

RISC
CPU

High-end
DSP

Back Side View



Hardware Specification(Voice Module)

AP-GS3500 Multi-Port 3G Gateway

RISC
CPU

High-end
DSP

AP-N1-3G4 4-Port 3G Module



AP-N1-GSM4 4-Port GSM Module



AP-N1-CDMA4 4-Port CDMA Module



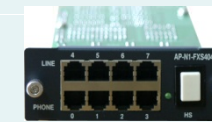
AP-N1-FXS8 8-Port FXS Module



AP-N1-FXO8 8-Port FXO Module



AP-N1-FXS4O4 4-Port FXS&4-Port FXO Module



AP-N1-E1 1-Port Digital E1/T1 Module





AP-GS2500 SMS Gateway

Main Features

AP-GS2500 Multi-Port 3G Gateway

- Four(4) Module Slots for 4-Port 3G Module, 4-Port GSM Module, 8FXS/8FXO Analog Interface (Up to 12-Port 3G +8FXS/8FXO Module, 16-Port 3G)
- H.323/SIP/MGCP Triple Concurrent Stack Embedded
- High Performance RISC & Programmable DSP Architecture
- G.711/G.726/G.723/G.729, T.38 Fax , VAD, etc
- Powerful Network Protocols (PPPoE, DHCP, Static Routing, etc)
- Two(2)10/100Mbps Fast Ethernet
- One(1) RS-232C Port for Command Line Interface
- Firmware Upgradeable Architecture
- VPMS (VoIP Plug&Play Management System) & NMS for Large Scale Deployment
- Advanced Voice QoS Mechanism
- Powerful Web based Management
- Rack Mountable Chassis with Internal Power Supply

Hardware Specification

AP-GS2500 Multi-Port 3G Gateway

- RISC Microprocessor Computing Power
- Four(4) Module Slot for 3G, GSM, CDMA, Analog/Digital Interface
- 4-Port 3G Module(AP-N1-3G4), Hot-Swap
 - One(1) 3G Antenna Interface (4 Channel Combiner), 4-Port USIM Card Slot
- 4-Port GSM Module(AP-N1-GSM4), Hot-Swap
 - One(1) GSM Antenna Interface (4 Channel Combiner), 4-Port SIM Card Slot
- VoIP Interface Module, Hot-Swap
 - 8-Port FXS Module, Digital E1/T1 Module (AP-N1-FXS8, AP-N1-FXO8, etc)
- Network Interface
 - Two(2) 10/100Mbps Fast Ethernet (RJ45)
- RS232C Console Interface for CLI
- Run LED, LAN LED, Port LEDs
- Internal Power Supply



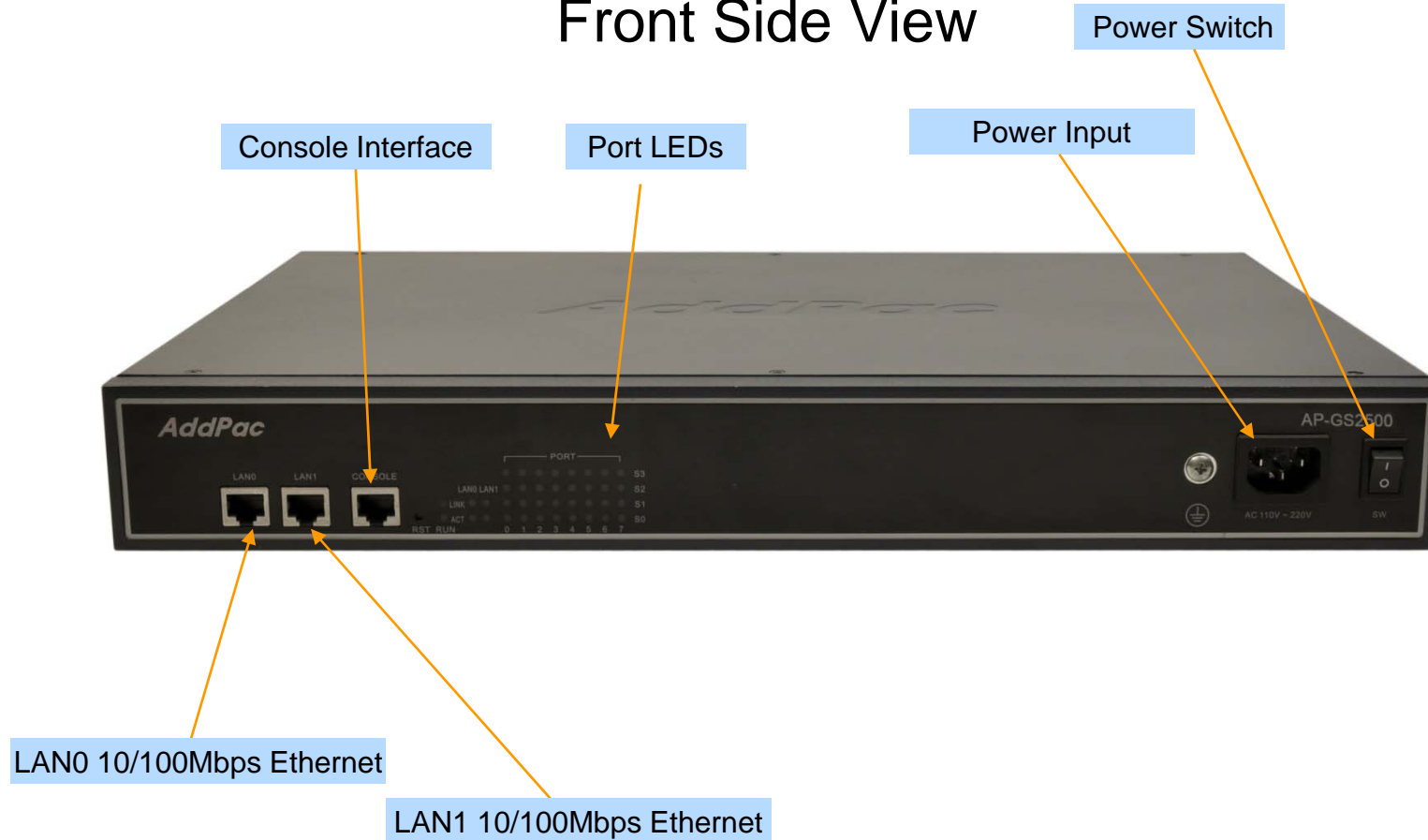
Hardware Specification

AP-GS2500 Multi-Port 3G Gateway

RISC
CPU

High-end
DSP

Front Side View



Hardware Specification

AP-GS2500 Multi-Port 3G Gateway

RISC
CPU

High-end
DSP

Back Side View



4-Port 3G Module

3G Antenna
Internal 4Ch Combiner

Port LEDs

USIM Card Slot

Hot-Swap Switch

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Hardware Specification

AP-GS2500 Multi-Port 3G Gateway

RISC
CPU

High-end
DSP

Back Side View



Hardware Specification

AP-GS2500 Multi-Port 3G Gateway

RISC
CPU

High-end
DSP



Hardware Specification(Voice Module)

AP-GS2500 Multi-Port 3G Gateway

AP-N1-3G4 4-Port 3G Module



AP-N1-GSM4 4-Port GSM Module



AP-N1-FXS8 8-Port FXS Module



AP-N1-FXO8 8-Port FXO Module



AP-N1-FXS4O4 4-Port FXS&4-Port FXO Module



AP-N1-E1 1-Port Digital E1/T1 Module





Technical Issues for Large Capacity SMS Bulk Transfer

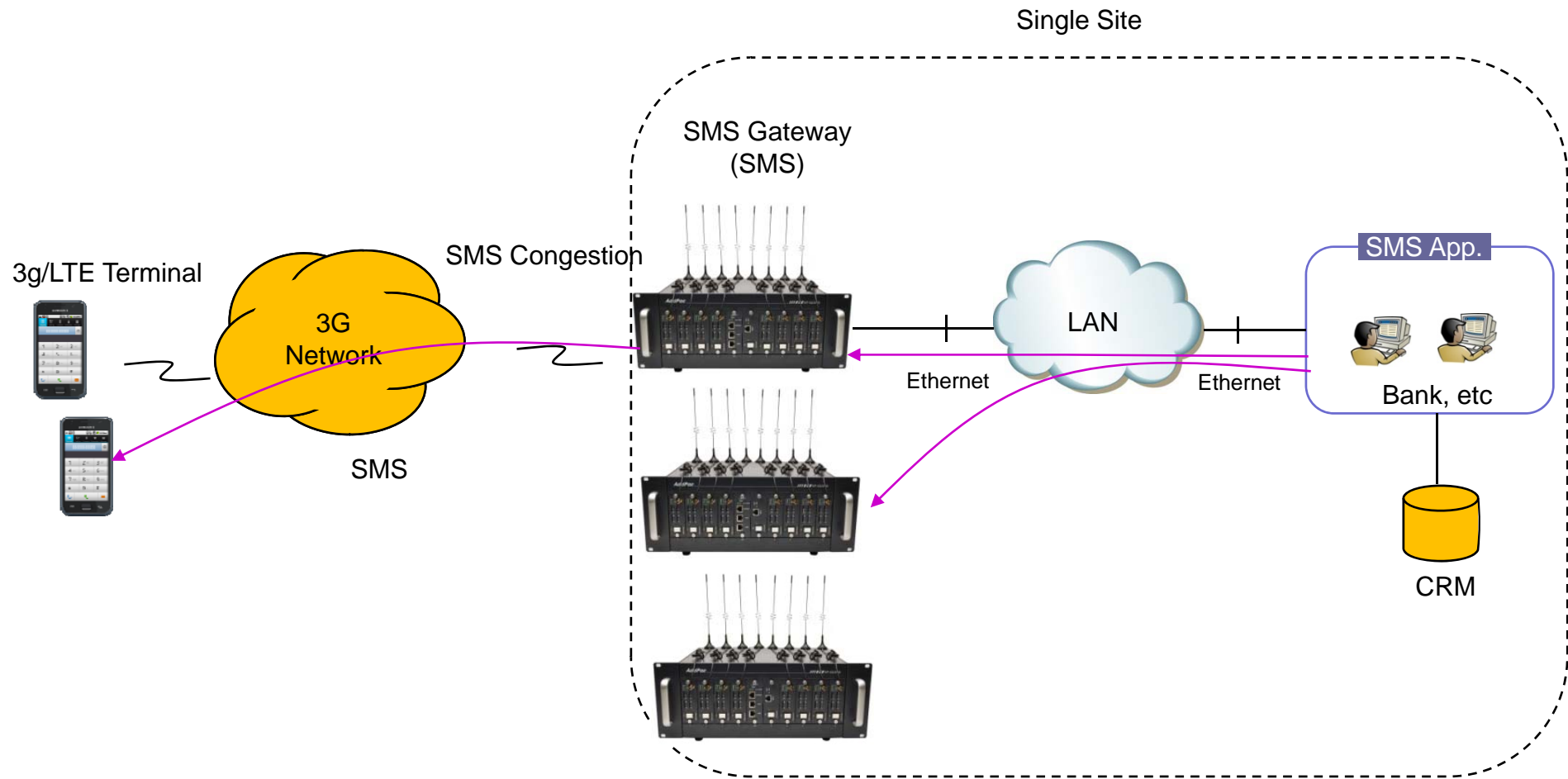
3G Port Number Calculation

- Requirement : 500K SMS transfer in 3 Hour
- 3G Port Number Calculation
 - Inter-SMS Transfer Time (10sec)
 $3 \times 3600/10 = 1080$, $500K/1080 = 463$ Port
AP-GS3000 36Port, 13ea
 - Inter-SMS Transfer Time (7sec)
 $3 \times 3600/7 = 1543$, $500K/1543 = 324$ Port
AP-GS3000 36Port, 9ea

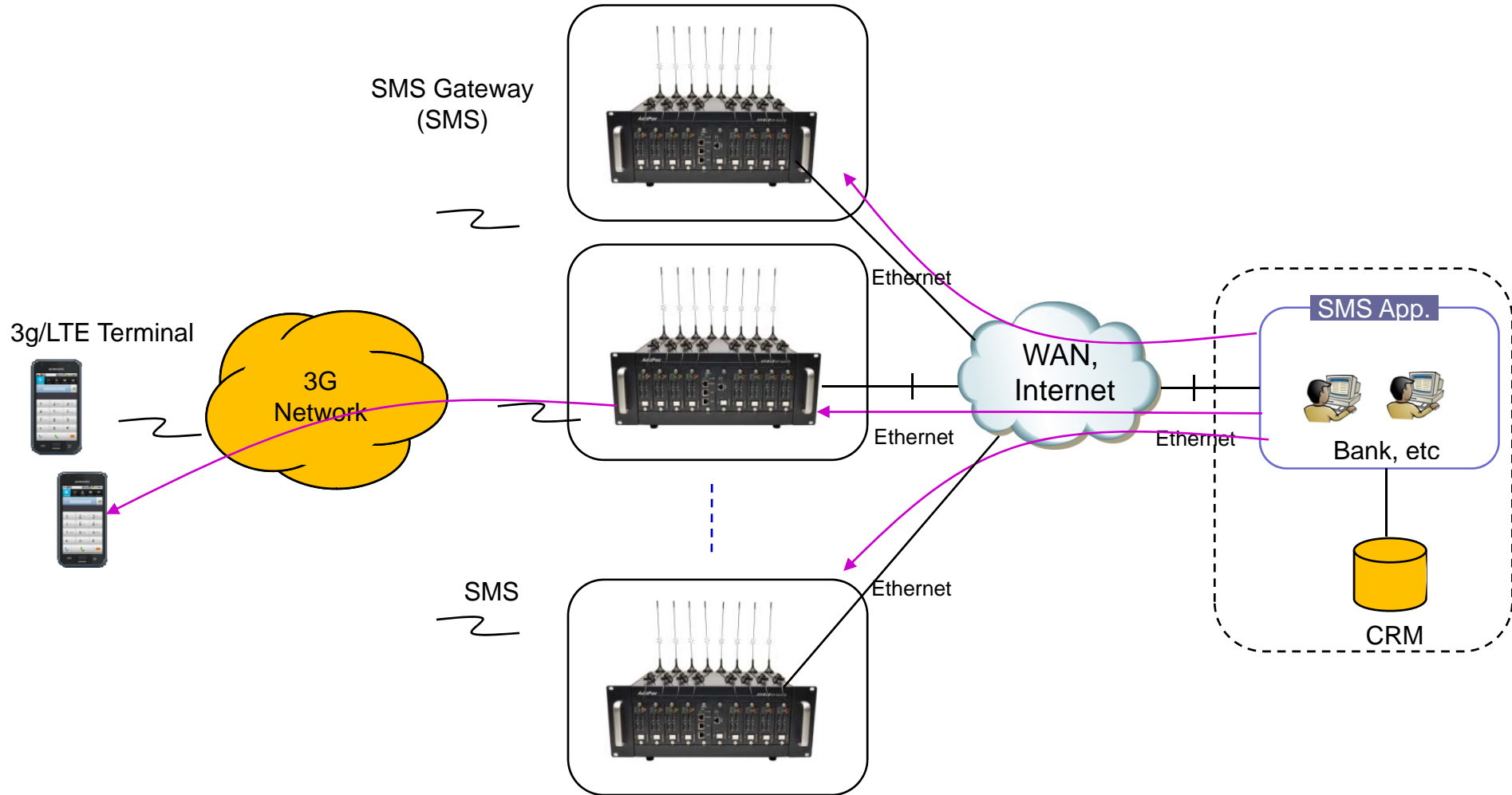
3G SMS Gateway Deployment Issues

- Single Site Deployment → BTS, BS Congestion
- Multi-Site Distribute Deployment for Bulk SMS Transmission

Single Site Deployment



Multi-Site Deployment





Thank you!

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