

SMCT Channel Service Technology

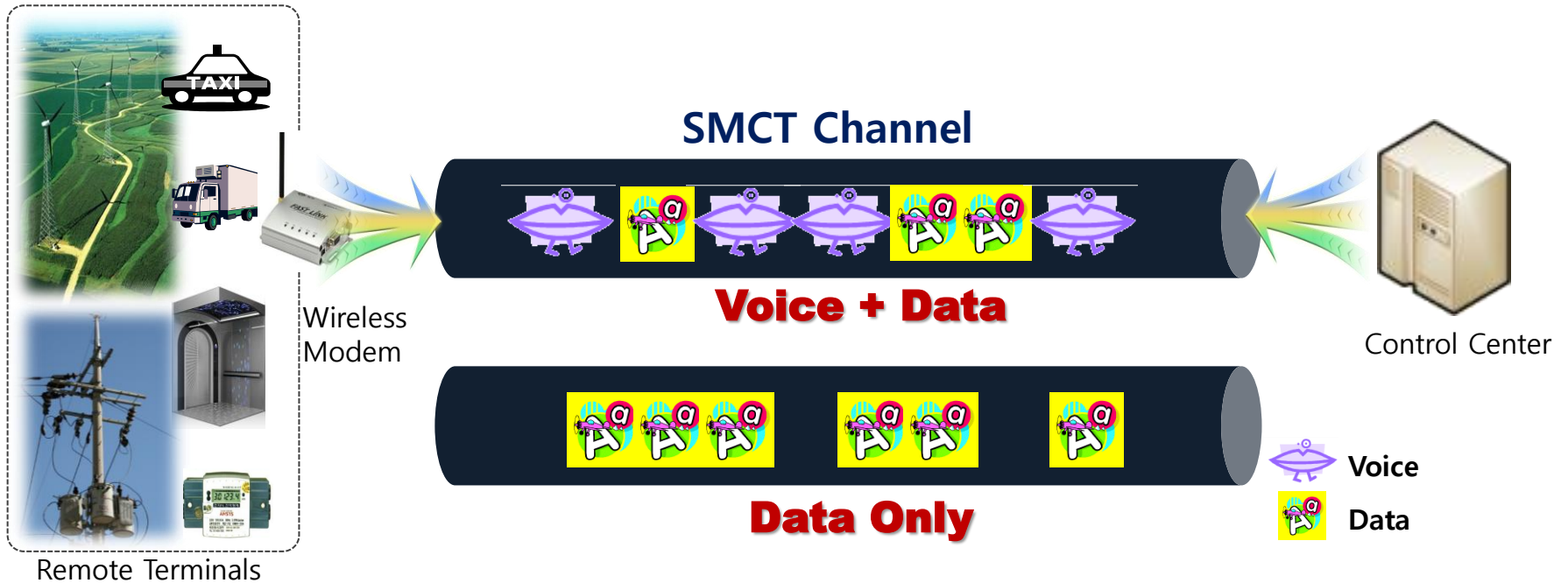
(SMCT : Space Mobility Communication Service)

Introduction

M2M SMCT Channel Technology

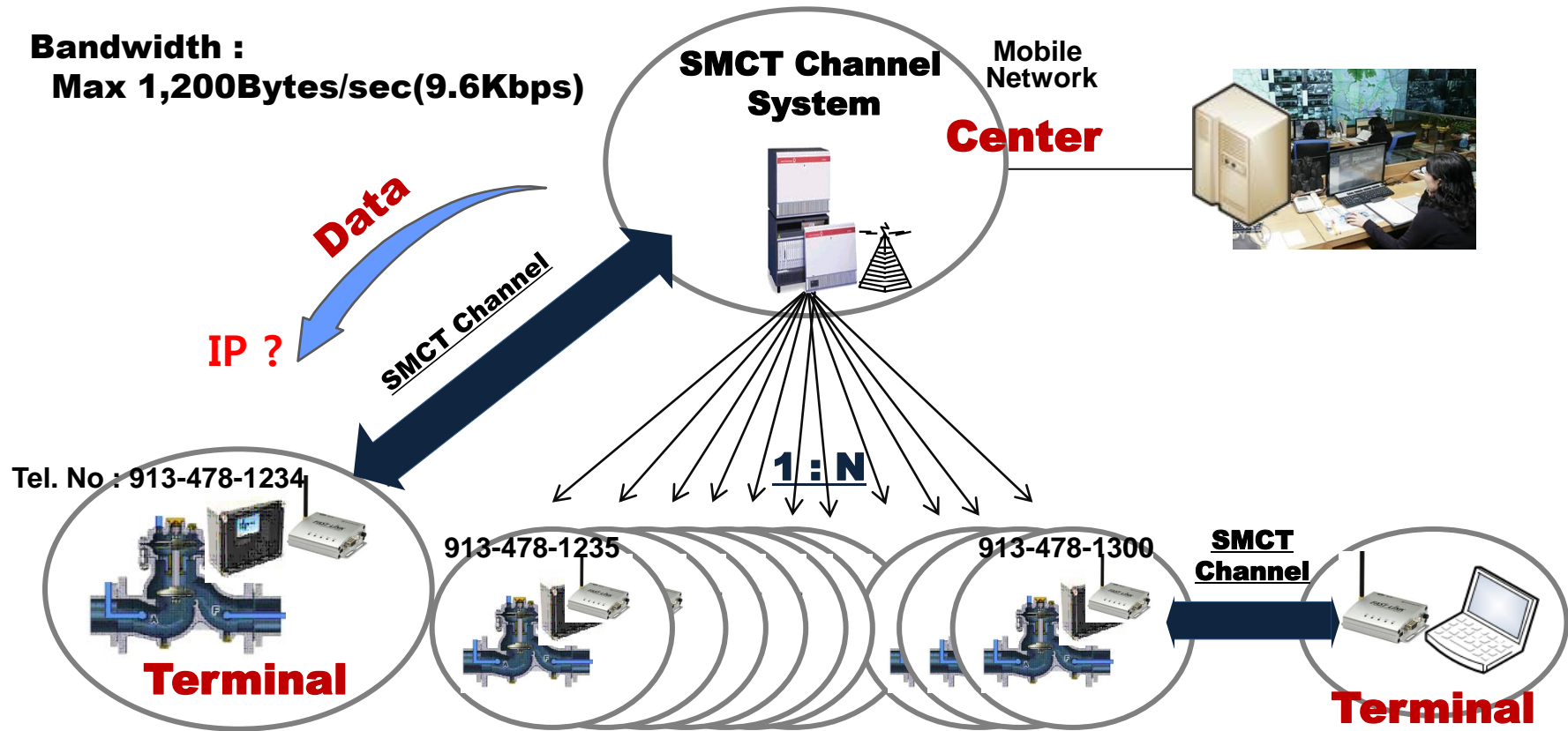
Data Insertion into Silence Section of Voice Channel and Data Transmission Service

(Telecommunication consists of Voice Activity 42.5% + Silence 47.5%)



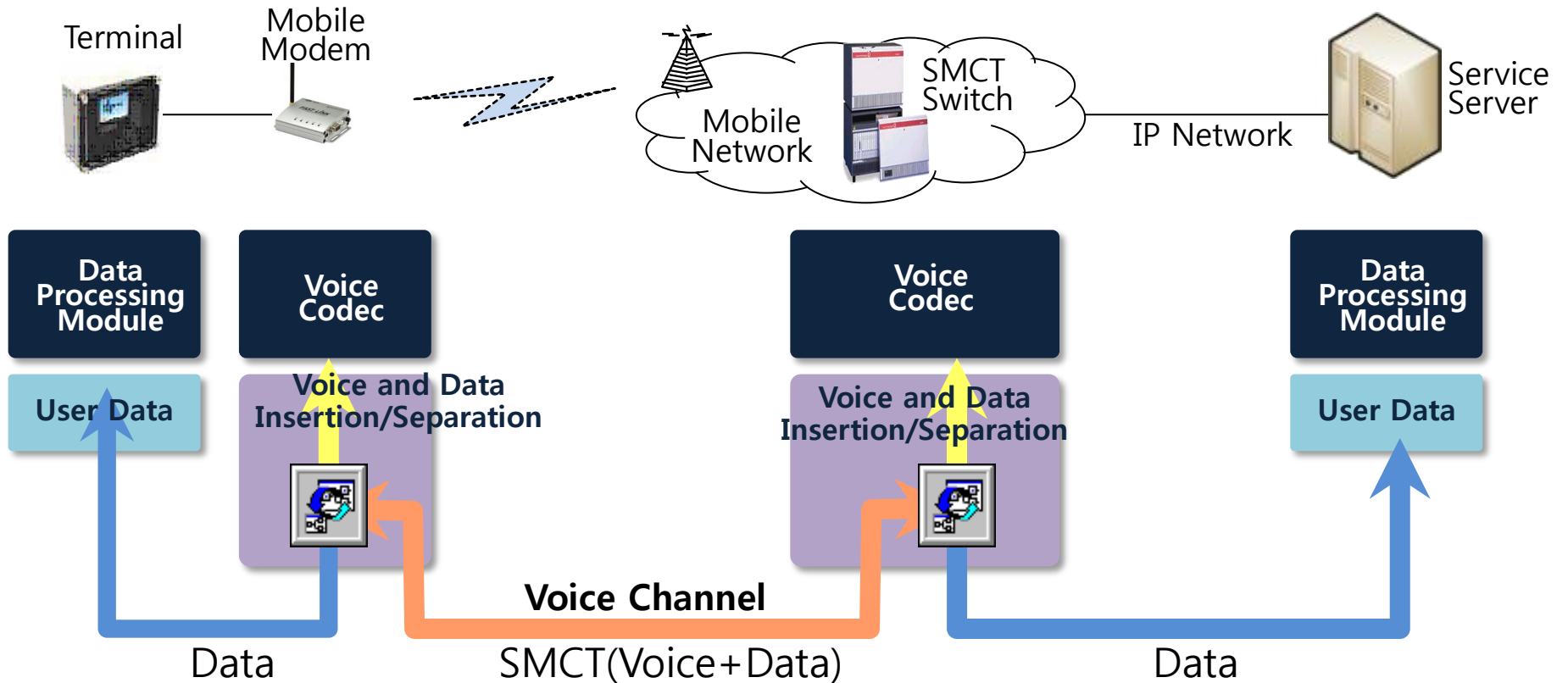
M2M SMCT Channel Technology

The Best Communication Solution for M2M Service in Real Time



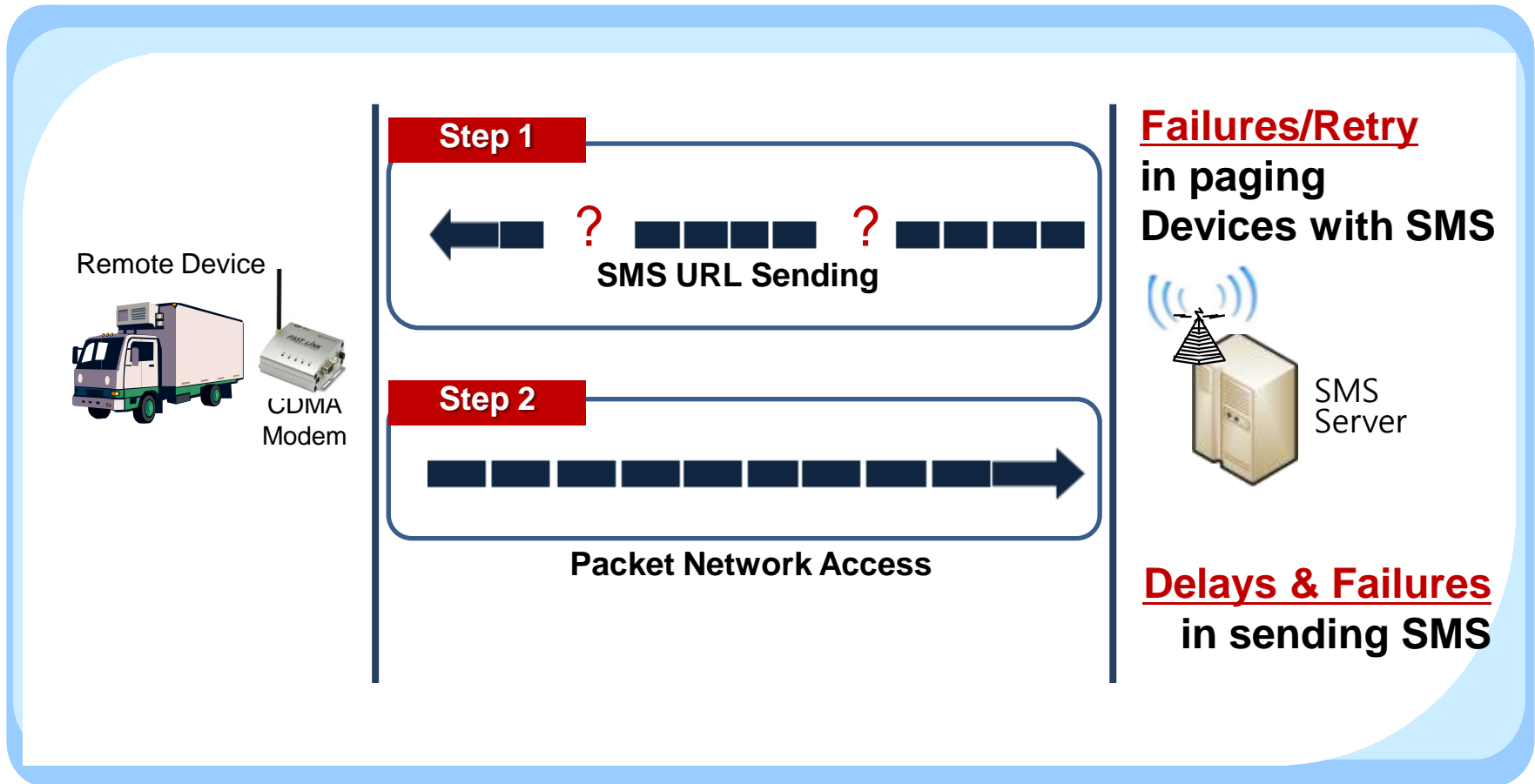
M2M SMCT Channel Technology

Service Architecture



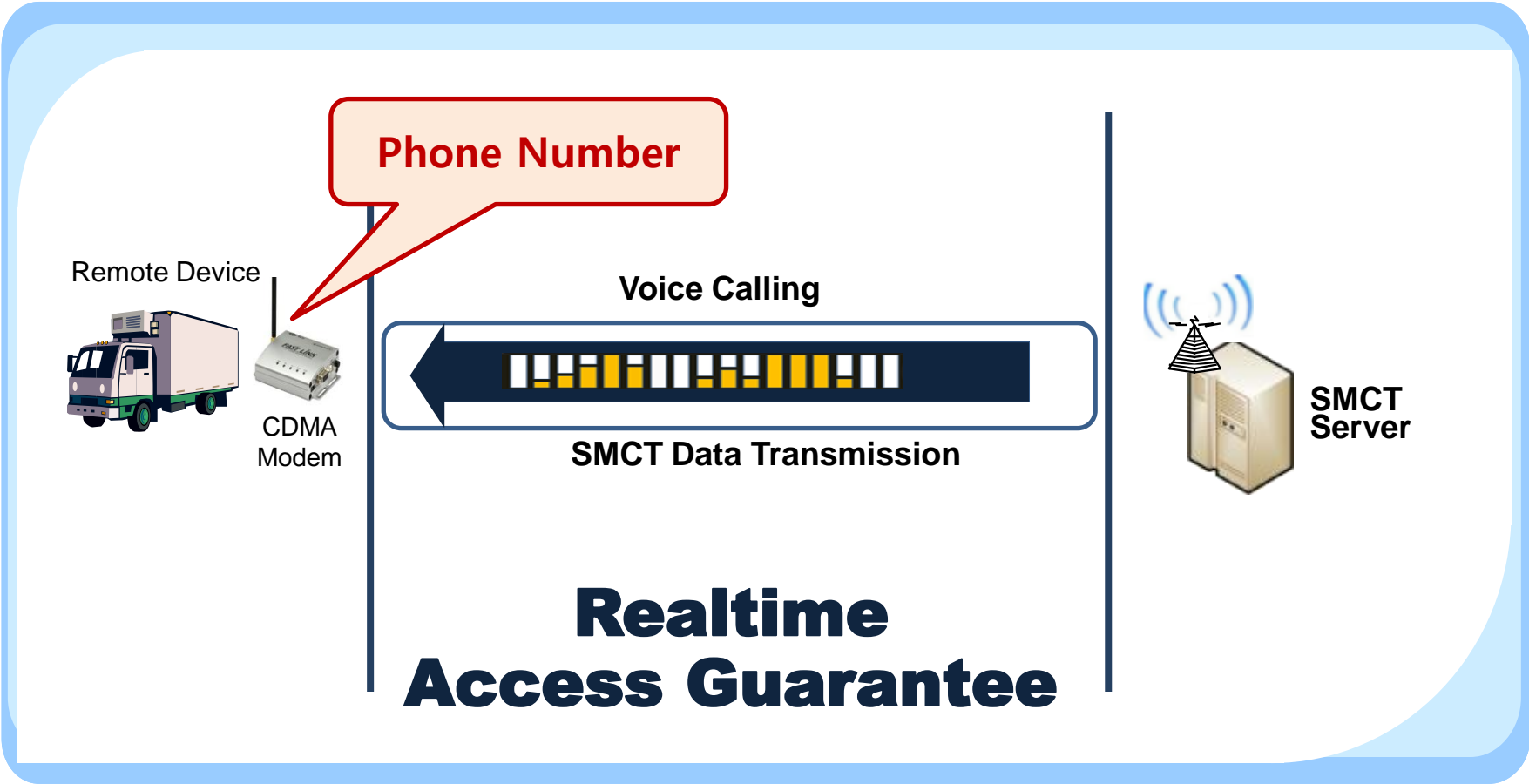
Problem and Solution

Problems 1(SMS Paging)



Real time not guaranteed due to delays or failures in paging

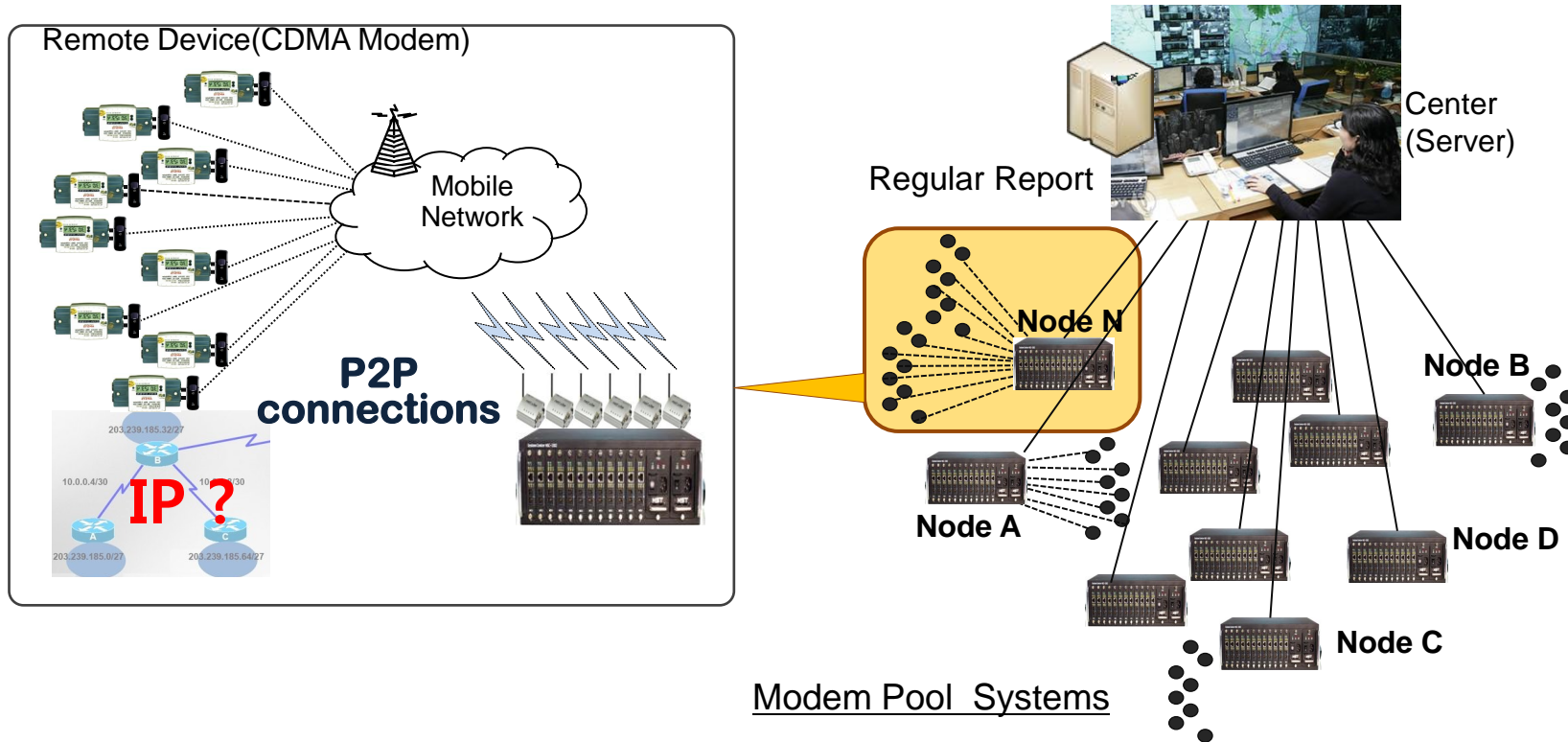
Solution 1



Problem 2 (Additional Equipment)

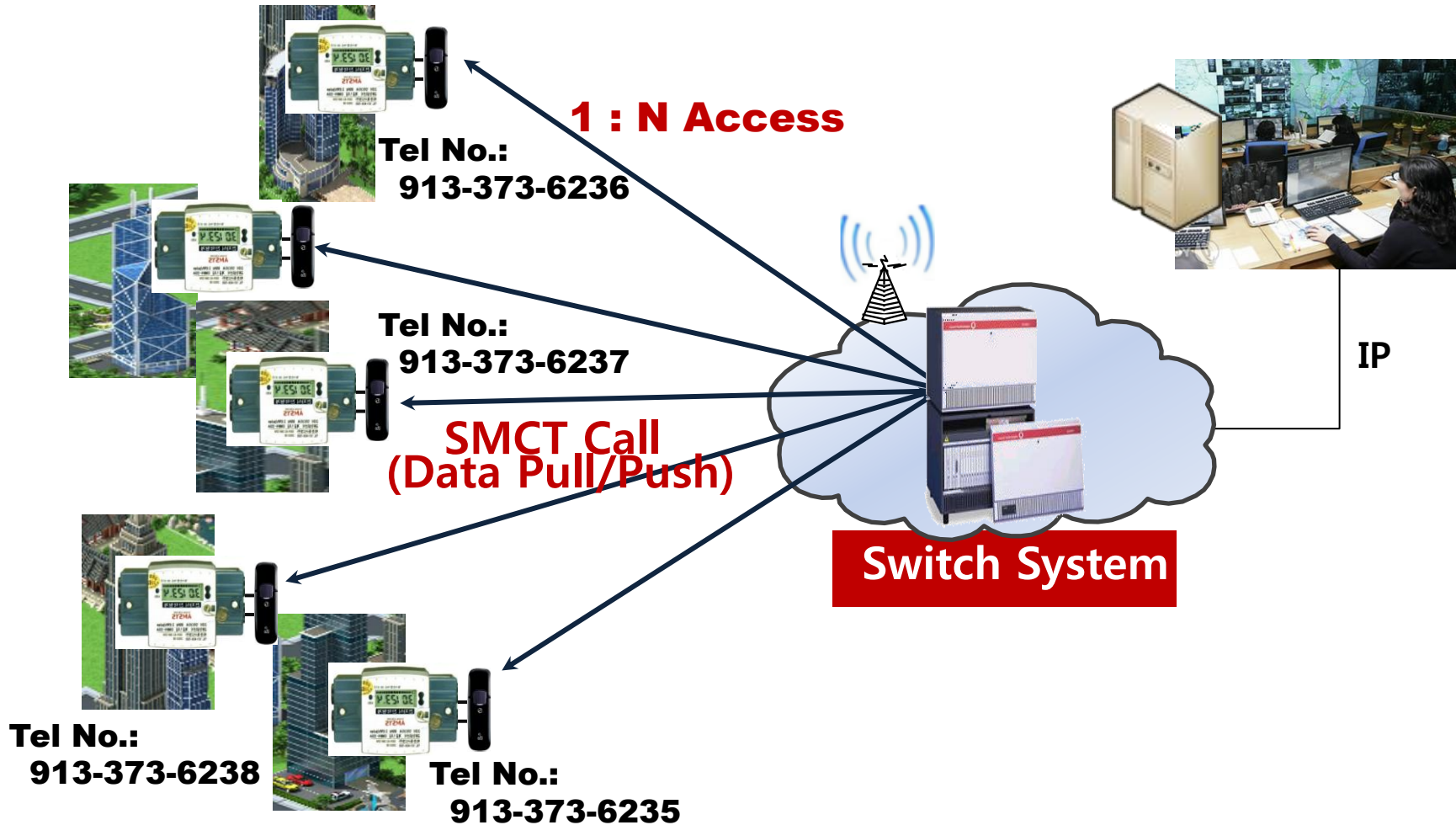
Additional COST and Inconvenience

Modem Pool (Equipment, Operation & Maintenance, Modem Lines)



Solution 2

Intelligent Platform(Cost Efficiency)



Characteristics

Characteristics of SMCT Channel

Mobile

M2M

SMCT

**IP Address Not Required
In Paging Terminal**

● **Access multiple terminals simultaneously
and Data Transmission / Receiving**

● **Compatible with Standard CDMA/
GSM/WCDMA Circuit Network**

● **Same level of QoS equivalent to Voice Call due
to connection using SMCT Channel**

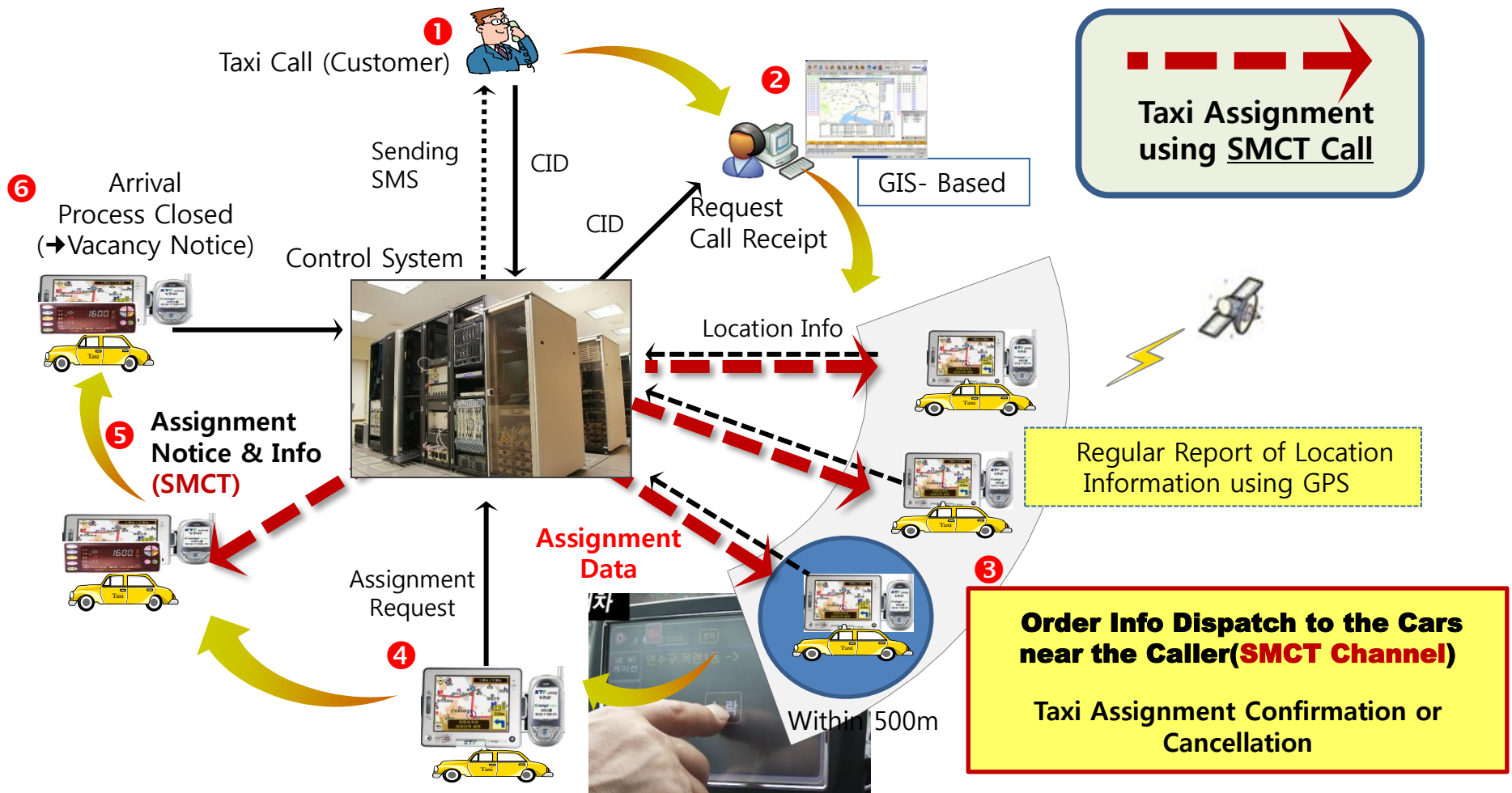
Comparison : SMS+Packet vs SMCT Channel

Items	SMS URL Access	Packet Networking	SMCT Channel
Connections & Time	Failures & Delay in Connection	Connection Failures & Disconnection(5~10%)	Always Real-time Connection
Max Bandwidth	600bps / 1,000bps	2Mbps	9,600bps
Transmission Delay	Various Delays	Real Time	Real Time
Voice Support	No	No	Yes
<u>Server → Terminal Connection</u>	Yes	No	Yes
<u>Terminal → Terminal Connection</u>	Yes	No	Yes

Applications

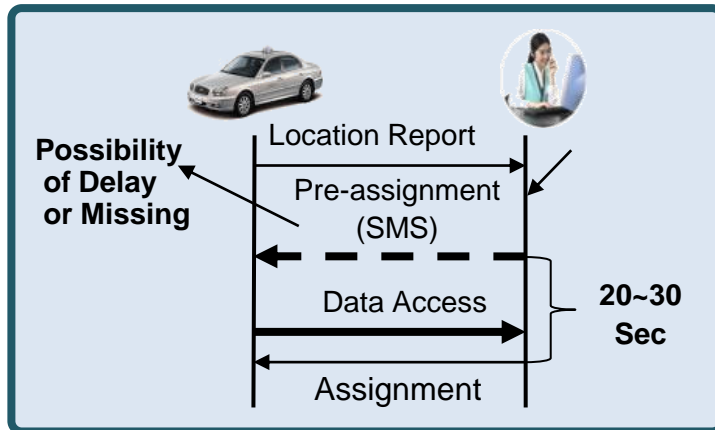
Taxi Assignment

Through SMCT Channel connection, A most appropriate car will be assigned shortly.



Taxi Assignment

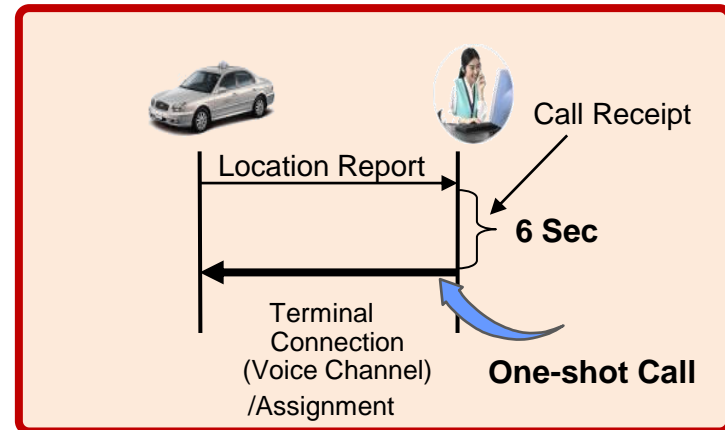
SMS Method



Two Step Taxi Assignment

- Service depends on SMS delivery quality
- Missing & Delay issue

SMCT Method



One Step Taxi Assignment

- **Accurate Process within a short time**
- No Missing or Delay

- ✓ **2.5 times faster Taxi Assignment than SMS.**
- ✓ **Reduction of Call Center Operation Cost.**

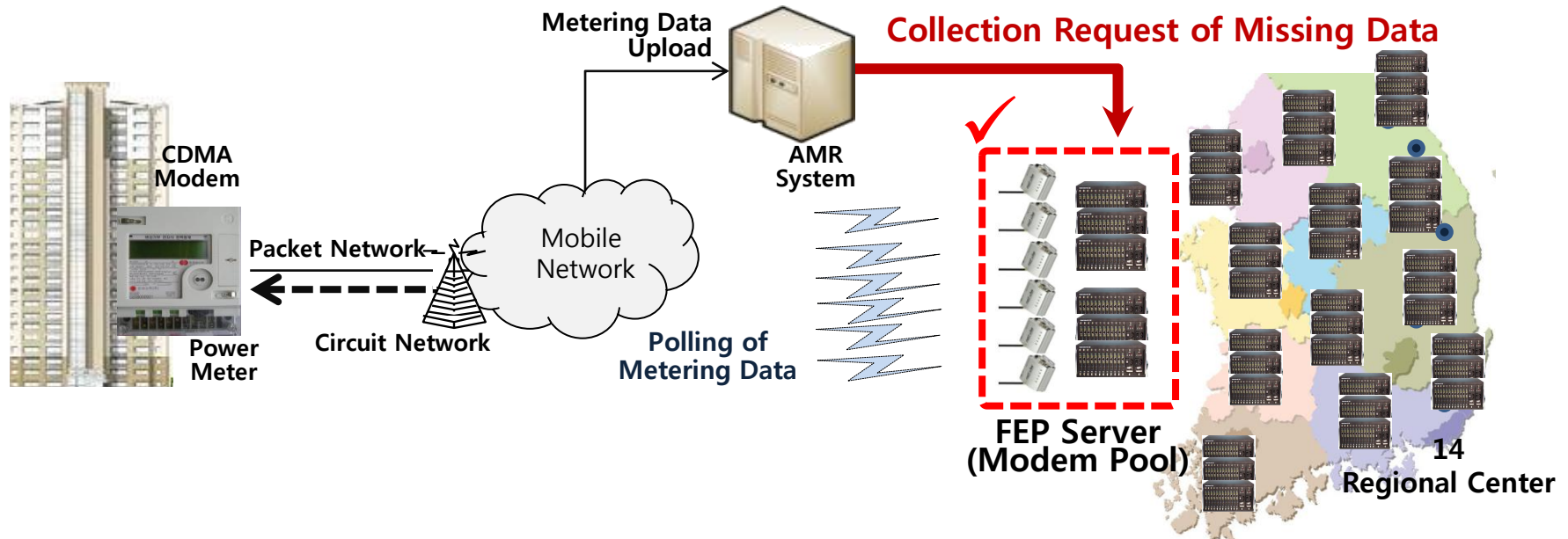
Electric Power Telemetry

Remote Metering System for Korea Electric Power Corp (Current)

Connection failures or disconnection of Modem-Server



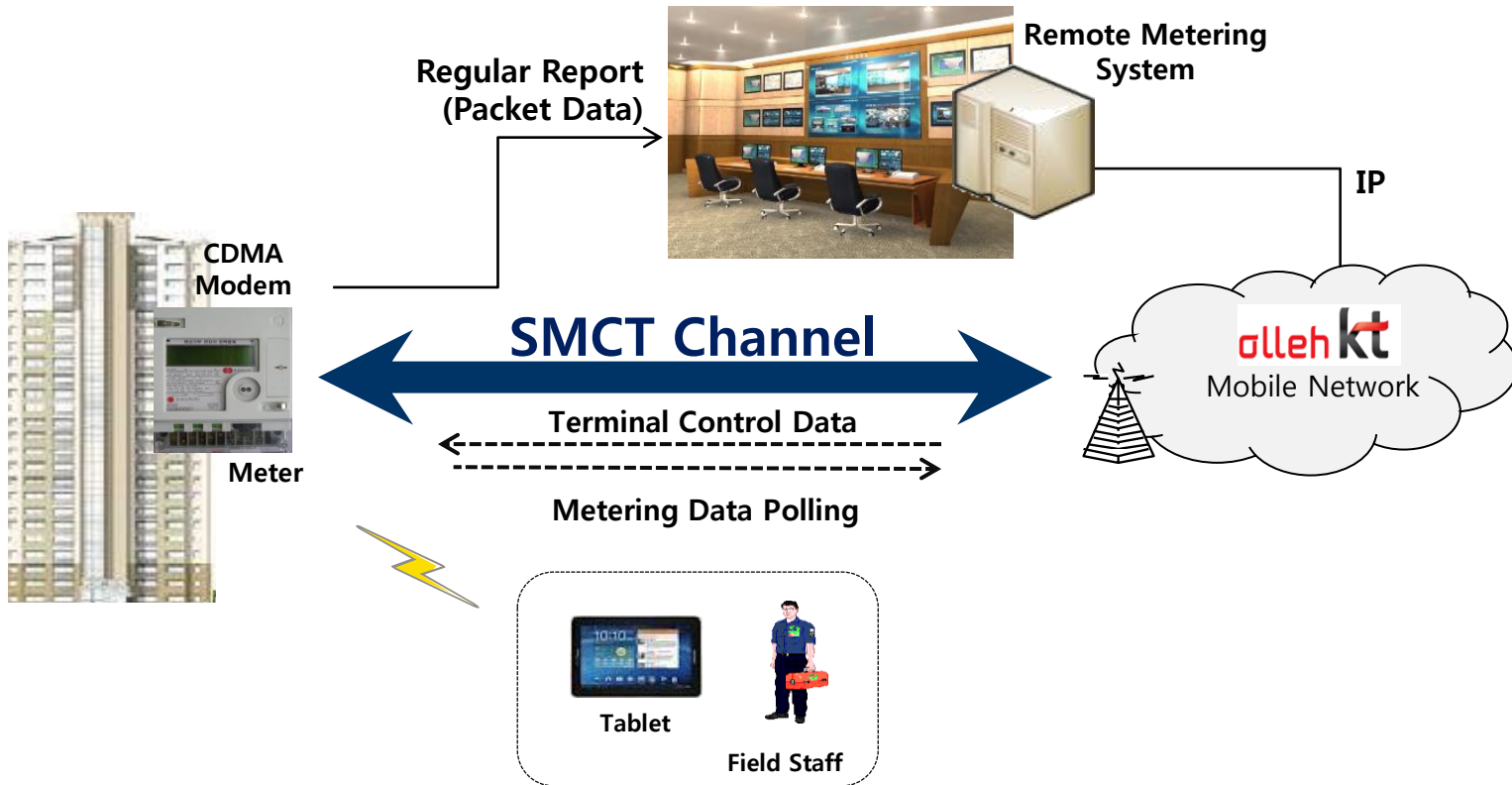
Low Reliability in Collecting Data



Cost : Modem Pool Operation, Phone line cost to fill the missing data

Electric Power Telemetry

SMCT Channel instead of P2P modems will eliminate modem pool operation & maintenance cost and modem line fee, and also improve management efficiency and field staffs' convenience.



Summary of SMCT Channel Service

1

IP Address Not Required In Paging Terminal

2

Access multiple terminals simultaneously and Data Transmission / Receiving

3

M2M Service for Emergency Control and Remote Monitoring requiring Speed, Accuracy and Cost Efficiency

4

Compatible with Standard CDMA/ GSM/WCDMA Circuit Network