

Honesty

Devotion

Innovation



## E-Lins Technology Co.,Ltd



- Mobile Cellular Router & Modem (Industrial Class)

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## E-Lins Technology Co.,Ltd



Factory Inside & Factory Office Corner

## **Industrial Class Cellular Mobile Router**

- 1. GPRS Router – Back compatible to GSM**
- 2. EDGE Router – Back compatible to GPRS & GSM**
- 3. CDMA Router – Back compatible**
- 4. HSDPA Router – Back compatible to EDGE & GPRS & GSM**
- 5. HSPA Router – Back compatible to HSUPA/HSDPA/EDGE/GPRS/GSM**
- 6. HSPA+ Router – Back compatible to HSPA/HSUPA/HSDPA/EDGE/GPRS/GSM**
- 7. HSUPA Router – Back compatible to HSDPA & EDGE & GPRS & GSM**
- 8. EV-DO Router – Rev 0 & Rev A. Back compatible to CDMA**
- 9. 4G LTE router -- Back compatible to 3G/2G**

**Interface: RJ45, RS232**

**Main: VPN, 1 LANs or 4 LANS, 1 WAN, Dual Module Dual SIM, WiFi, DDNS, DHCP, NAT/NAPT, VPN(PPTP,L2TP,IPSec,GRE)**

## **Industrial Class Cellular Mobile Modem & IP Modem (Serial to cellular gateway)**

- 1. GPRS Modem – Back compatible to GSM**
- 2. EDGE Modem – Back compatible to GPRS/GSM**
- 3. CDMA Modem – Back compatible**
- 4. HSDPA Modem – Back compatible to EDGE/GPRS/GSM**
- 5. HSUPA Modem – Back compatible to HSDP/EDGE/GPRS/GSM**
- 6. HSPA Modem – Back compatible to HSUPA/HSDPA/EDGE/GPRS/GSM**
- 7. HSPA+ Modem – Back compatible to HSPA/HSUPA/HSDP/EDG/GPRS/GSM**
- 8. EV-DO Modem – Back compatible to CDMA1x**
- 9. 4G LTE modem – Back compatible to 3G/2G**

**Interface: RS232 or USB or RS485 or RS422 or TTL**

### Products Bands:

1. **GPRS Series – Quad Band (850/900/1800/1900Mhz), world-wide use**
2. **EDGE Series – Quad Band (850/900/1800/1900Mhz), world-wide use**
3. **CDMA Series – 800Mhz or 450Mhz or 1900Mhz  
or 800/1900Mhz**
4. **3G WCDMA Series (HSDPA, HSUPA, HSPA, HSPA+)**  
UMTS: 2100/1900/850Mhz or 850/900/1900/2100Mhz  
EDGE/GPRS/GSM: 850/900/1800/1900Mhz  
world-wide use
5. **3G CDMA2000 EV-DO Series: – 800/1900Mhz, or 450Mhz**
6. **4G LTE series: 700(B17)/AWS or 800/900/1800/2100/2600MHz or  
700(B13)MHz**

## Application field:

- Water, gas and oil flow metering
- Data Monitor and Control
- CCTV, DVR monitor application
- AMR (automatic meter reading)
- Power station monitoring and control
- Remote POS (point of sale) terminals
- ATM machines
- Traffic signals monitor and control
- Fleet management
- Power distribution network supervision
- Central heating system supervision
- Weather station data transmission
- Hydrologic data acquisition
- Vending machine
- Traffic info guidance
- Parking meter and Taxi Monitor
- Telecom equipment supervision (Mobile base station, microwave or optical relay station)
- Other applications

# Product List – Cellular Router



| Series | Port  | VPN                           | WiFi   | Others Option  |
|--------|---|-------------------------------|--------|--|
| H685m  | Sim card slot * 1<br>RJ45 LAN *1<br>RS232/RS485 * 1   | Yes (PPTP, IPSec)             | Option | DTU (serial to cellular gateway)<br>RS232/RS485/TTL  |
| H685   | Sim card slot * 1<br>RJ45 LAN *1<br>RS232/RS485 * 1   | Yes<br>(PPTP,IPSec,L2TP,GRE)  | Option | DTU (serial to cellular gateway)<br>RS232/RS485/TTL;<br>GPS  |
| H800   | Sim card slot * 1<br>RJ45 LAN *4<br>RJ45 WAN *1<br>Line WAN & Cellular backup<br>Two H800 link backup | Yes<br>(PPTP,L2TP,IPSec, GRE) | Option | DTU (serial to cellular gateway)<br>RS232/RS485/TTL;<br>GPS  |
| H660   | Sim card slot * 2<br>RJ45 LAN *5  | Yes (PPTP, IPSec)             | Yes    | Dual sim bind the band speed, and backup   |
| H700   | Sim card slot * 2<br>RJ45 LAN *5 or RJ45 LAN *4<br>+ RJ45 WAN*1                                       | Yes (PPTP, IPSec)             | Yes    | Dual module dual sim bind the band speed, and backup;<br>Single module dual sim backup;<br>GPS, WiFi, Serial to cellular convertor, Internal Battery, video server |

## Product List – Cellular Modem



| Series | Type  | Port  | Network Support   |
|--------|---|---|---|
| M100   | Normal modem,<br>need device's<br>dialup  | DB9*1<br>RS232 or RS485                             | GSM/GPRS/CDMA   |
| M300   | Normal modem,<br>need device's<br>dialup  | USB * 1   | GSM/GPRS/EDGE/HSDPA/HSUPA/H<br>SPA/HSPA+<br>EVDO/CDMA1x<br>4G LTE |
| M400   | Normal modem,<br>need device's<br>dialup  | DB9 or DB15 *1<br>RS232 or RS485<br>USB/RJ45 option | GSM/GPRS/EDGE/HSDPA/HSUPA/H<br>SPA/HSPA+<br>EVDO/CDMA1x           |
| D120   | IP modem,<br>dialup itself,<br>built-in TCP/IP,<br>Data transparent<br>transportation | DB9*1<br>RS232 or RS485                             | GSM/GPRS/EDGE/HSDPA/HSUPA/H<br>SPA+<br>EVDO/CDMA1x                |

# H685m Series Cellular Router



## Specifications

### 1. Radio Frequency

UMTS HSDPA/HSUPA/HSPA/HSPA+:  
850/1900/2100Mhz or 850/900/1900/2100Mhz  
optional  
EDGE/GPRS/GSM: 850/900/1800/1900Mhz  
CDMA/EVDO: 800/1900Mhz, 450Mhz  
4G LTE: 700(B17)/AWS or  
800/900/1800/2100/2600MHz or 700(B13)MHz

### 2. Function

1 LAN + WiFi (Optional);  
Support User-friendly Web GUI;  
Firmware Upgradeable; Traffic & Event Log;  
Auto-Reconnect; always online  
Firewall - NAT, ALG modules, DMZ, DDNS  
VPN and Tunneling (PPTP, IPsec)  
RS232/RS485 to cellular gateway feature  
Network Services include DHCP, Time, DNS

Remote Management with web  
Zero-configuration UPnP support  
Web based SMS client  
R&TTE and GCF certified

### 3. Data speeds

HSDPA 7.2 Mbps Download, 384kbps upload  
HSUPA 7.2 Mbps download, 5.7Mbps Upload  
HSPA 14.4 Mbps download, 5.7Mbps Upload  
HSPA+ 21 Mbps download, 5.7Mbps Upload  
4G LTE: 100Mbps download, 50Mbps upload  
EVDO: 3.1Mbps downlink, 2.4Mbps uplink  
EDGE: Downlink 384 kbps; Uplink 118 kbps  
GPRS: Downlink 85.6 kbps, Uplink 42.8 kbps  
CDMA1x: Downlink/Uplink 153.6kbps

### 4. Interface

LAN Ethernet Interface: 10/100Base T/RJ45  
802.11b/g/n  
Power interface  
Reset: R jack  
Antenna for 3G: 50ohm/SMA/Female  
UIM/SIM card: 3V  
Configuration interface: WEB  
Alarm output interface: TTL

### 5. Environment

Storage Temperature: -40 ~ 85° C  
Working Temperature: -30 ~ 75° C  
Humidity: 95%

# H685 Series Cellular Router



## Specifications

### 1. Radio Frequency

UMTS HSPA: 850/1900/2100Mhz or  
850/900/1900/2100Mhz optional  
EDGE/GPRS/GSM: 850/900/1800/1900Mhz  
CDMA/EVDO: 800/1900Mhz, 450Mhz  
4G LTE: 700(B17)/AWS or  
800/900/1800/2100/2600MHz or 700(B13)MHz

### 2. Function

1 LAN + WiFi (Optional);  
Support User-friendly Web GUI;  
Firmware Upgradeable; Traffic & Event Log;  
Auto-Reconnect; always online  
Firewall - NAT, ALG modules, DMZ, DDNS  
VPN and Tunneling (PPTP, IPsec, L2TP, GRE)  
RS232/RS485 to cellular gateway feature  
Network Services include DHCP, Time, DNS  
GPS optional

Remote Management with web, SNMP, Telnet  
Zero-configuration UPnP support  
Web based SMS client  
R&TTE and GCF certified

### 3. Data speeds

HSDPA 7.2 Mbps Download, 384kbps upload  
HSUPA 7.2 Mbps download, 5.7Mbps Upload  
HSPA 14.4 Mbps download, 5.7Mbps Upload  
HSPA+ 21 Mbps download, 5.7Mbps Upload  
4G LTE: 100Mbps download, 50Mbps upload  
EVDO: 3.1Mbps downlink, 2.4Mbps uplink  
EDGE: Downlink 384 kbps; Uplink 118 kbps  
GPRS: Downlink 85.6 kbps, Uplink 42.8 kbps  
CDMA1x: Downlink/Uplink 153.6kbps

### 4. Interface

LAN Ethernet Interface: 10/100Base T/RJ45  
802.11b/g/n  
Power interface  
Reset: R jack  
Antenna for 3G: 50ohm/SMA/Female  
UIM/SIM card: 3V  
Configuration interface: WEB  
Alarm output interface: TTL

### 5. Environment

Storage Temperature: -40 ~ 85° C  
Working Temperature: -30 ~ 75° C  
Humidity: 95%

# H800 Series Cellular Router



## Specifications

### 1. Radio Frequency

UMTS HSPA: 850/1900/2100Mhz  
or 850/900/1900/2100Mhz optional  
EDGE/GPRS/GSM: 850/900/1800/1900Mhz  
CDMA/EVDO: 800/1900Mhz, 450Mhz  
4G LTE: 700(B17)/AWS or  
800/900/1800/2100/2600MHz or 700(B13)MHz

### 2. Function

1 WAN + 4 LAN + WiFi optional;  
line WAN & cellular backup, two H800 can  
work backup;  
Support User-friendly Web GUI;  
Firmware Upgradeable; always online  
Traffic & Event Log; Auto-Reconnect;  
Firewall - NAT, ALG modules, DMZ, DDNS  
VPN and Tunneling (PPTP,L2TP, IPsec,GRE)  
RS232/RS485 to cellular gateway feature  
GPS optional

Network Services include DHCP, Time, DNS  
Remote Management with SNMP, Web,Telnet  
Zero-configuration UPnP support  
Web based SMS client  
R&TTE and GCF certified

### 3. Data speeds

HSDPA 7.2 Mbps Download, 384kbps upload  
HSUPA 7.2 Mbps download, 5.7Mbps Upload  
HSPA 14.4 Mbps download, 5.7Mbps Upload  
HSPA+ 21 Mbps download, 5.7Mbps Upload  
4G LTE: 100Mbps download,50Mbps upload  
EVDO: 3.1Mbps downlink, 2.4Mbps uplink  
EDGE: Downlink 384 kbps; Uplink 118 kbps  
GPRS: Downlink 85.6 kbps, Uplink 42.8 kbps  
CDMA1x: Downlink/Uplink 153.6kbps

### 4. Interface

LAN Ethernet Interface: 10/100Base T/RJ45  
802.11b/g/n (108Mbps)  
Power interface  
Reset: R jack  
Antenna for 3G: 50ohm/SMA/Female  
UIM/SIM card: 3V  
Configuration interface: WEB  
Alarm output interface: TTL

### 5. Environment

Storage Temperature: -40 ~ 85° C  
Working Temperature: -30 ~ 75° C  
Humidity: 95%

# H700 Series Cellular Router



## Product Specifications

### 1. Radio Frequency

UMTS HSDPA HSUPA: 850/1900/2100Mhz  
or 850/900/1900/2100Mhz optional  
EDGE/GPRS/GSM: 850/900/1800/1900Mhz  
CDMA/EVDO: 800/1900Mhz, 450Mhz  
4G LTE: 700(B17)/AWS or 800/900/1800/2100/2600MHz or  
700(B13)MHz

### 2. Main

5 LAN RJ45 or 1 WAN RJ45 + 4 LAN RJ45;  
Single sim mode or dual sim mode (sim1 only, sim2 only,  
sim1 prefer, sim2 prefer);  
Dual Module Dual SIM for backup and bind the bandwidth  
Single Module Dual SIM for backup each other  
Option feature: WiFi, GPS, Internal battery, Video Server,  
Serial to cellular convertor gateway

Line backup: WAN RJ45, two cellular backup each other

### 3. Features

Local/remote profiles backup and retrieve Local  
Local/Remote firmware upgrade  
DDNS, watch-dog, ways-on-line  
Built-in DHCP server Support  
Support DMZ host, Firewall and NAT/NAPT, **QoS**;  
VPN supported (PPTP, L2TP)

### 4. Interface: Standard RJ-45/RS-232 Standard serial Port(DB-9),

Antenna: 50ohm/SMAFemale;  
43 Antenna interface for cellular, wifi, gps

### 5. Configuration interface: WEB/telnet/console

### 6. Supply voltage range: 5-27VDC

### 7. SIM interfaces: 3V/1.8V

### 8. Lan Speed: 100Mbps

# H660 Series Cellular Router



Support packet filtering  
Support data center communication  
Transparent data transmission  
Support radio network data envelope counting  
Support APN  
Support multiple protocol conversion, Real-time clock (RTC)  
Web/Telnet/console management interface  
ways-on-line, Self-diagnostic and alarm output

4. **Interface:** Standard RJ-45/RS-232 Standard serial Port(DB-9), Antenna: 50ohm/SMAFemale
5. **Configuration interface:** WEB/telnet/console
6. **Supply voltage range:** 5-25VDC
7. **SIM interfaces:** 3V/1.8V
8. **Lan Speed:** 100Mbps

## Product Specifications

### 1. Radio Frequency

UMTS HSDPA HSUPA: 850/1900/2100Mhz  
or 850/900/1900/2100Mhz optional  
EDGE/GPRS/GSM: 850/900/1800/1900Mhz  
CDMA/EVDO: 800/1900Mhz, 450Mhz  
4G LTE: 700(B17)/AWS or 800/900/1800/2100/2600MHz or 700(B13)MHz

### 2. Specification

5 LANs  
Dual Mode Dual SIM for backup and bind the bandwidth

### 3. Features

Local/remote profiles backup and retrieve Local  
Local/Remote firmware upgrade  
Urgent event alarm via SMS  
Built-in DHCP server Support  
Support DMZ host, Firewall and NAT, QoS

# M100 Series Cellular Modem



## Product Specifications

### 1. Radio Frequency

GPRS/GSM: 850/900/1800/1900Mhz  
CDMA: 800/1900Mhz, 450Mhz

### 2. Function

Support voice, SMS, data service;  
TCP stack with IP and UDP protocol

### 3. Voltage and Power

Input: 5 - 25VDC  
SIM card support volt: 3V / 1.8V  
Power consumption:  
Sleep mode: 3.5mA  
Working mode: 300mA (Average)  
Power down 50 uA  
GPRS Modem: 360mA (Average)

### 4. Speed

Console Data transfer Speed: 115200bps  
EDGE: Downlink 384 kbps; Uplink 118 kbps  
GPRS: Downlink 85.6 kbps, Uplink 42.8 kbps  
CDMA1x: Downlink/Uplink 153.6kbps

### 5. Dimension & Weight

Dimension: 75\*50\*16mm  
Weight: 200g

### 6. Environment

Work temperature: -20 ~ 55 centigrade degrees  
Storage temperature: -50 ~ 85 centigrade degrees  
Humidity: 95% (Non-condensing)

### 7. Interface

RS232/RS485  
DB9 Interface (External)

### 8. Antenna

50ohm/SMA/Female

### 9. Shell

Steel metal shell: good electromagnetic shield and,  
heat radiate performance

# M300 Series Cellular Modem



## Product Specifications

### 1. Radio Frequency

UMTS/HSPA: 850/1900/2100Mhz  
or 850/900/1900/2100Mhz optional  
EDGE/GPRS/GSM: 850/900/1800/1900Mhz  
CDMA/EVDO: 800/1900Mhz, 450Mhz  
4G LTE: 700(B17)/AWS or  
800/900/1800/2100/2600MHz or 700(B13)MHz

### 2. Function

Support voice, SMS, data service  
TCP stack with IP and UDP protocol

### 3. input: 5 - 25VDC

SIM card support volt: 3V / 1.8V  
Power consumption:  
Off: 50mA  
Idle: <=2.5mA  
Minimal Power consumption

### 4. Speed

HSDPA 7.2 Mbps Download, 384kbps upload  
HSUPA 7.2 Mbps download, 5.7Mbps Upload  
HSPA 14.4 Mbps download, 5.7Mbps Upload  
HSPA+ 21 Mbps download, 5.7Mbps Upload  
4G LTE: 100Mbps download, 50Mbps upload  
EVDO: 3.1Mbps downlink, 2.4Mbps uplink  
EDGE: Downlink 384 kbps; Uplink 118 kbps  
GPRS: Downlink 85.6 kbps, Uplink 42.8 kbps  
CDMA1x: Downlink/Uplink 153.6kbps

### 5. Dimension & Weight

Dimension: 59mm \*100mm \* 23mm  
Weight: 300g

### 6. Environment

Work temperature: -30 ~ 80 centigrade degrees  
Storage temperature: -40 ~ 90 centigrade degrees  
Humidity: 95% (Non-condensing)

### 7. Interface

USB 2.0 full speed  
RS232 DB9 Interface

### 8. Antenna

50ohm/SMA/Female

### 9. Shell

Steel metal shell: good electromagnetic shield and,  
heat radiate performance

# M400 Series Cellular Modem



## Product Specifications

### 1. Radio Frequency

UMTS/HSPA: 850/1900/2100Mhz  
or 850/900/1900/2100Mhz optional  
EDGE/GPRS/GSM: 850/900/1800/1900Mhz  
CDMA/EVDO: 800/1900Mhz, 450Mhz

### 2. Function

Support voice, SMS, data service  
TCP stack with IP and UDP protocol

### 3. input: 5 - 25VDC

SIM card support volt: 3V / 1.8V  
Power consumption:  
Off: 50mA  
Idle: <=2.5mA  
Minimal Power consumption

### 4. Speed

HSDPA 7.2 Mbps Download, 384kbps upload  
HSUPA 7.2 Mbps download, 5.7Mbps Upload  
HSPA 14.4 Mbps download, 5.7Mbps Upload  
HSPA+ 21 Mbps download, 5.7Mbps Upload  
EVDO: 3.1Mbps downlink, 2.4Mbps uplink  
EDGE: Downlink 384 kbps; Uplink 118 kbps  
GPRS: Downlink 85.6 kbps, Uplink 42.8 kbps  
CDMA1x: Downlink/Uplink 153.6kbps

### 5. Dimension & Weight

Dimension: 83mm \*53mm \* 25mm  
Weight: 300g

### 6. Environment

Work temperature: -30 ~ 80 centigrade degrees  
Storage temperature: -40 ~ 90 centigrade degrees  
Humidity: 95% (Non-condensing)

### 7. Interface

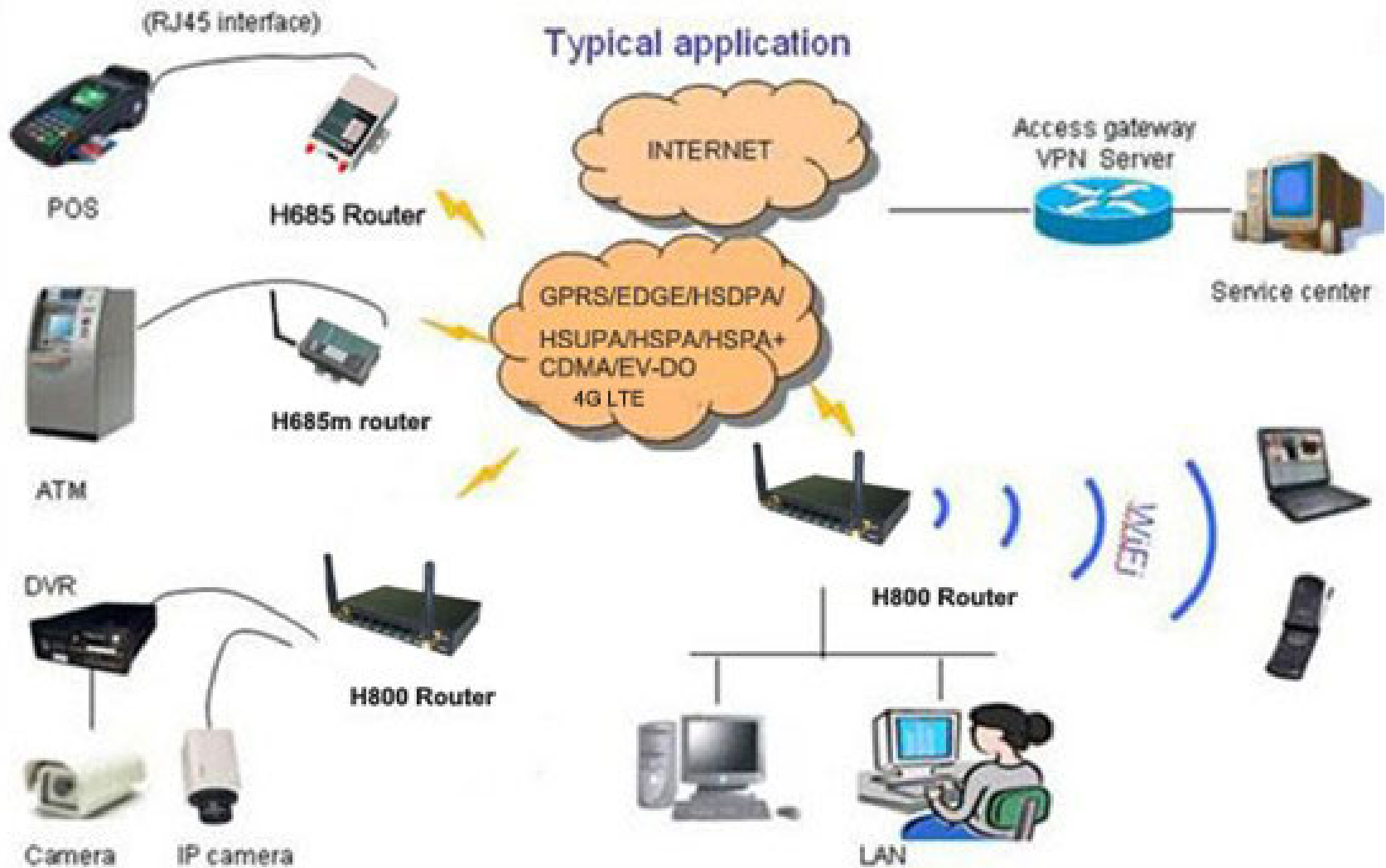
USB 2.0 full speed  
RS232/RS485 DB9/DB15 Interface  
Voice port option  
RJ45 port option

### 8. Antenna

50ohm/SMA/Female

### 9. Steel metal shell: good electromagnetic shield and, heat radiate performance

# Mobile Router Application



# Mobile Router Application



# Mobile Router Application



Solar PV power system



Solar system IP address  
LAI:192.168.210.3  
Gateway:192.168.210.1

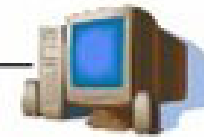


2G/3G/4G network



Router IP address  
LAI:192.168.210.1  
GPRS:10.xxx.xxx.xxx

Lease Line  
Access Router

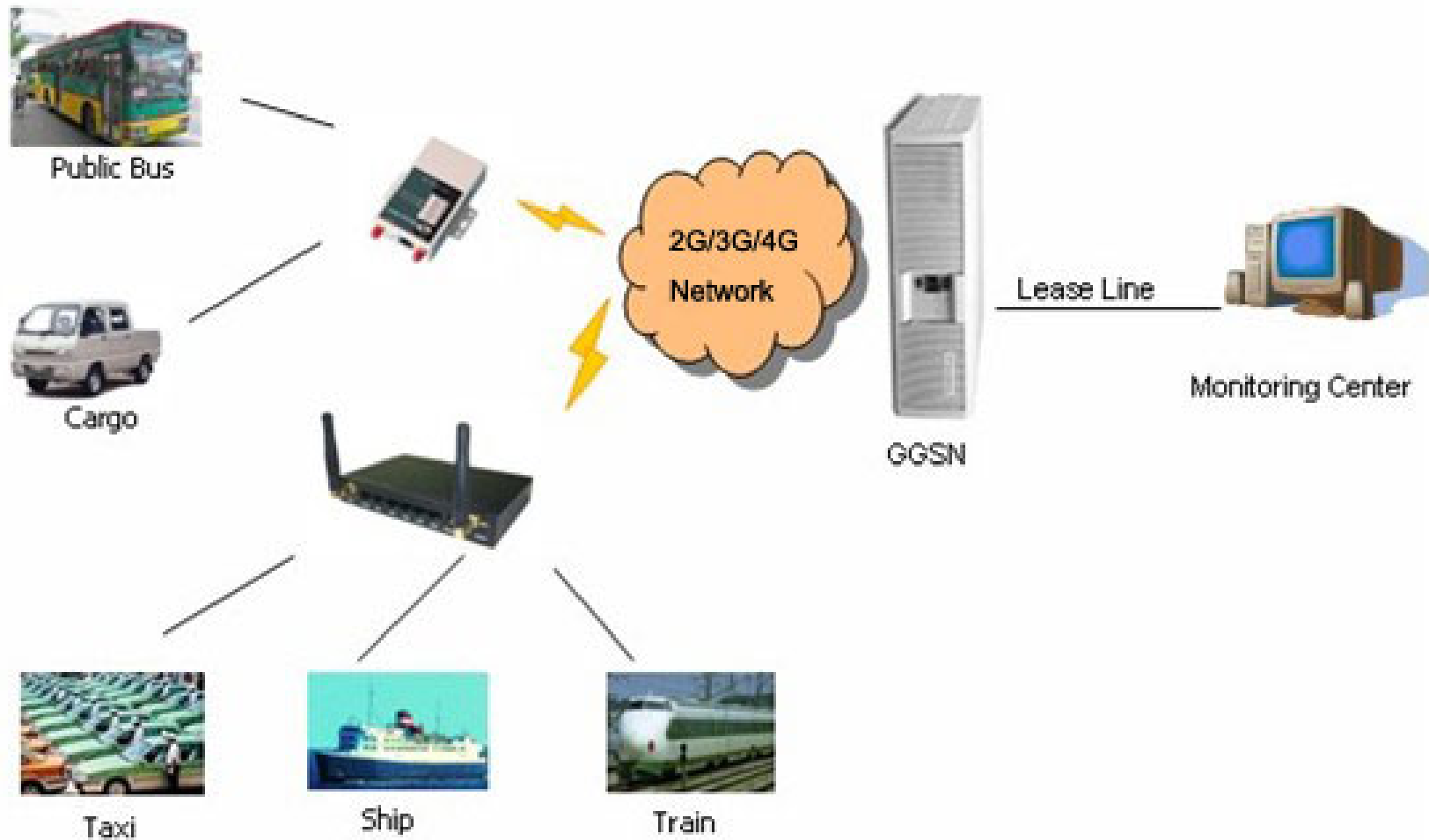


Network management host

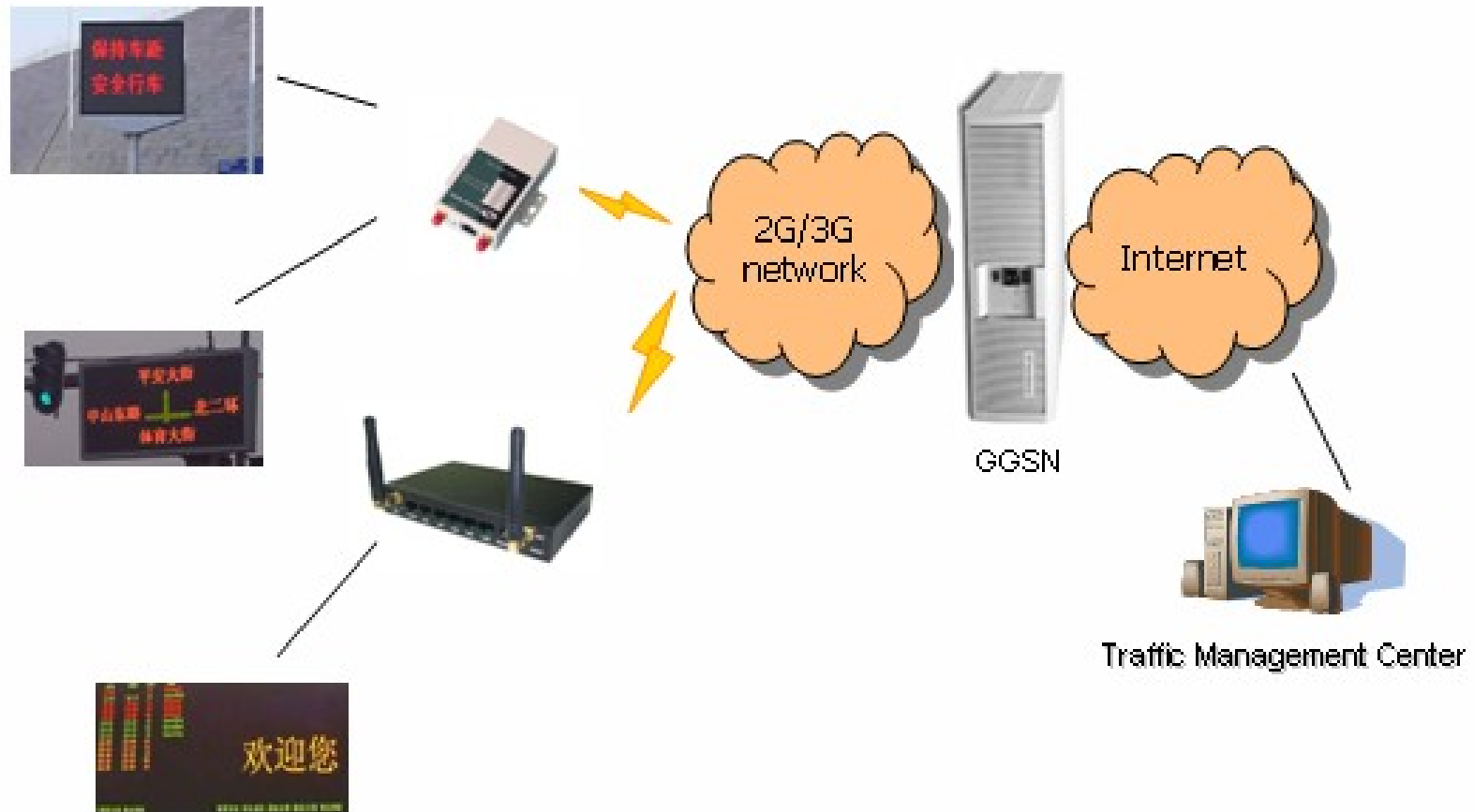


Data Center Host IP address  
LAI:203.82.43.178

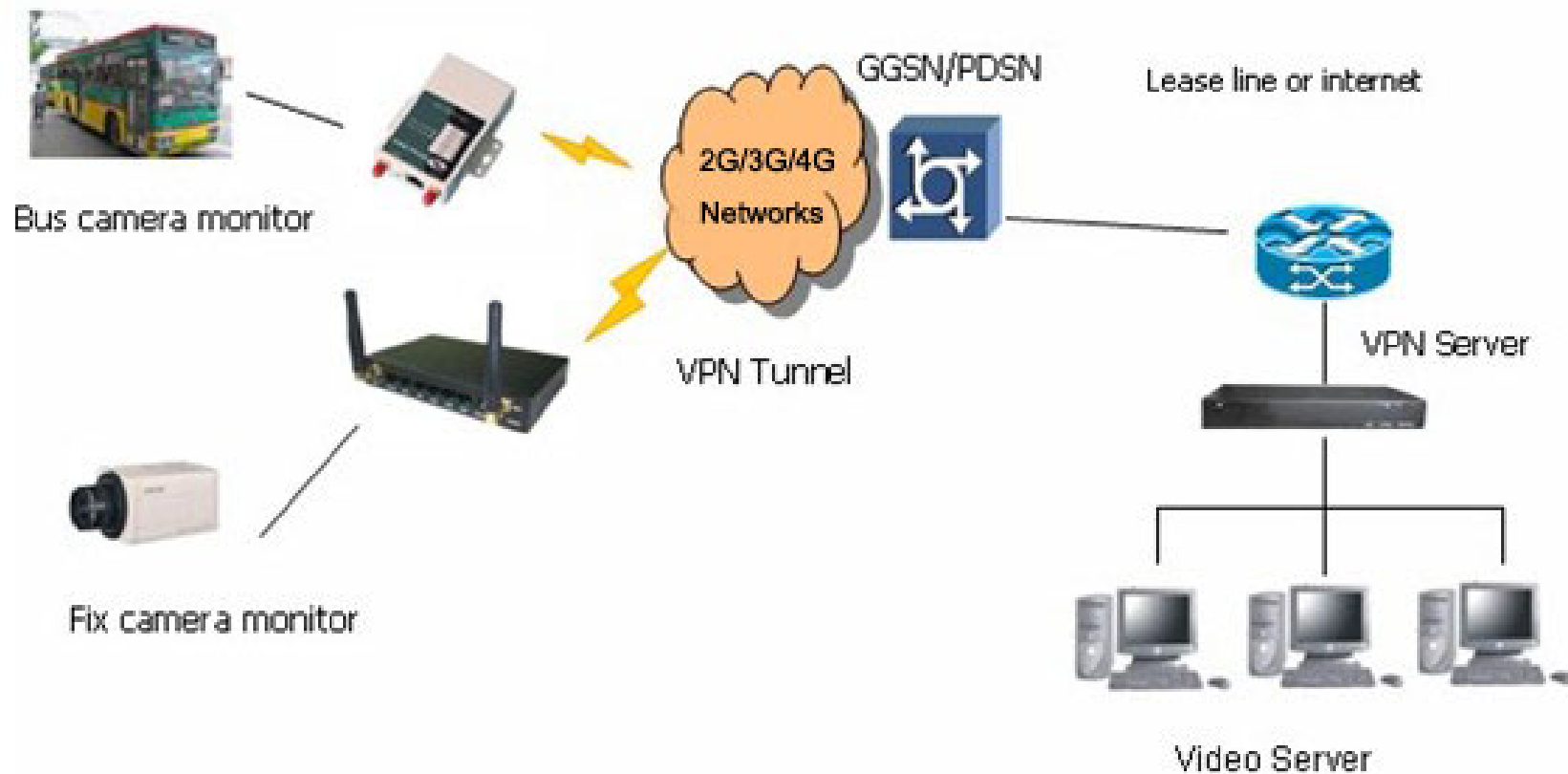
# Mobile Router Application



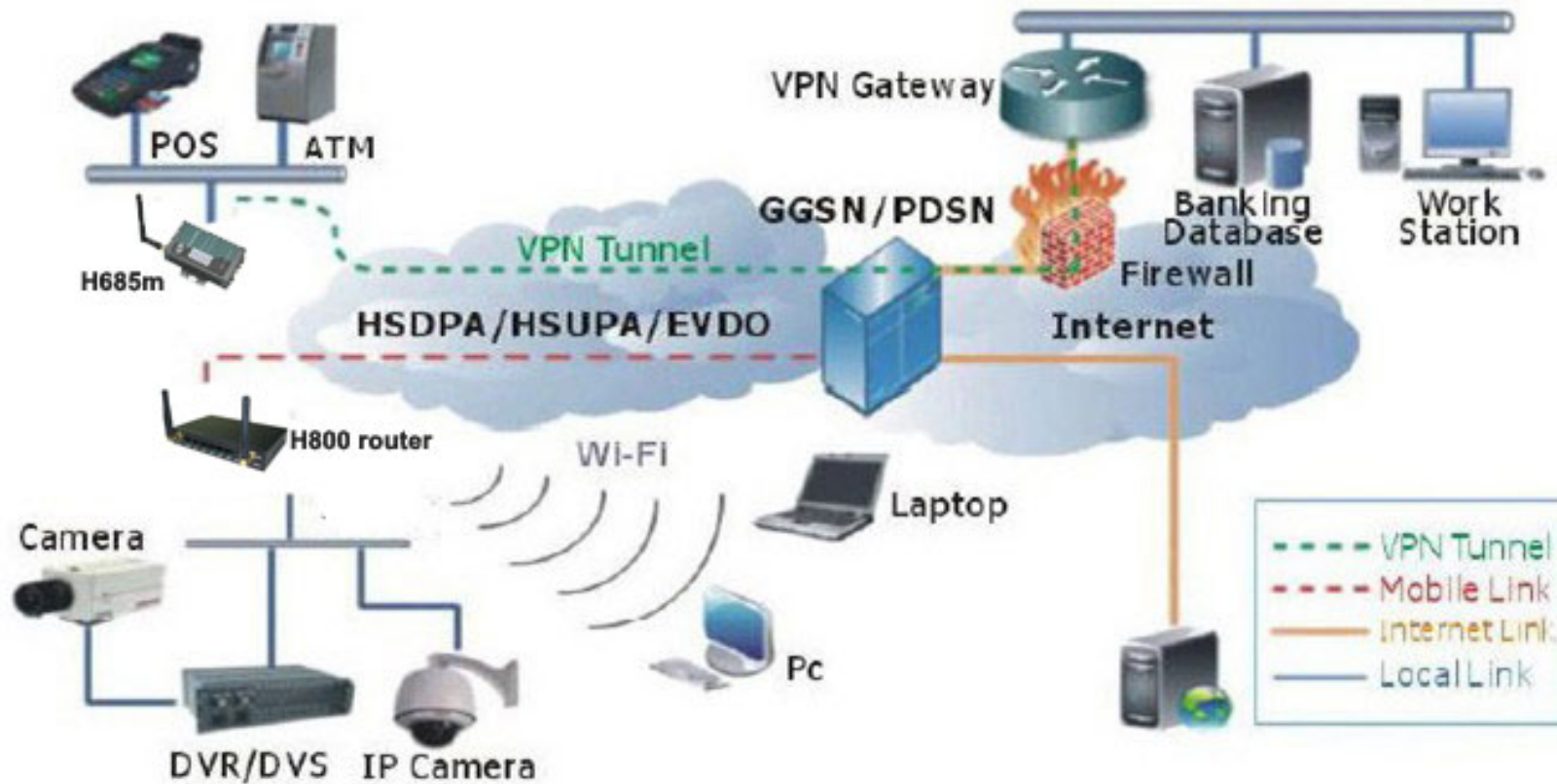
# Mobile Router Application



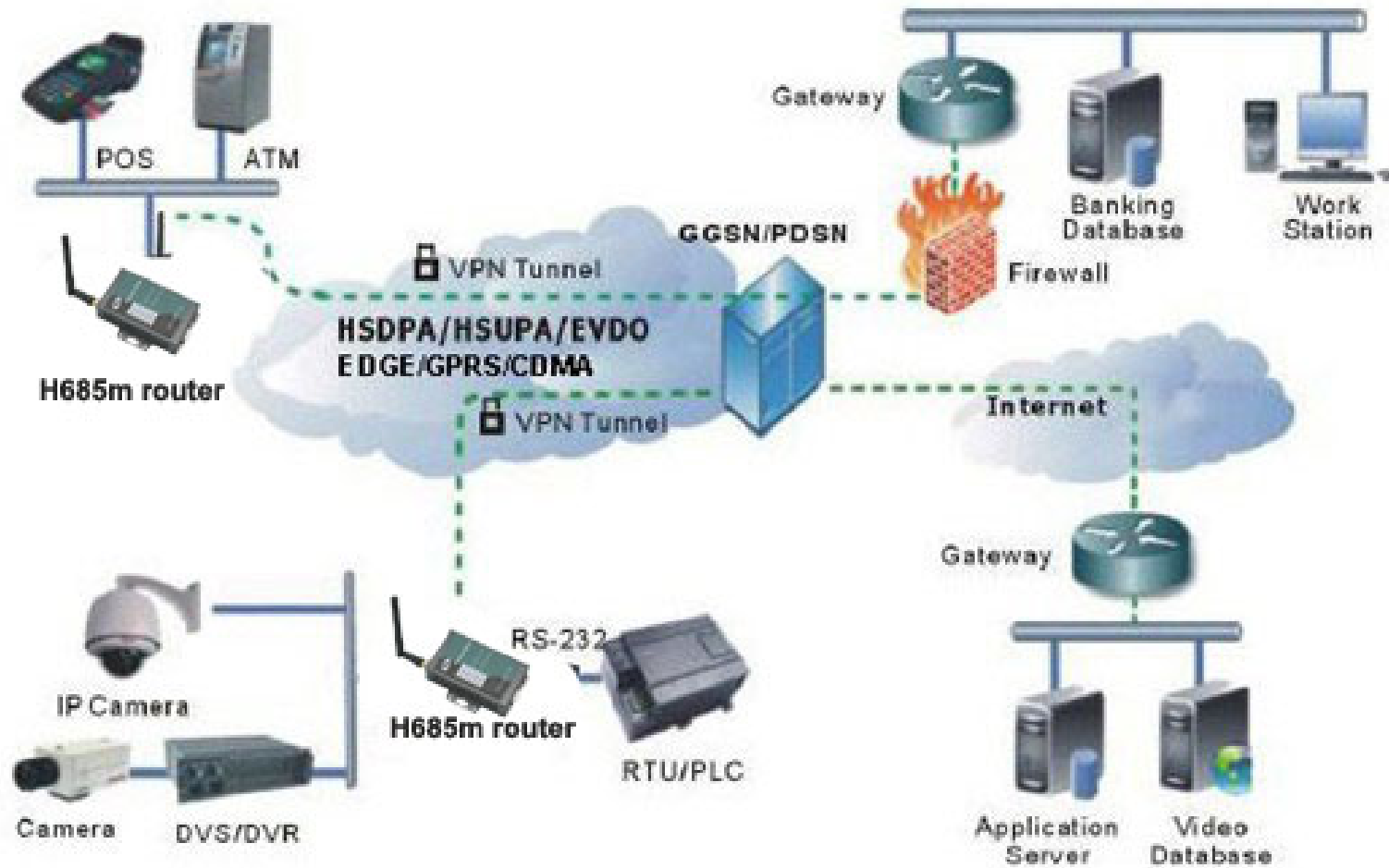
# Mobile Router Application



# Mobile Router Application



# Mobile Router Application



# Mobile Router Application

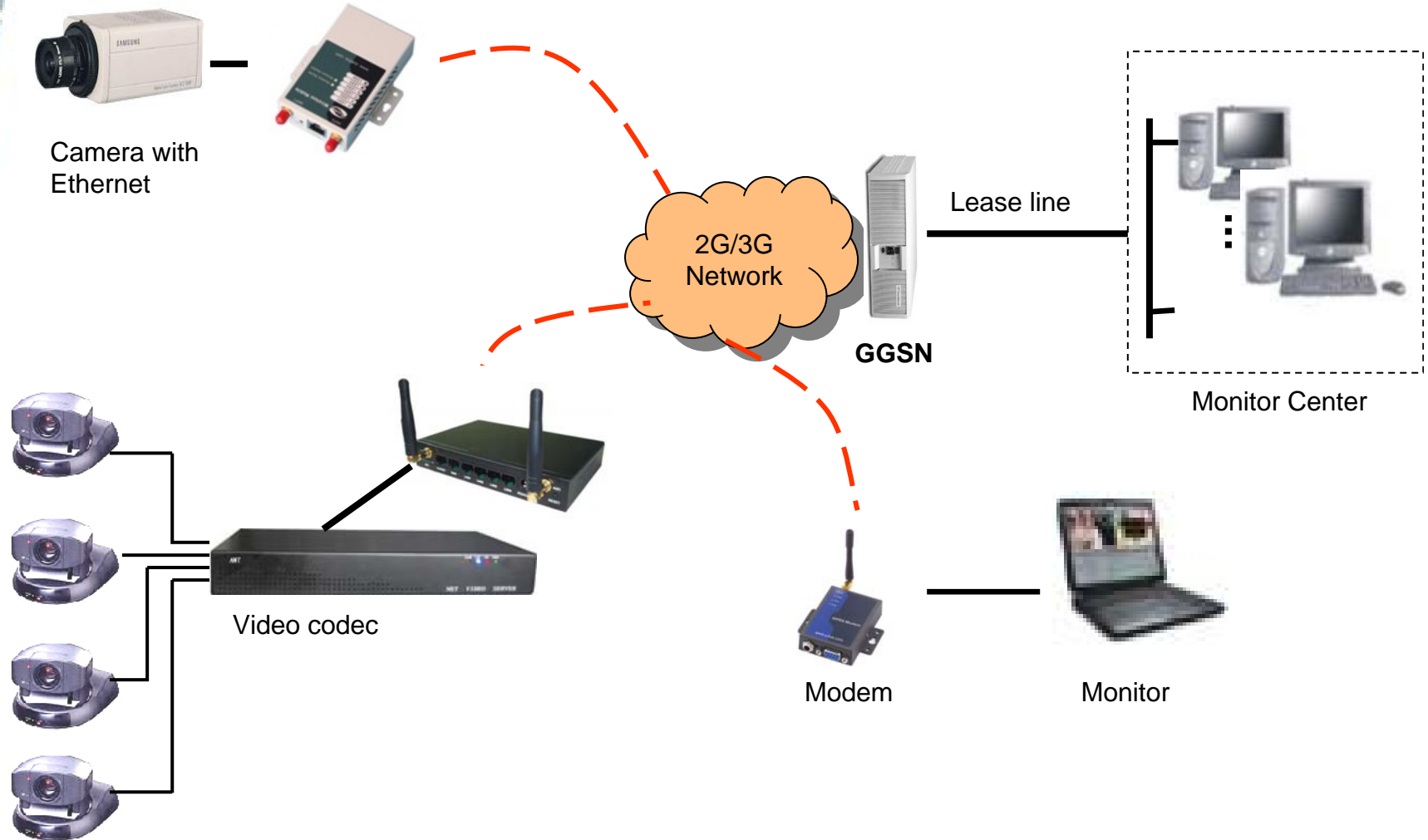


**Traffic Management Center**

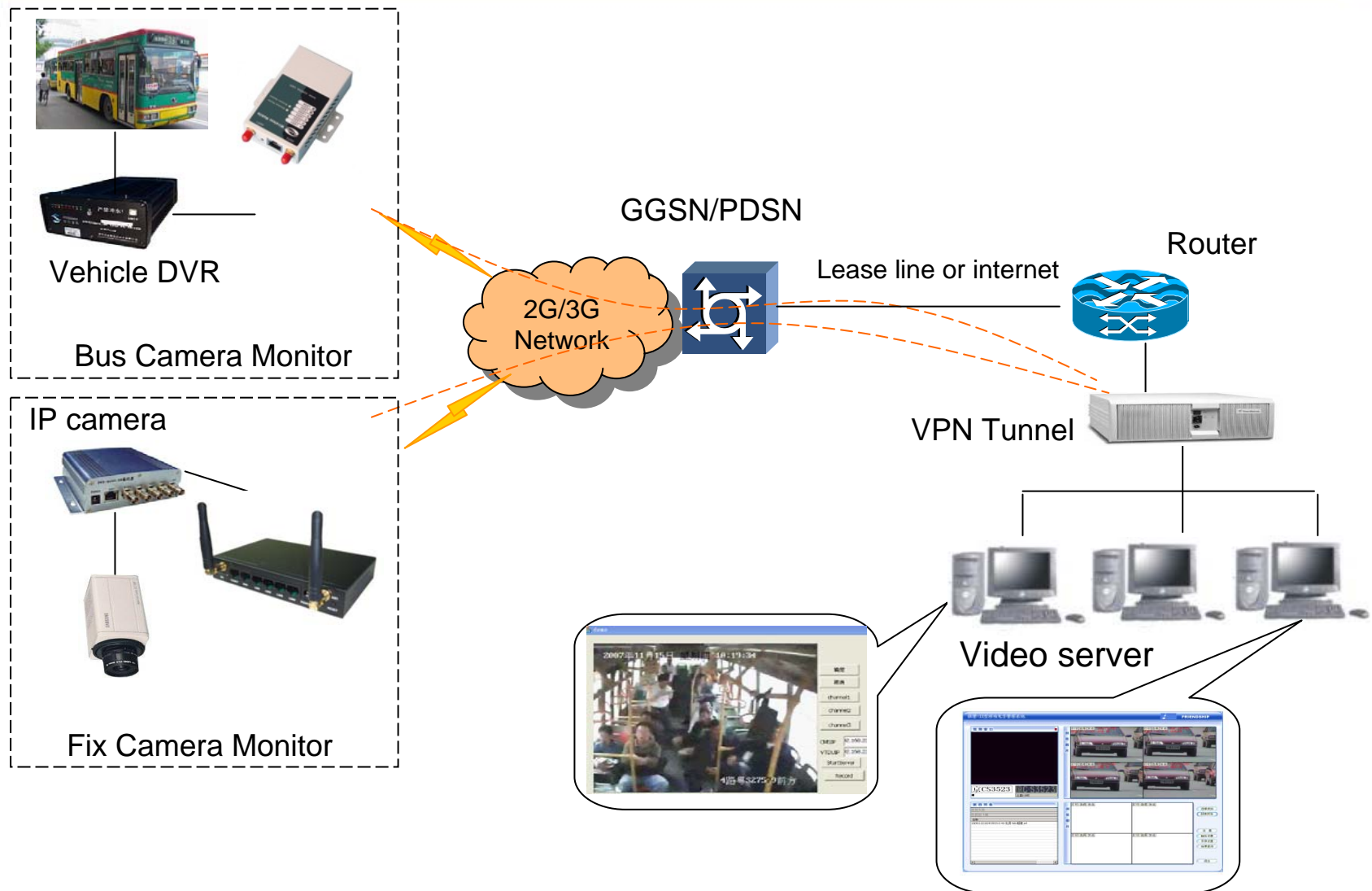


**Traffic Management Center**

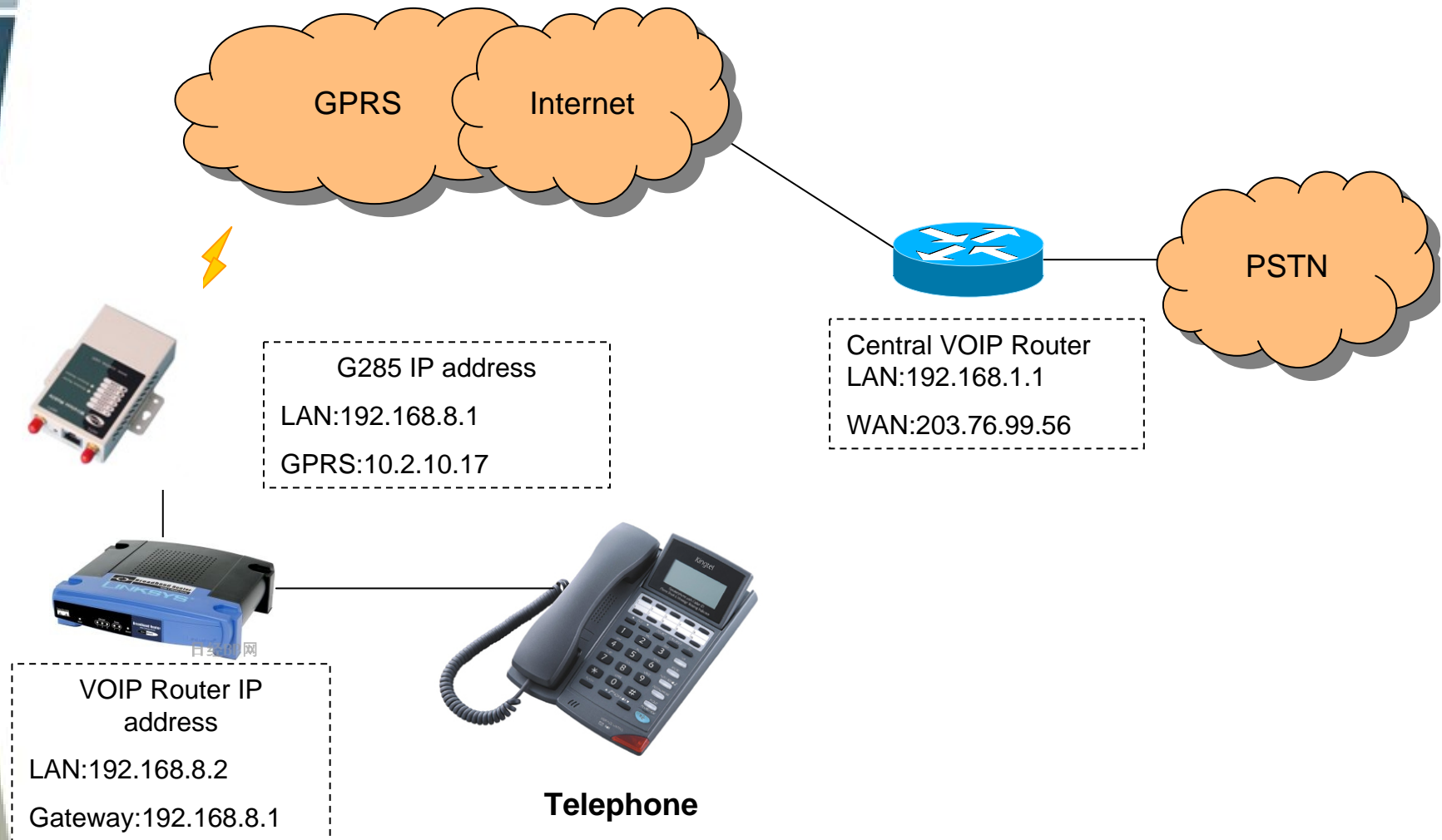
# Mobile Router Application



# Mobile Router Application



# Mobile Router Application





2G/3G Network

## Embedded E-Lins Cellular Router



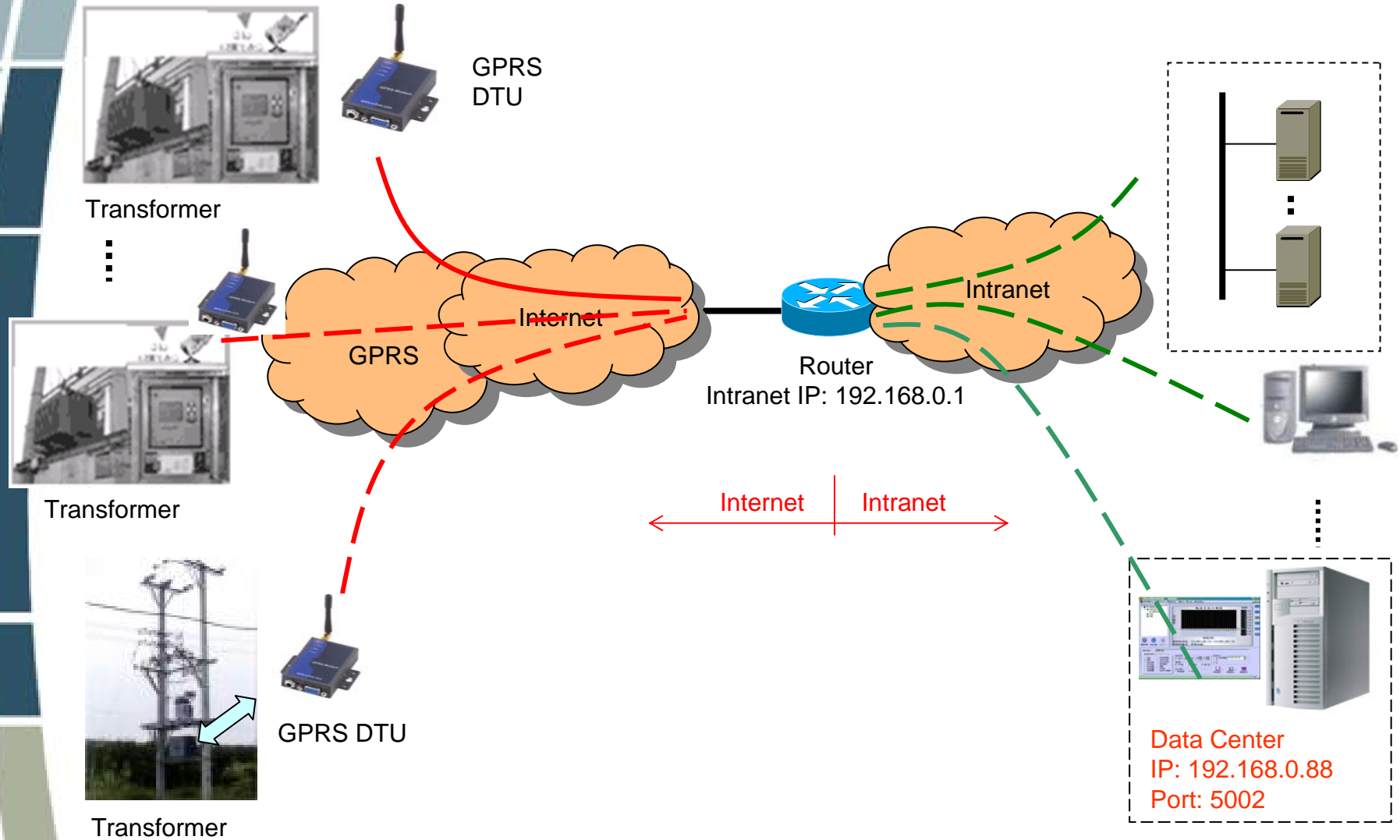
Serial to Cellular Gateway (DTU):  
automatic dialup modem  
Works at GPRS/CDMA Network,  
RS232/422/485/TTL interface,  
industrial class pluggable  
terminals interface, suitable for  
all kinds of applications.

# Difference between DTU Modem & Normal Modem

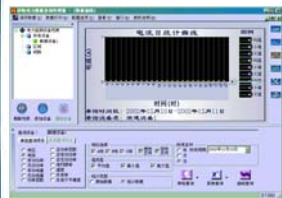
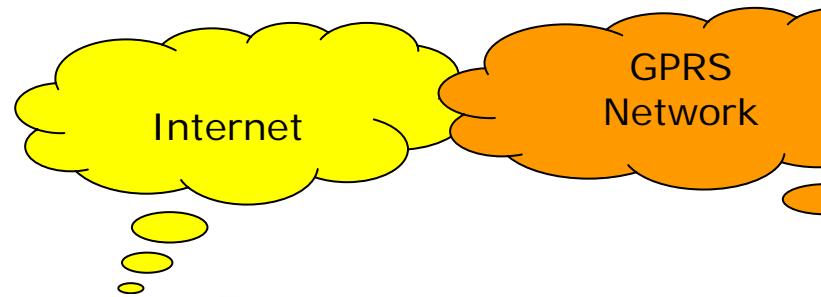


| Item                               | DTU Modem (Serial to Cellular Gateway)  | Normal Modem                  |
|------------------------------------|---|-------------------------------|
| <b>Dial up</b>                     | Support automatically dialup;<br>Online always; trigger to dialup, schedule to dialup | Need back platform to dialup  |
| <b>TCP/IP, PPP</b>                 | Yes   | Yes                           |
| <b>Interface</b>                   | RS232/RS485   | RS-232                        |
| <b>Bandwidth</b>                   | 20~40Kbit/s   | 20~40Kbit/s                   |
| <b>Coverage</b>                    | Same as GSM network   | Same as GSM network           |
| <b>Transparent Data</b>            | Yes   | No                            |
| <b>VDPN</b>                        | Yes   | Yes                           |
| <b>Point to Point</b>              | Yes   | Depends network               |
| <b>Point to Multipoint</b>         | Yes   | No                            |
| <b>Center to Multipoint</b>        | Yes   | No                            |
| <b>Dynamite IP Address Mapping</b> | Yes   | No                            |
| <b>Multi-protocol</b>              | Yes   | No                            |
| <b>Applications</b>                | Utilities, traffic control, finance and industry supervision                          | Mobile Internet access for PC |

# DTU Application



# DTU Application-Power Grid Solution



Data Center  
(Integrated)

D120 DTU  
Inside,  
Interface RS232



Test Meter  
or RTU



Power Equipment

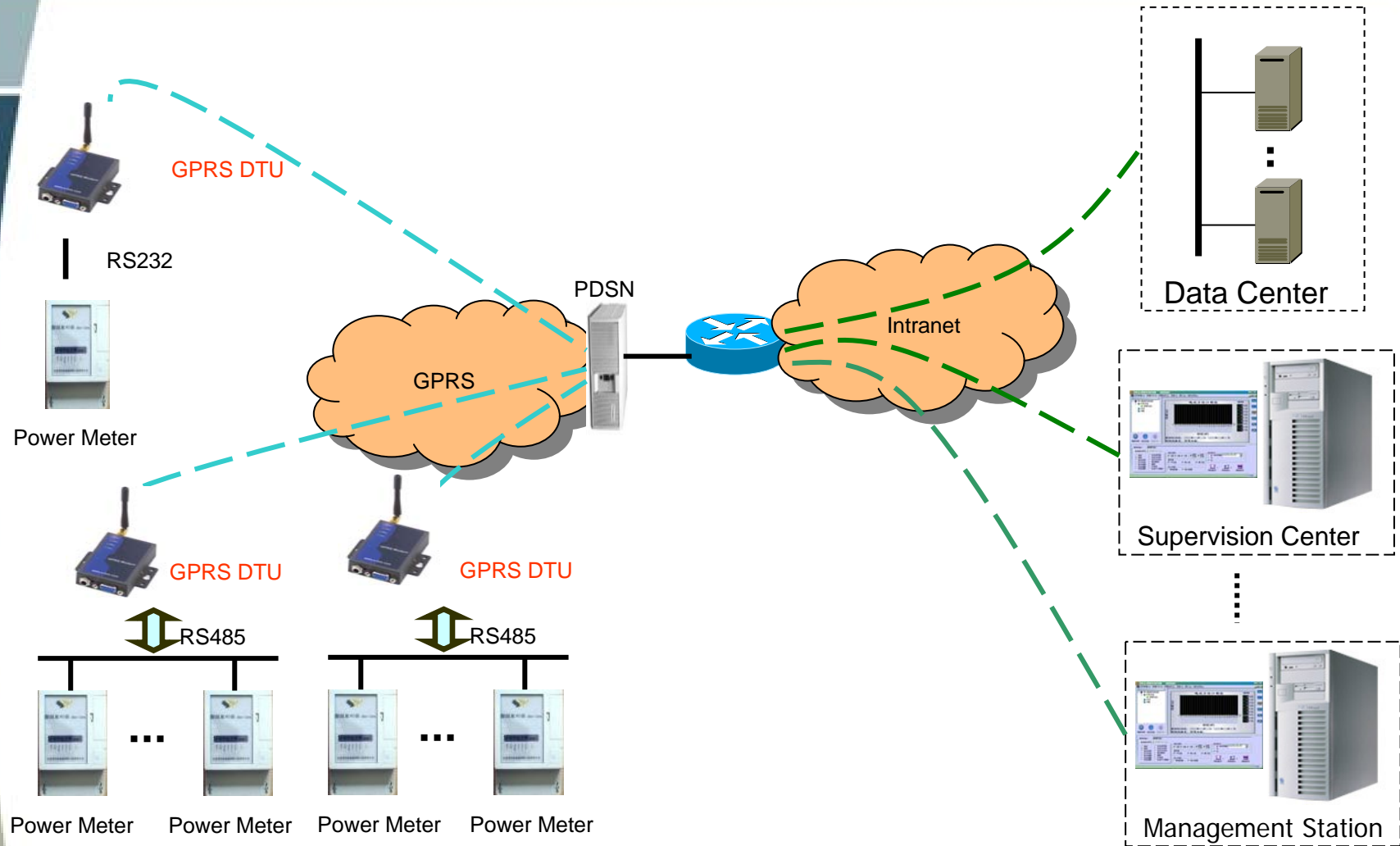
D120 DTU  
Inside,  
Interface RS485



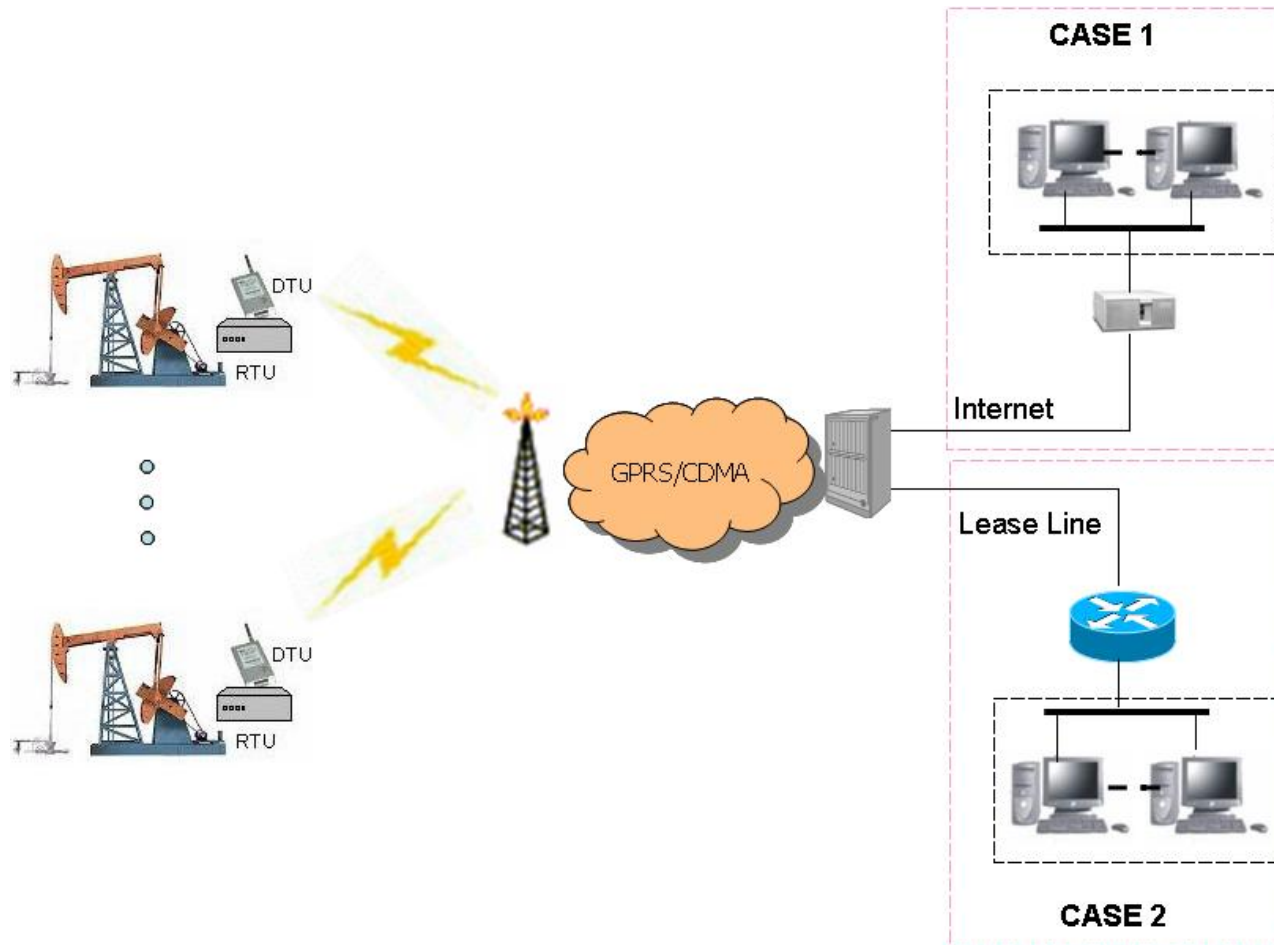
Power  
Meter



# DTU Application



## Example: Oilfield installation



GPRS



GPRS



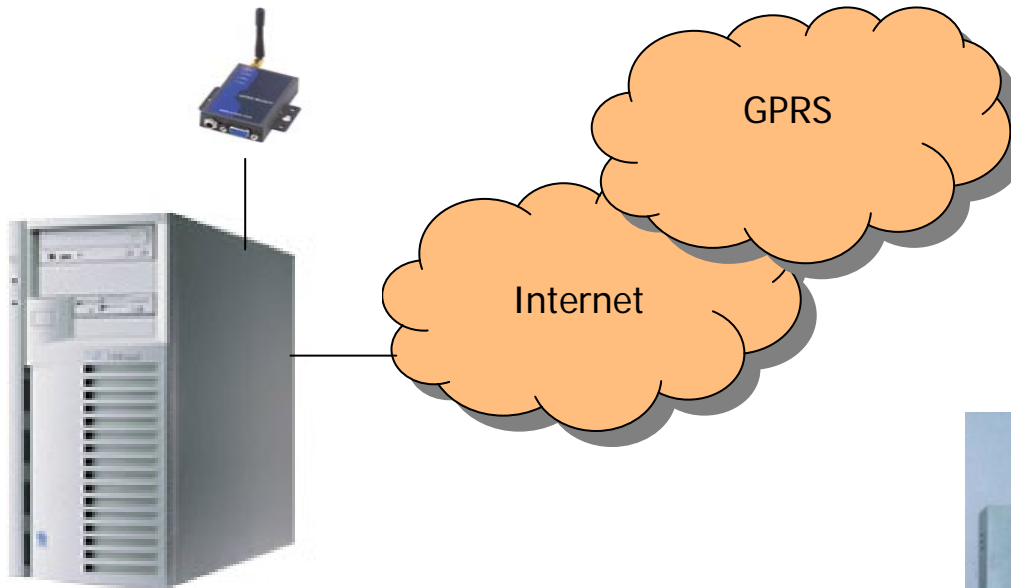
# DTU Application-BTS Supervision Solution



GPRS



# DTU Application-Alert System Solution



Alert System Control Center (Dynamic IP)



Alert Control Terminal (D120 DTU inside)

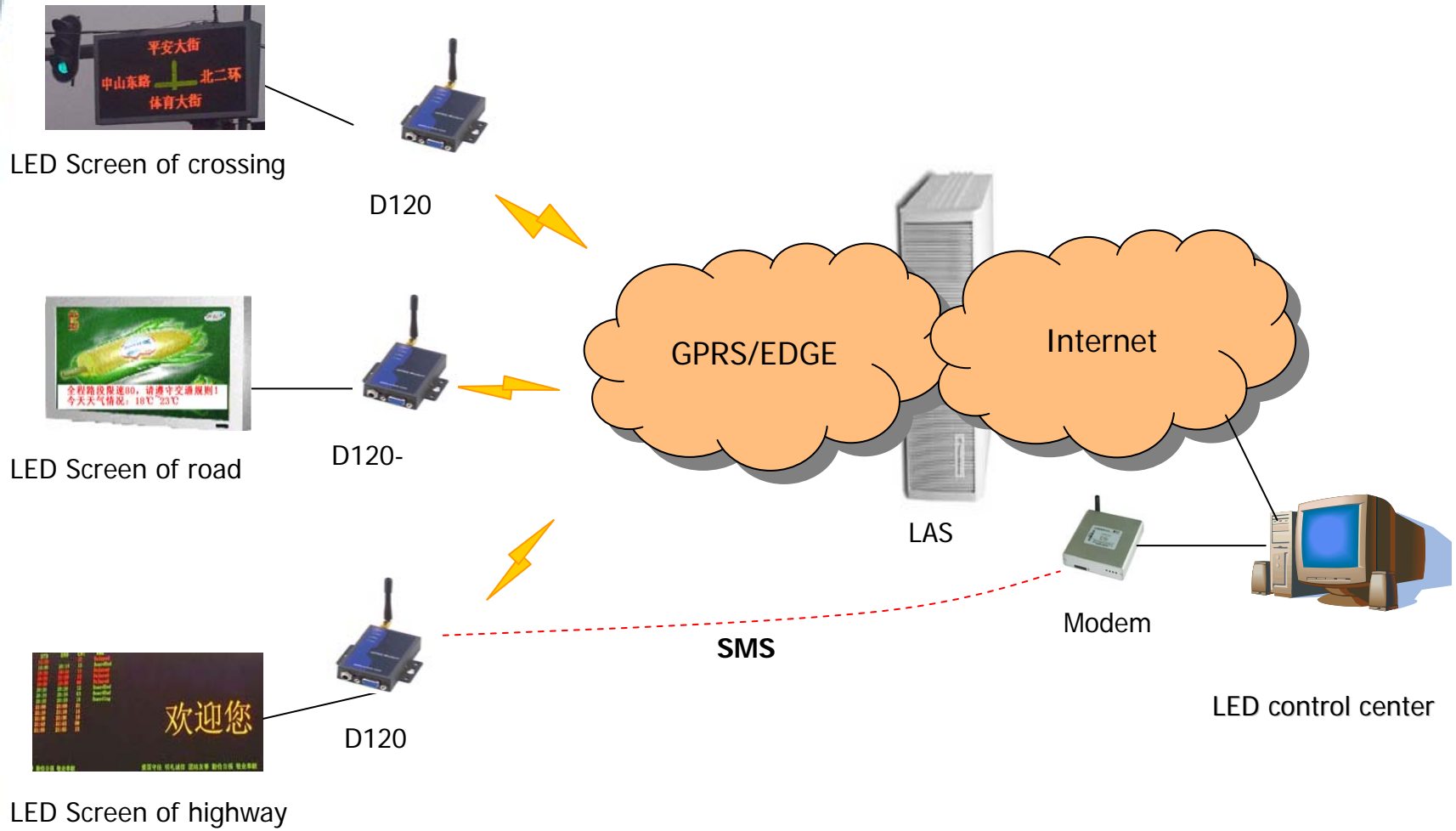


Alert Control Terminal (D120 DTU inside)

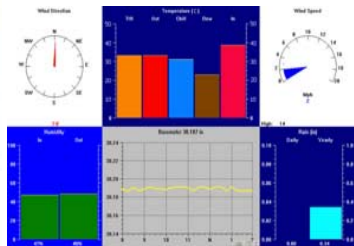
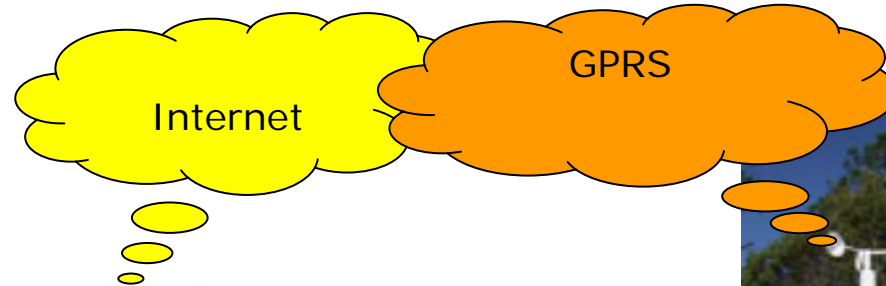


Alert Control Terminal (D120 DTU inside)

# DTU Application



## Network Configuration



Weather Data Center (Static IP)

GPRS DTU Inside, (RS232)





Control Center

## Street Light Supervision System

Controlled Point  
(DTU inside)



# DTU Application-Light Supervision Solution

