PACTECH

ICP DAS
2015 M2M
2G/3G Wireless Solutions

Industrial Computer Product Data Acquisition System PAC

2G/3G Solutions

2G/3G Serials

2G/3G wireless solutions

Item	Function	Application	Products
2G/3G Modem	•RS232/USB Communication •Plug&play •Data transmission /voice alarm	•PC/PAC-based applications •Remote data acquirement	GTM-201 Serial
Intelligent 2G/3G Module	•No programming •SMS/Voice Alarm Product •2G/3G Gateway Product •RTU Product	•Machine monitoring •Home security •Vending machine •Alarm trigger	GT-500 Serial RMV-500 Serial SMS-500 Serial RTU Serial
2G/3G PAC	•Programmable •LCD function (option) •GPS function (option)	•Remote data acquirement •Hydrology system •vehicle monitoring system	G-4500 Serial

2G/2.5G/3G Comparison Table

	2G	2.5G	3G
Technology	GSM- CSD	GSM-GPRS	WCDMA CDMA2000 TD-SCDMA
Frequency	850/900/1800/1900 MHz	850/900/1800/1900 MHz	850/900/1900/2100 MHz
Bandwidth	9.6 K ~ 14.4K bps	56 K ~ 114 Kbps	384K~ 7.2 Mbps
Application	Voice Call、SMS、WAP Service	Voice Call、SMS、WAP Service、MMS、Bell and Game Download	Voice Call、SMS、WAP Service、MMS、Video Call、Mobile Commerce

3G Tech. Comparison Table

	WCDMA	CDMA2000x1	TD-SCDMA
Transfer Rate (bps)	384K~ 7.2 M	144K	384K
3.5G	HSDPA/HSUPA Download:14Mbps Upload:5.8Mbps	----	HSDPA/HSUPA Download :14Mbps Upload : 5.8Mbps
Area	U.S.A : AT&T China : China Unicom Taiwan : Chunghwa Telecom Taiwan Mobile Germany :	U.S.A : Sprint、Verizon China : China Telecom Taiwan : Asia Pacific Telecom Russia :	China : China Mobile

2G/3G Modem Series
GTM-201/I-821xW

2G/3G Modem Serial

2G/3G Modem						
	2G GSM (MHz)	3G WCDMA (MHz)	GPS	Audio/ Mic.	Interface	Module for PAC Slots
GTM-201-RS232	850/900/ 1800/1900	-	-	Yes	RS-232	No
GTM-201-USB	850/900/ 1800/1900	-	-	Yes	USB	No
GTM-203-3GWA	850/900/ 1800/1900	850/900/ 1900/2100	-	option	RS-232 USB	No
I-8212W	850/900/ 1800/1900		-	-	RS-232	Yes
I-8213W	850/900/ 1800/1900		Yes	-	RS-232	Yes
I-8212W-3GWA	850/900/ 1800/1900	850/1900/ 2100	-	-	RS-232	Yes
I-8213W-3GWA	850/900/ 1800/1900	850/1900/ 2100	Yes	-	RS-232	Yes

2G Modem
GTM-201-RS232 / GTM-201-USB

- GSM/GPRS 850/900/1800/1900 MHz
- 3-wire/9-wire RS-232, USB interface
- GPRS, Data, SMS and Voice applications
- Support AT Commands
- Provide MIC-In, Speaker-out interface
- Built-in TCP server, TCP client, UDP client static
- A Digital Input Channel for Resetting the System
- Support SMS/Voice ActiveX for XP and CE
- USB Driver Windows, WinPAC(WinCE5.0), LinPAC(Linux2.6)

GTM-201-RS232

GTM-201-USB

2G/3G Module for PAC

I-8212W/I-8213W

I-8212W-3GWA / I-8213W-3GWA

- GSM/GPRS 850/900/1800/1900 MHz
- WCDMA 2100/1900/850 MHz (only for 3G module)
- GPRS, Data, SMS and Voice applications
- Support AT Commands
- Built-in TCP server, TCP client, UDP client static
- Provide SMS Library(VC++ & .NET)
- Support 32-channels GPS and NMEA v0183 v3.01(only I-8213W)
- Support XP-8000, WinPAC-8000, LinPAC-8000, ViewPAC, iPAC-8000

I-8212W
I-8212W-3GWA

I-8213W
I-8213W-3GWA

3G Modem
GTM-203-3GWA

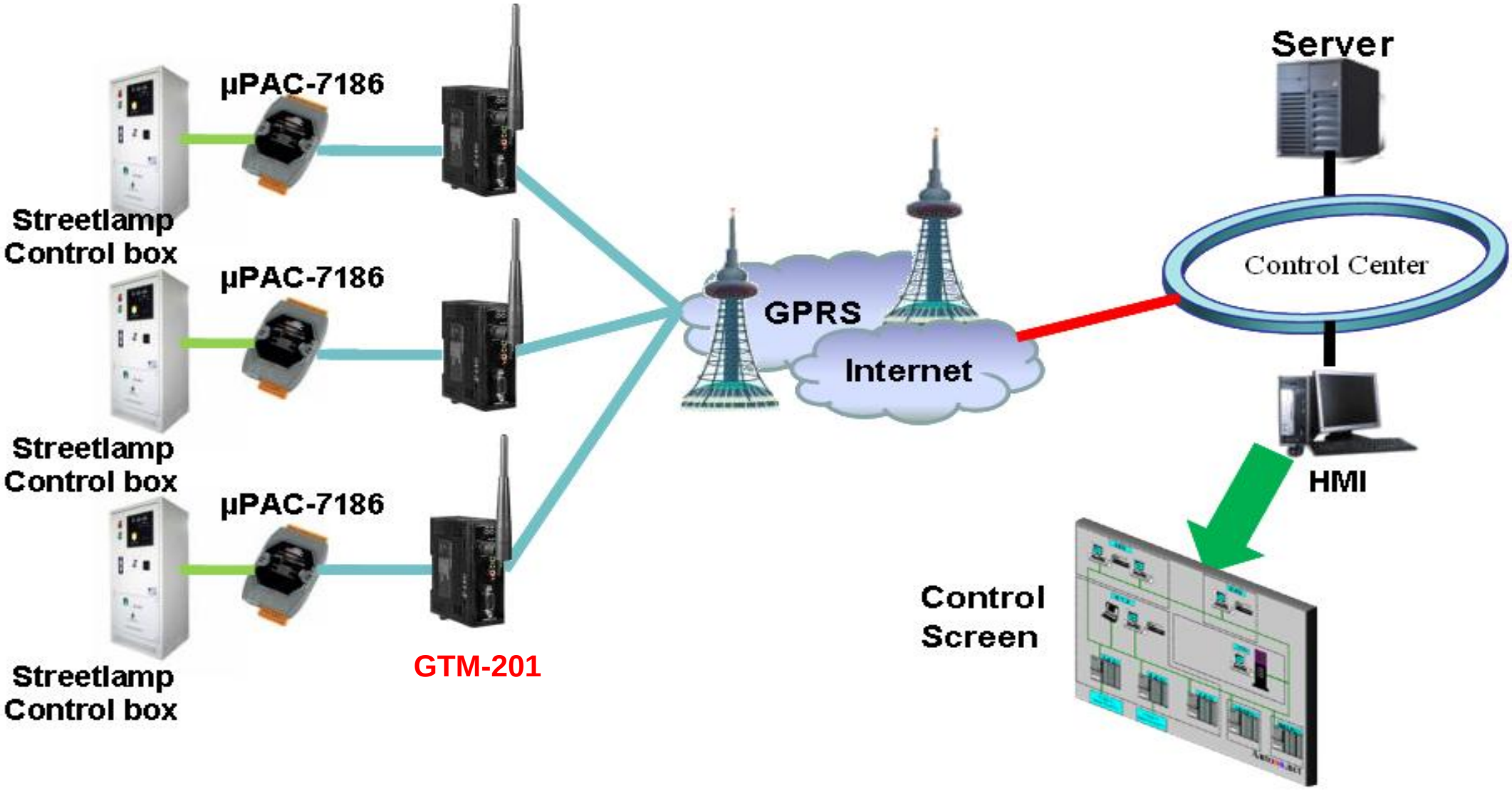
- GSM/GPRS Quad-band 850/900/1800/1900 MHz
- WCDMA Tri-band 2100/1900/900/850 MHz
- Support in 3G and 2G
- Support TCP Server, TCP Client, UDP Client Connection stack
- Designed for Data, SMS and Voice Applications
- Support Standard AT Commands
- A Digital Input Channel for Resetting the System
- Provide the MIC Input and Speaker (32 Ω) Output Interface
- Provide SMS Library for VC++/.NET
- Support three-wire RS-232 and USB 2.0 (high speed)
- USB Driver for Windows, XPAC(XP driver) and LinPAC(Linux2.6)

Platform Guide

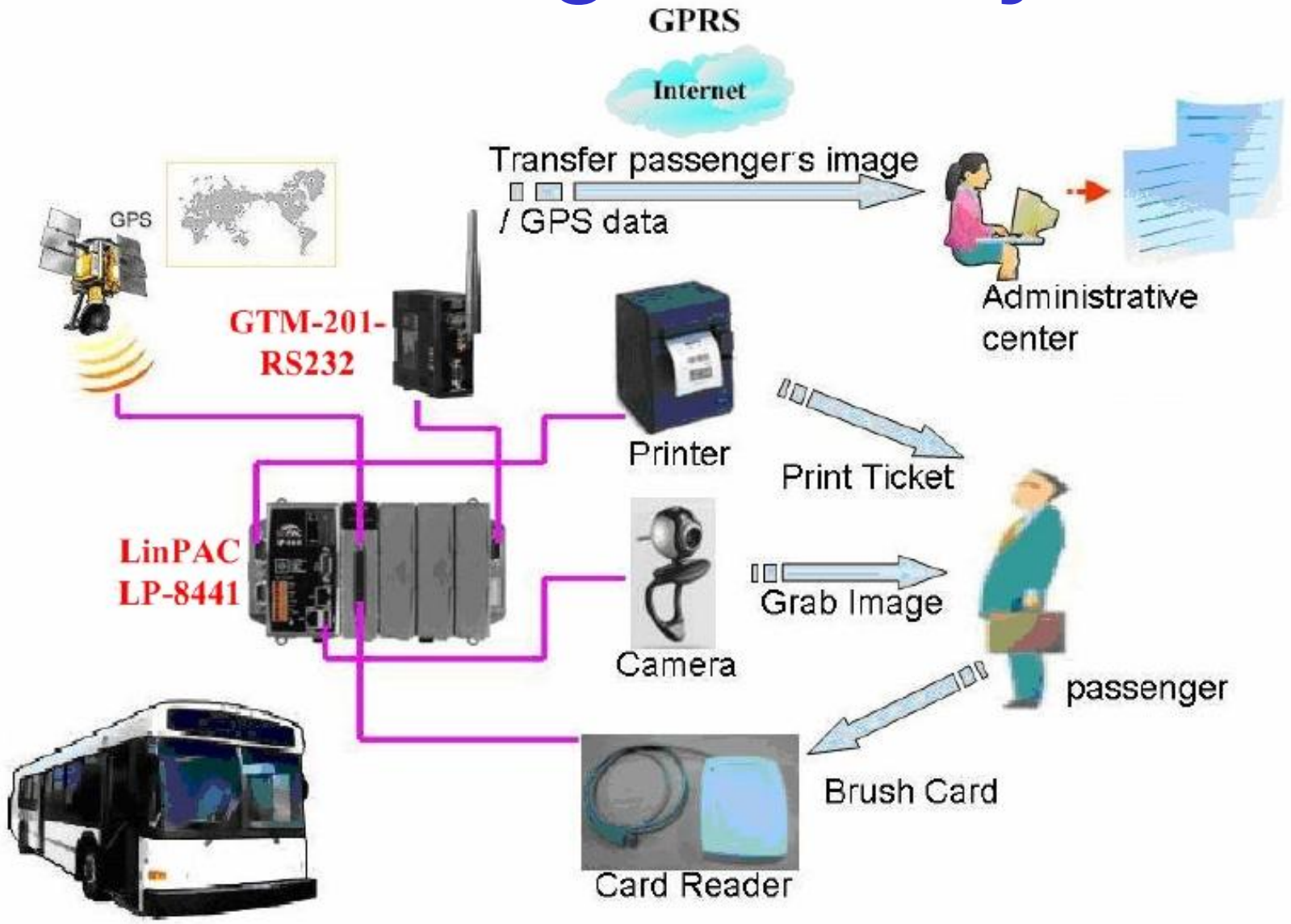
	IPC / XPAC (WinXP)	LinPAC (Linux)	WinPAC ViewPAC (WinCE)	uPAC (MiniOS7)
GTM-201-RS232 (no driver)	Yes	Yes	Yes	Yes
GTM-201-USB (USB driver)	Yes	Yes	Yes	No
GTM-203-3GWA (USB driver)	Yes	Yes	Yes (Only RS232)	Yes (Only RS232)
Connection method	Dial-up	Dial-up	Dial-up	TCP/IP library
SMS Application	AT Command GSM ActiveX (Indusoft demo) (Library for VC)	AT Command (Library for gcc)	AT Command GSM ActiveX (Library for eVC)	AT Command GSM API (Library for C)
Voice Appliction	GSM ActiveX (Indusoft demo)	No	No	No

GTM-201 Series Application

Application
Streetlamp Monitoring System



Application
Ticket Management System

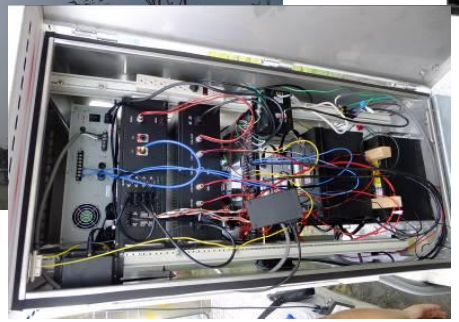


SMS/Voice Alarm System

- IPC+ InduSoft + SMS OCX+ GSM modem
- SMS Alarm/Voice Call)

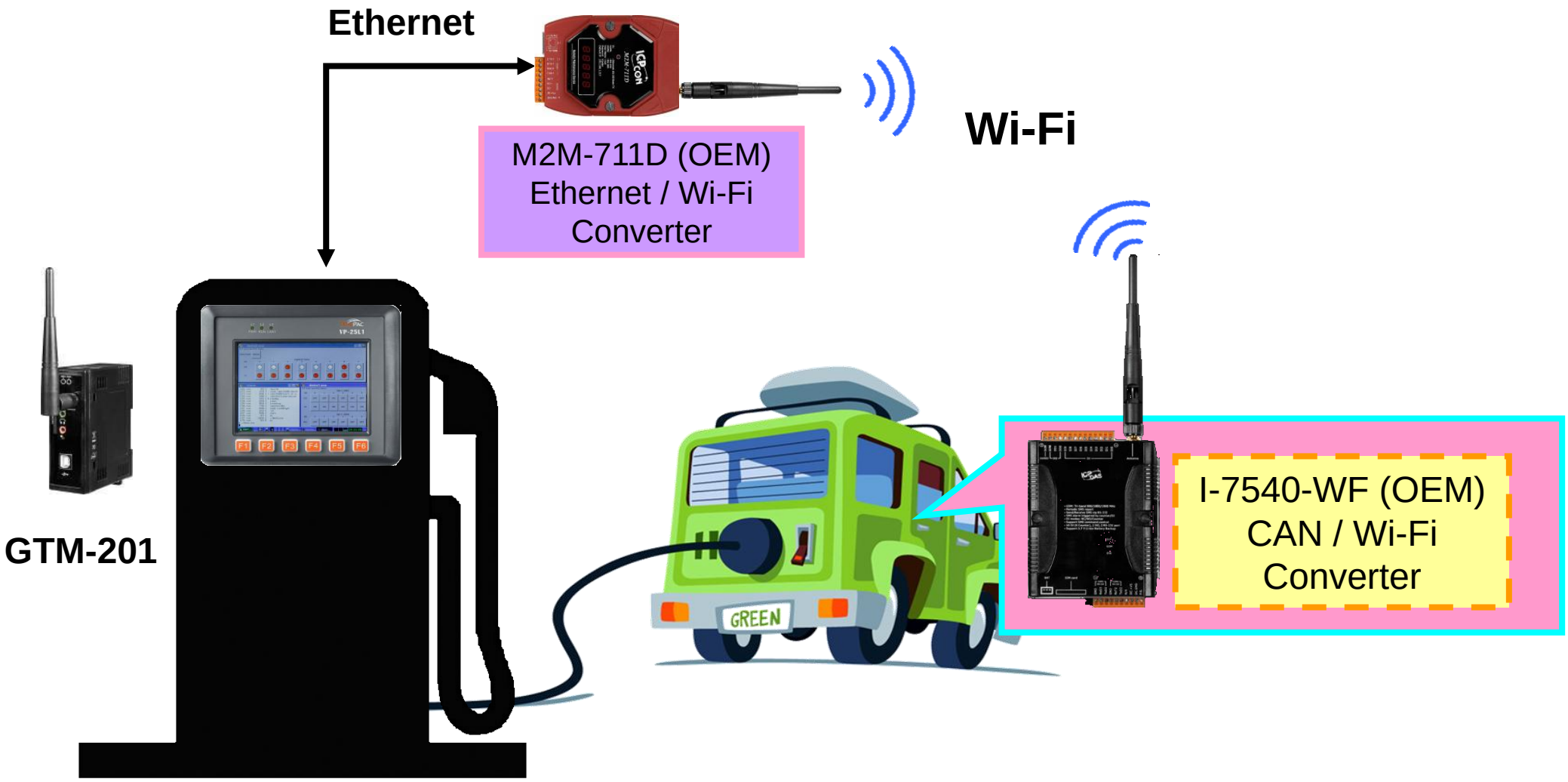
Voice Broadcast warning system

- A River Weir
- Voice Broadcast



GTM-201-RS232

Electric Vehicle Charging Station



finished charging
notify master by SMS

Intelligent SMS/VOICE Alarm Module
GT-530 / SMS-500 Series

2G/3G SMS/Voice Serial

SMS Alarm Series													
	2G GSM (MHz)	3G WCDMA (MHz)	Alarm Mode	Phone Number	SD Card	Voice	DTMF	1200mAh Battery	RS-232 / RS-485	Data Log	DI (Count)	DO	AI
GT-530	850/900/ 1800/1900	-	DI	10	-	-	-	36hr	1/0	-	10(6)	2	-
SMS-530	850/900/ 1800/1900	850/900/ 1900/2100	DI	10	-	-	-	36hr	1/0	-	10(6)	2	-
GT-534	850/900/ 1800/1900	-	DI/AI	10	Yes	Yes	Yes	3hr	1/1	Yes	6(6)	2	1
SMS-534	850/900/ 1800/1900	850/900/ 1900/2100	DI/AI	10	Yes	Yes	Yes	3hr	1/1	Yes	6(6)	2	1
GT-531	850/900/ 1800/1900	-	Modbus RTU	256	Yes	Yes	-	-	1/1	-	-	-	-
SMS-531	850/900/ 1800/1900	850/900/ 1900/2100	Modbus RTU	256	Yes	Yes	-	-	1/1	-	-	-	-

Intelligent SMS Alarm Controller
GT-530 / SMS-530

- Support GSM 850/900/1800/1900 MHz
- Support WCDMA 850/900/1900/2100 MHz (SMS-530 only)
- Identify ASCII or Unicode SMS Automatically
- Support max. 140 ASCII / 70 Unicode Characters
- GUI Configuration Tool
- Support SMS setting and control
- Max. 10 Default Phone Numbers
- Supports 3.7 V Li-ion Battery Backup
- Send alarm SMS by DI trigger or exceed Counter preset limits
- Support simple command to send SMS via RS232
- 10 DI(6 counter) / 2DO (4 DI for Battery backup)

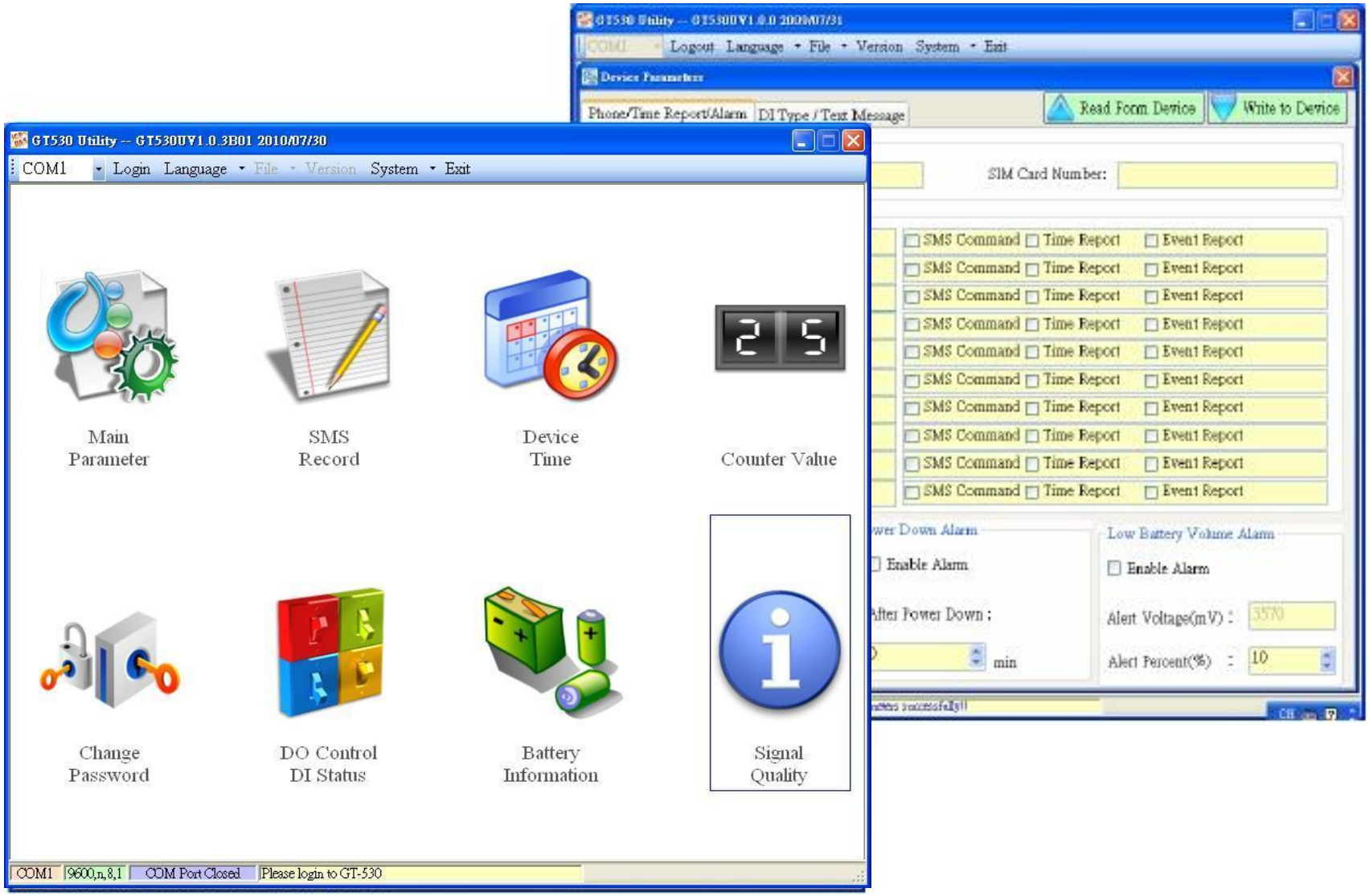
Intelligent SMS/GSM Alarm Controller GT-534 / SMS-534

- Support GSM 850/900/1800/1900 MHz
- Support WCDMA 850/900/1900/2100 MHz (SMS-534 only)
- Identify ASCII or Unicode SMS Automatically
- Support max. 140 ASCII Characters
- Support max. 70 Unicode Characters
- Built-in ASCII Commands and SMS tunnel Communication Modes
- Max. 10 Default Phone Numbers
- DO control by dual-tone multi-frequency
- Voice Alarm and SMS triggered by DI trigger or exceed AI/Counter preset limits
- Support simple command to send SMS via RS232
- Support micro SD card. (Max 2G bytes)
- Support data log
- 6 DI, 2 DO, 1 AI,1 RS232/1 RS485 port

Intelligent Modbus SMS/Voice Alarm Controller - GT-531 / SMS-531

- Support GSM 850/900/1800/1900 MHz
- Support WCDMA 850/900/1900/2100 MHz (SMS-531 only)
- Support Modbus RTU slave protocol
- Support max. 256 short messages and voice alarms
- Support max. 70 Unicode Characters
- Up to 256 mobile phones can be alerted for each alarm point
- These phone numbers can be divided into groups
- Configurable SMS messages
- The content of sending SMS message can be changed by Modbus protocol
- Built-in Watch-dog Function
- 1 RS-485, 2 RS-232 port
- Support micro SD card. (option , max. 2G bytes)

GT-530 Series Utility



Vending/Gaming Machine Monitoring & Reporting System

GT-530

GT-534

GT-530

GSM

SMS Message

RS-232

GTM-201-RS-232

Voice Alarm

Mobile Phone

Bridge Alarm System

DI GND

water

Bridge

Water Level
DI Signal

SMS

GT-530

SMS

GT-530

Alarm
Light

Farmland Sprinkler System

DO Sprinkler run DI

DI Sprinkler finished DO

PLC

GT-534

- Trouble Alarm
- Temperature Report

SMS

Control Sprinkler by
SMS or push phone bottom

HMI

Modbus to SMS/Voice Alarm System

2G/3G RTU System and Application (Remote Terminal Unit)

GT-540 / G-4500 RTU

2G/3G RTU Serial

Remote Terminal Unit (RTU) Series															
	2G GSM (MHz)	3G WCDMA (MHz)	RTU Function	Email	FTP	Modbus Slave	SD Card	GPS	1200mAh Battery	LCD	DI (Count)	DO	AI	Power Saving	Solar Charger
GT-540(P)	**850/900/ 1800/1900**	-	Yes	Yes	-	3	Yes	Option	30 min	-	6(6)	2	1	-	-
GT-540(P)-3GWA	**850/900/ 1800/1900**	**850/900/ 1900/2100**	Yes	Yes	-	3	Yes	Option	30 min	-	6(6)	2	1	-	-
G-4500 RTU	**850/900/ 1800/1900**	-	Yes	-	-	10	Yes	Option	-	Option	3(0)	3	8	-	-
G-4513-3GWA RTU	**850/900/ 1800/1900**	**850/900/ 1900/2100**	Yes	-	-	10	Yes	Option	-	Option	3(0)	3	8	Yes	Yes
GRP-520	**850/900/ 1800/1900**	**850/ 1900/2100**	Yes	Yes	Yes	10	Yes	Option	-	-	-	-	-	-	-

Intelligent Remote Terminal Unit
GT-540(P) / GT-540(P)-3GWA

- Support GSM 850/900/1800/1900 MHz
- Support WCDMA 850/900/1900/2100 MHz (GT-540-3GWA)
- Automatic/continuous GPRS Link Management
- Support Modbus RTU protocol to connect to Max 3 Modbus RTU devices via RS-485 port
- Support M2M OPC server for SCADA system
- Easy-to-use API tool for users to develop their applications by various program development tools
- Be the GPRS I/O devices
- Support data transferring by E-mail
- Local I/O linkage function to make the simple local control
- Support 3.7V Li-ion Battery backup
- Power supply 10 ~ 30 VDC

RTU Features

- **Easy to Establish GPRS Network Applications**

  All remote GPRS RTU devices can be managed by single centralized M2M GPRS RTU Center software with a fixed IP address.

- **Active data transmission**

  The remote GPRS RTU product would connect to M2M RTU Center automatically

- **Redundant communication paths in GPRS and Ethernet**

  There are GPRS and Ethernet communication interfaces in G-4500 RTU. That can raise the reliability of communication effectively

- **Modbus RTU device connectivity**

  The RTU module is built-in Modbus RTU protocol. That can make any Modbus RTU device connect to GPRS RTU Device

- **Simple Local I/O link Control**

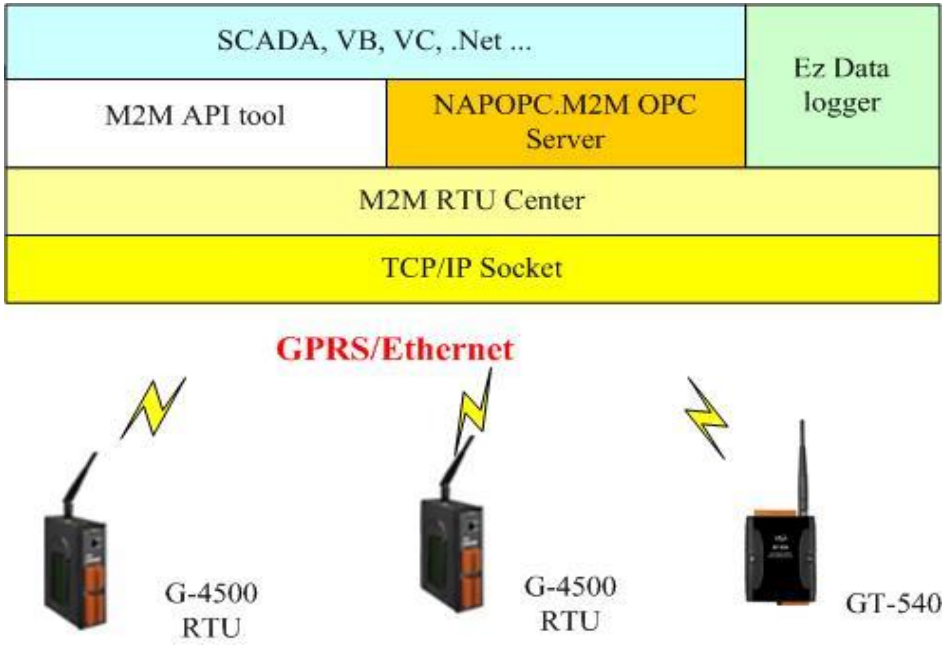
  The I/O link function help users to do the simple control in local field.

- **Built-in I/O Data Logging**

  GPRS RTU Device provides an external SD interface. These local I/O and Modbus data are recorded in SD memory card for one day in a single

RTU Software

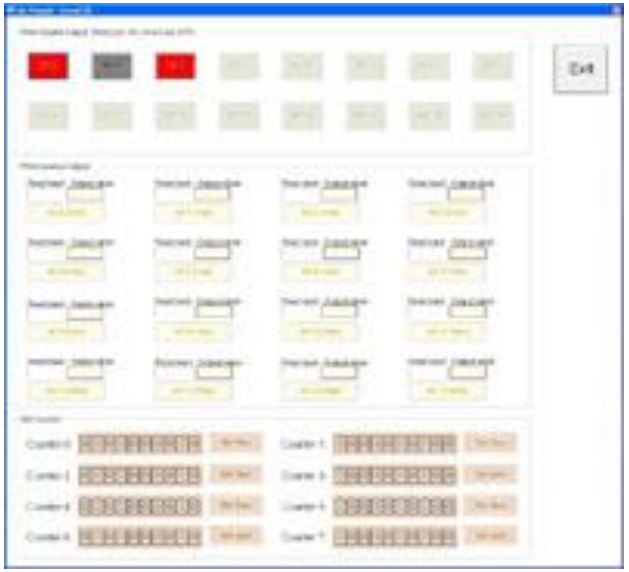
Item	Description
M2M RTU Center	M2M RTU series management software
M2M RTU Win32 API	M2M RTU development tool
NAPOPC.M2M DA Server	OPC Server for M2M RTU devices
EZ Data Logger	The data logger software of ICP DAS
InduSoft	SCADA software



GPRS RTU Series Management Software

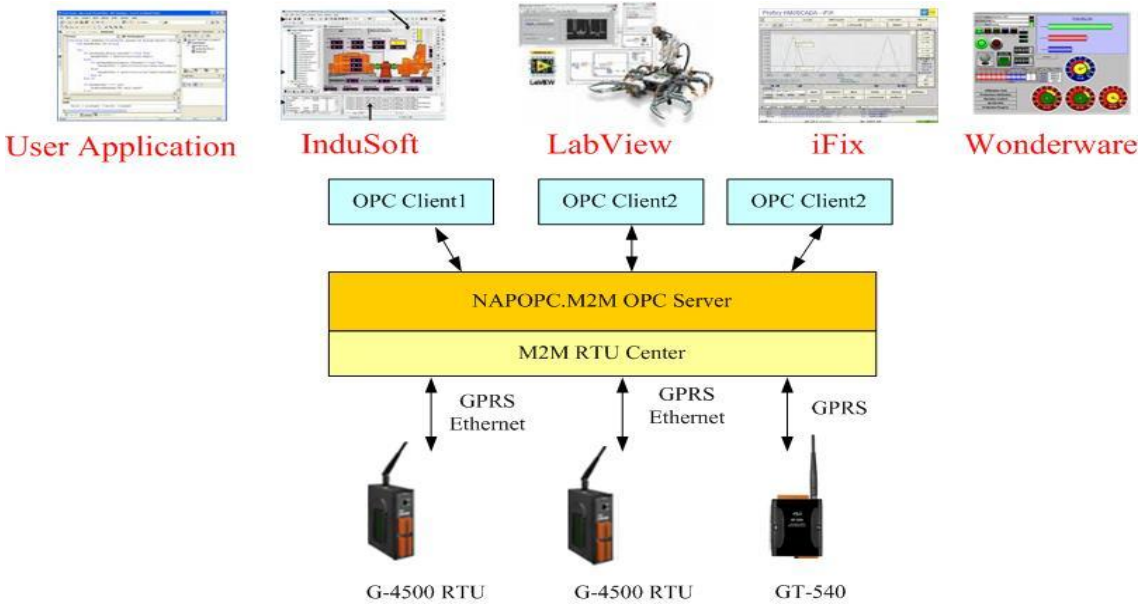
M2M RTU Center

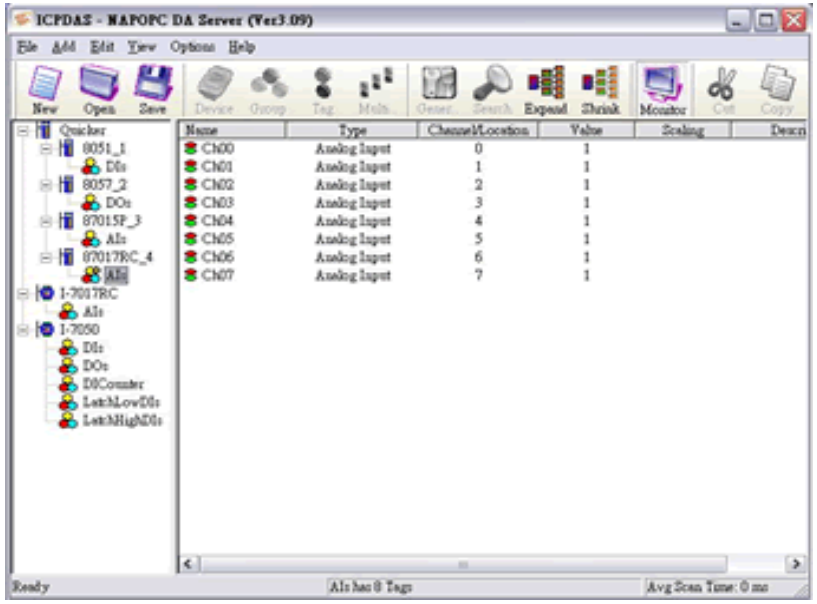
- RTU series Management tool
- Help users to connect to any Modbus slave to GPRS/Ethernet by RTU modules
- Up to 1024 GPRS RTU devices can be managed in one RTU Center software
- Support NAPOPC.M2M server, EzDatalog and M2M API tool of ICP DAS



OPC Server for RTU Device
NAPOPC M2M DA Server

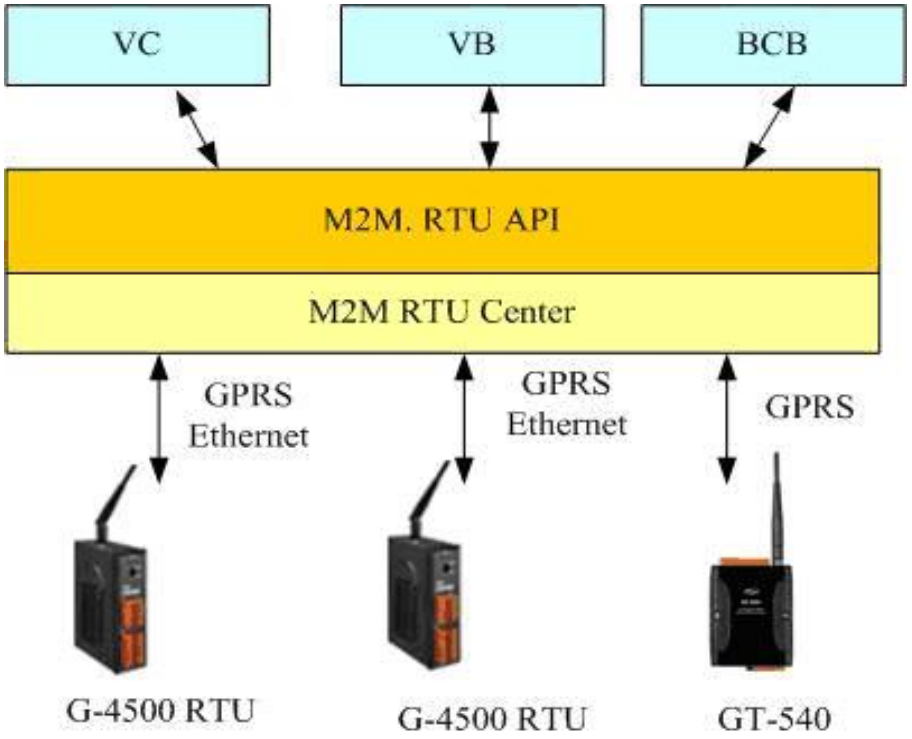
- It is an out-of-process OPC Server which provides an Explorer-style user interface
- Supports searching RTU devices automatically which are connecting to M2M RTU Center
- using “Monitor” function can do the real-time monitoring/controlling for RTU modules



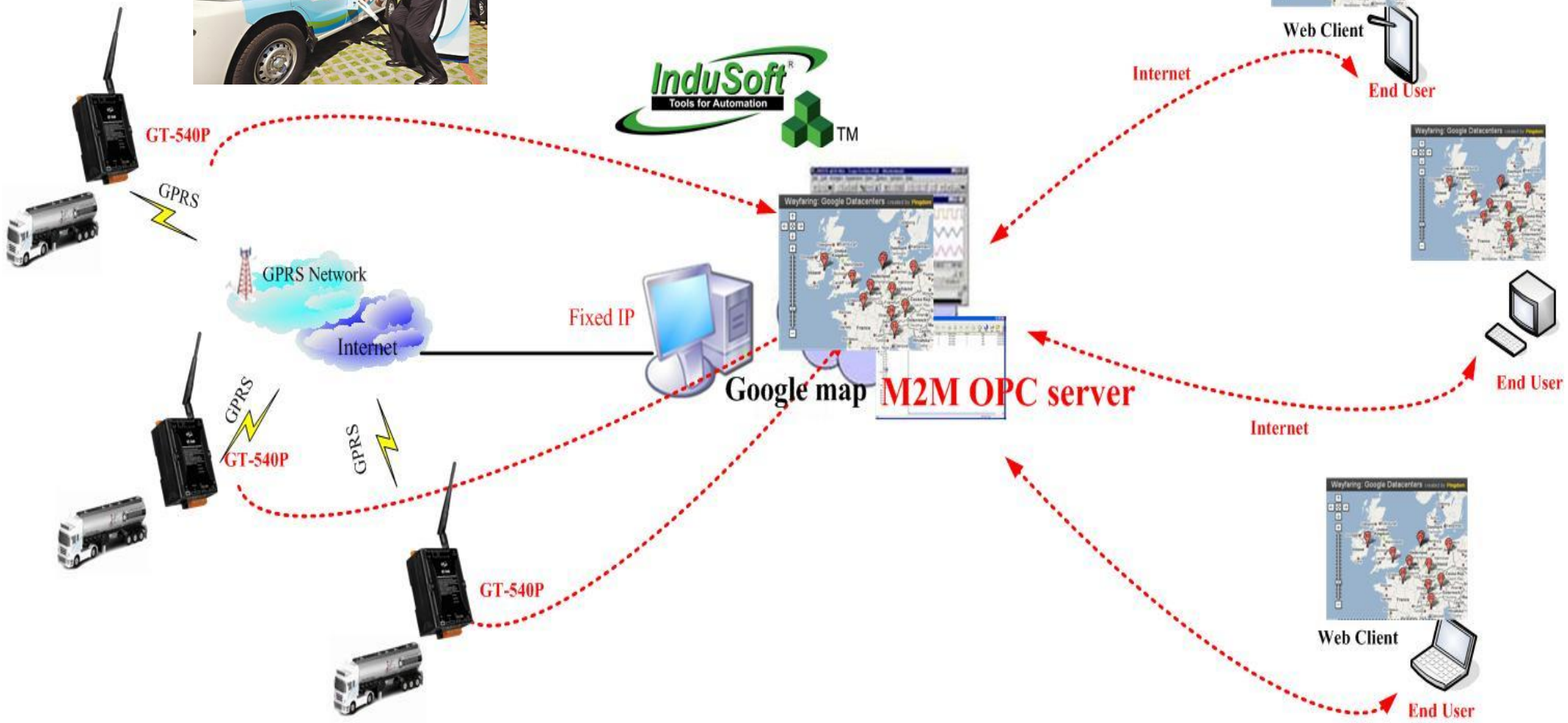


M2M SDK- M2M RTU API Tool

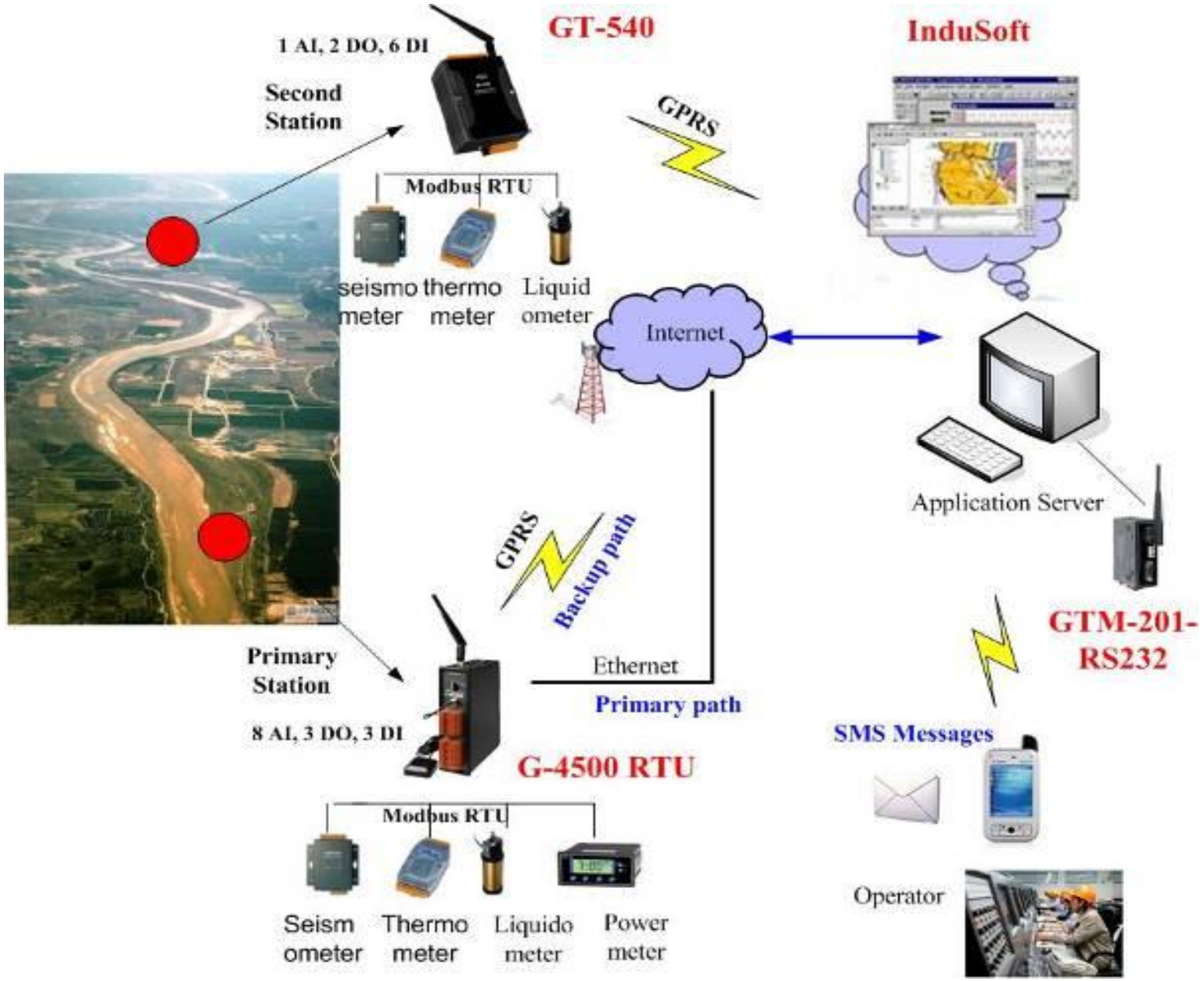
- Easy to perform M2M RTU devices status monitoring and control
- Up to 256 or more M2M RTU devices can be managed
- Help users to connect to any Modbus device to GPRS/Ethernet
- Easily manage and control distributed remote devices via GPRS/Ethernet
- Support for M2M RTU products of ICP DAS



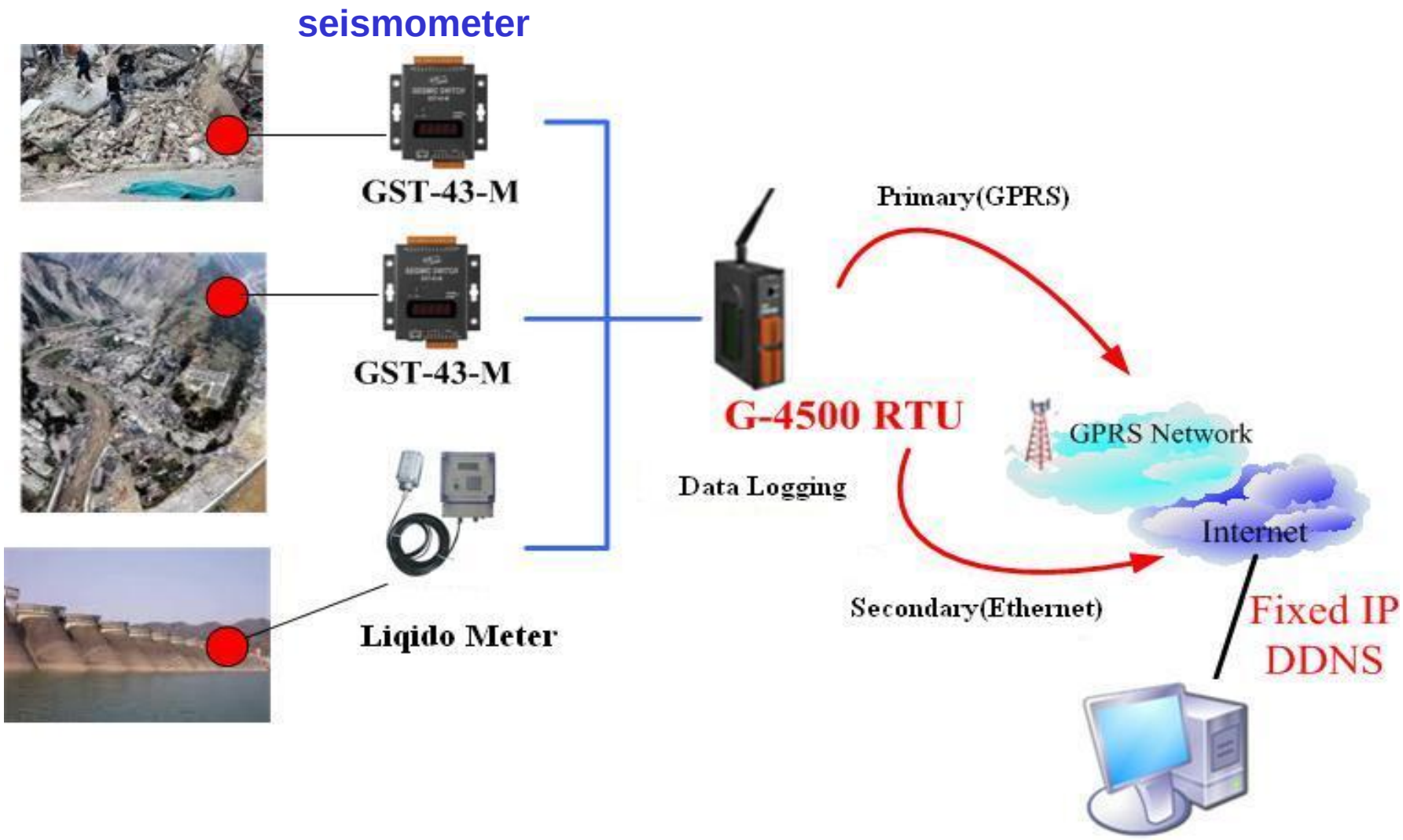
Electric Car Tracing System



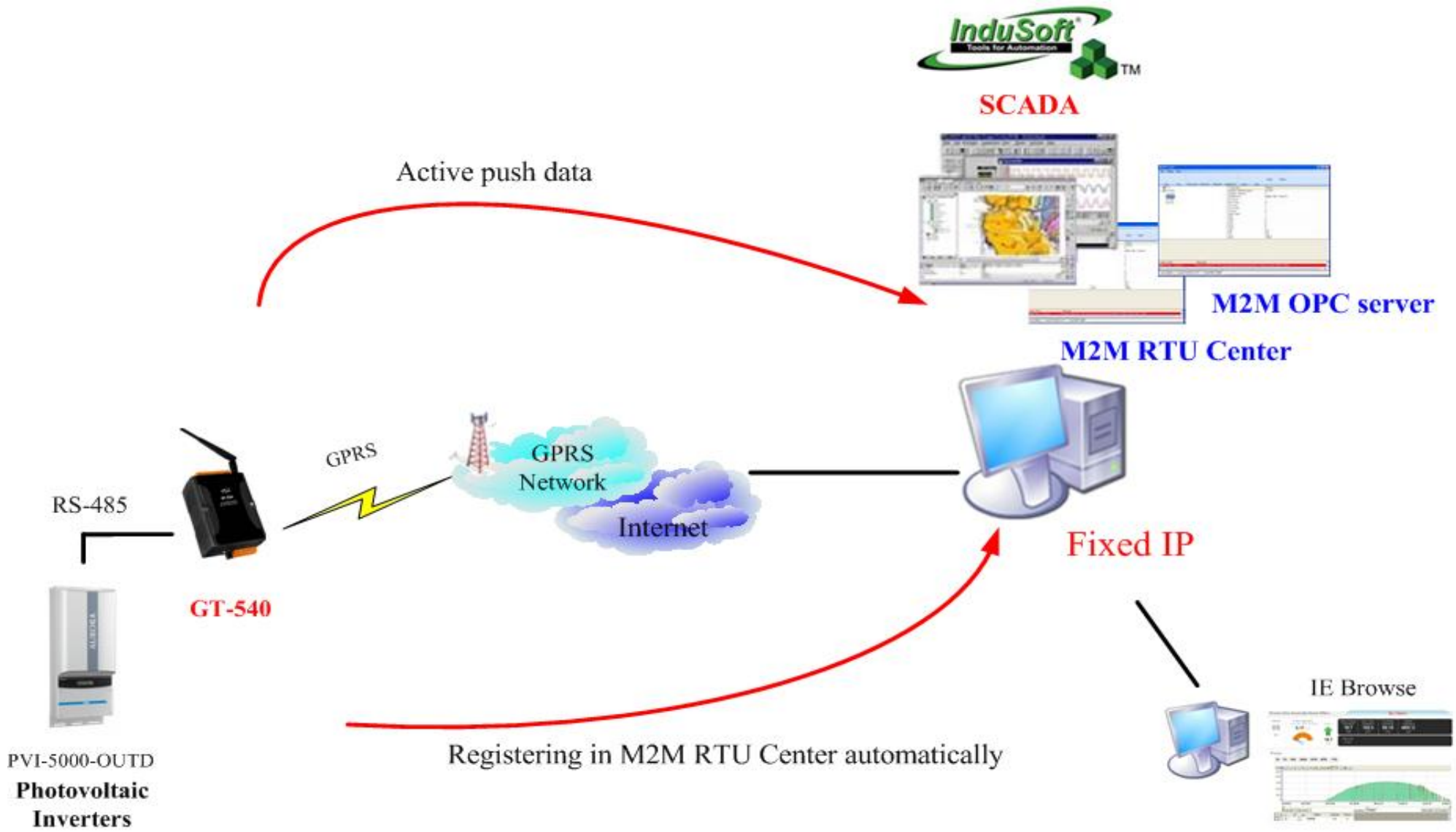
Hydrological Monitoring System



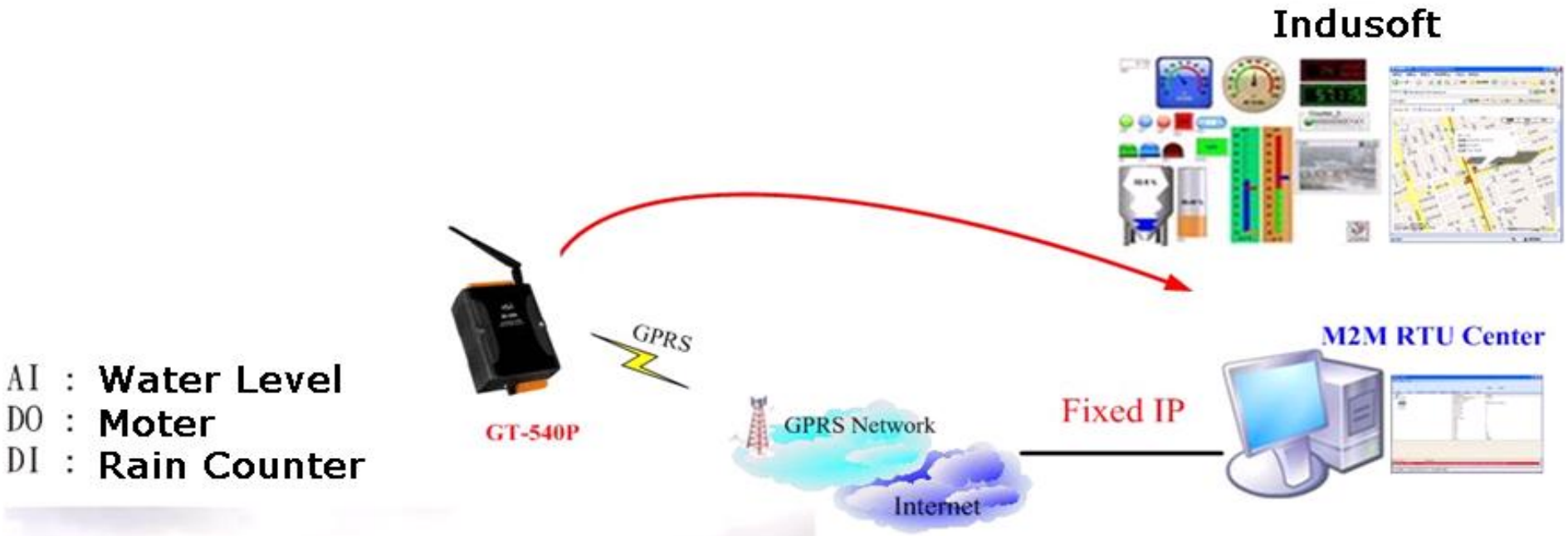
Earthquake Alarm System in Dam



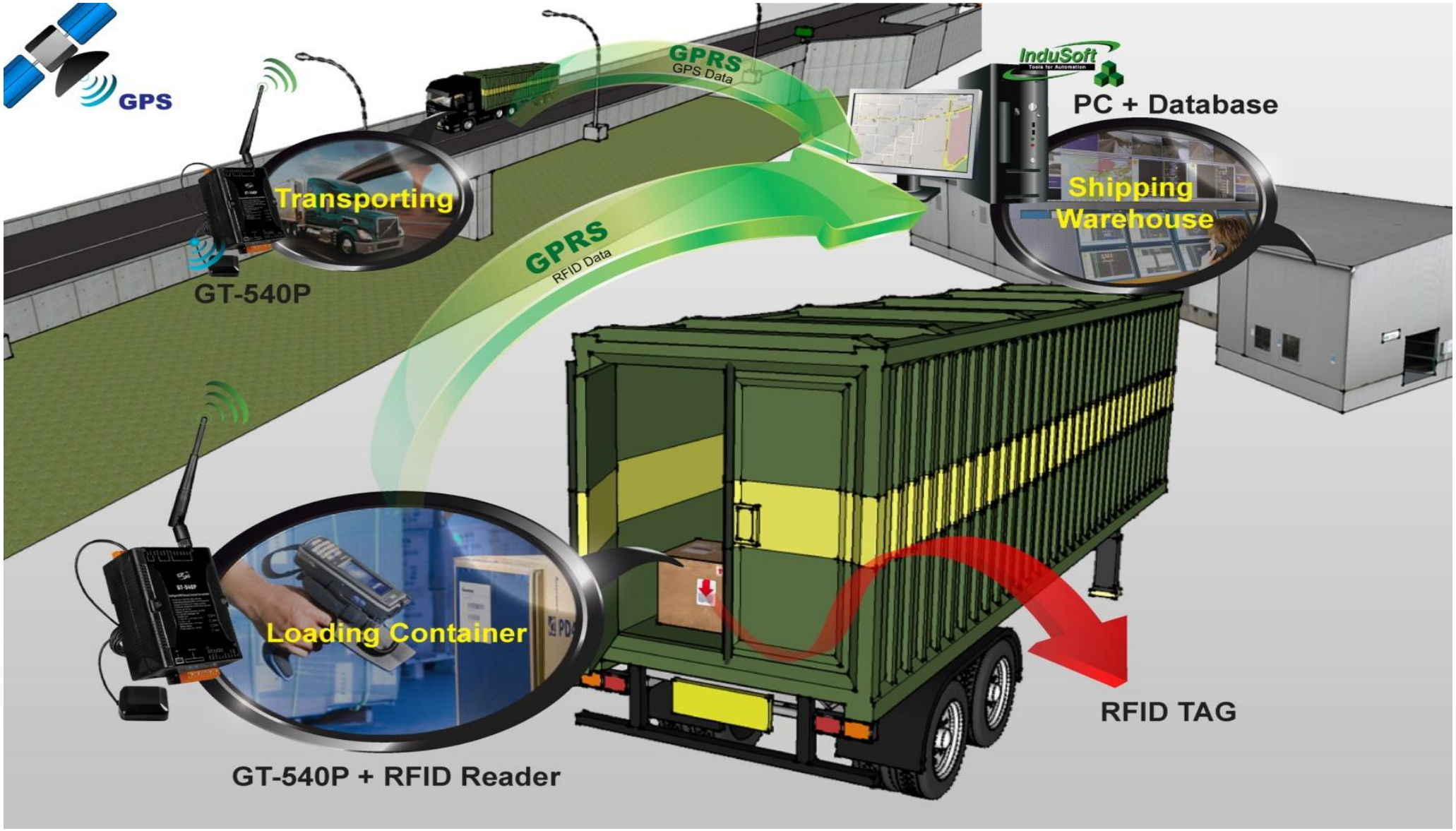
Solar Inverter Monitoring System



Farm Monitoring System



Classified Papers Transporting System



2G/3G RMV System and Application (Remote Maintain VxServer)

GT-541 / RMV-500 / GRP-520 Serial

2G/3G Gateway Serial

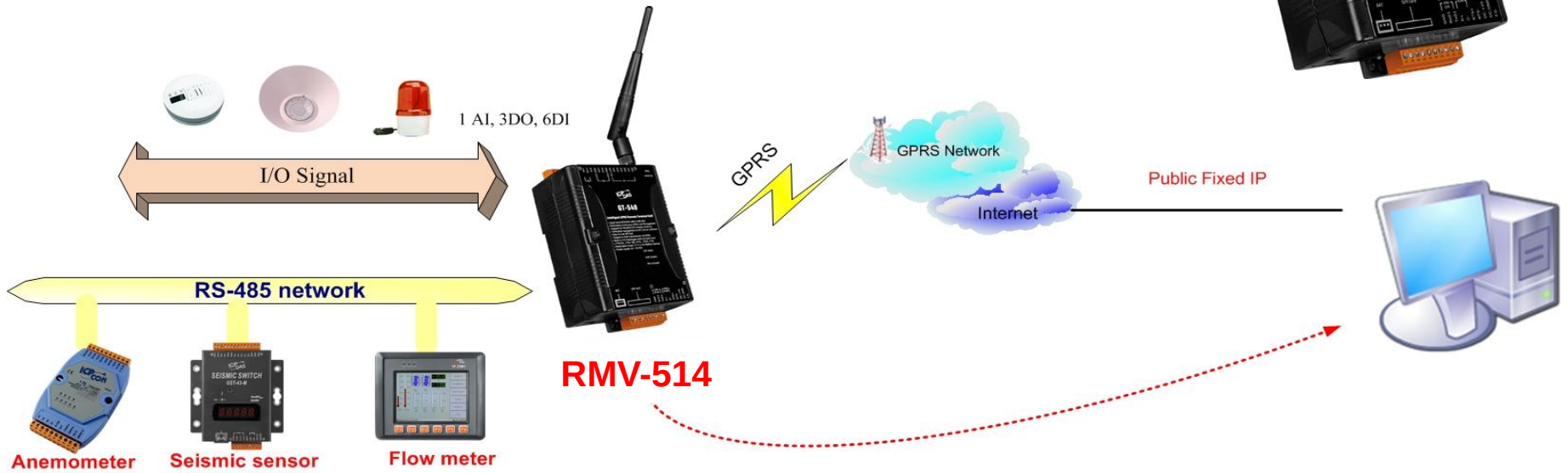
2G/3G Gateway (Remote Maintain with VxServer)										
	2G GSM (MHz)	3G WCDMA (MHz)	Serial to 2G/3G	Ethernet to 2G/3G	Modbus TCP to RTU Gateway	RS-232 / RS-485	1200mA h Battery	DI (Count)	DO	AI
GT-541	850/900/ 1800/1900	-	Yes	-	-	1/1	-	-	-	-
RMV-531	850/900/ 1800/1900	850/900/ 1900/2100	Yes	-	-	1/1	-	-	-	-
RMV-514	850/900/ 1800/1900	-	Yes	-	-	0/1	30 min	6(0)	2	1
GRP-520	850/900/ 1800/1900	850/1900/ 2100	Yes	Yes	Yes	0/1	-	-	-	-

Intelligent Multiport Serial to GPRS Gateway - GT-541/RMV-531

- Support GSM 850/900/1800/1900 MHz
- Support WCDMA 850/900/1900/2100 MHz (RMV-531 only)
- Support Virtual COM Function
- Remote Configuration via Virtual COM
- 1 x RS-232 port and 1 x RS-485 port for Virtual COM. 1 x Utility port for Configuration
- Built-in Watch-dog Function
- Power Reverse Polarity Protection
- Power supply 10 ~ 30 VDC
- DIN-Rail mountable

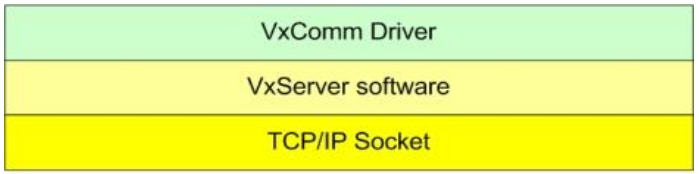
Intelligent GPRS Remote Terminal Unit - RMV-514

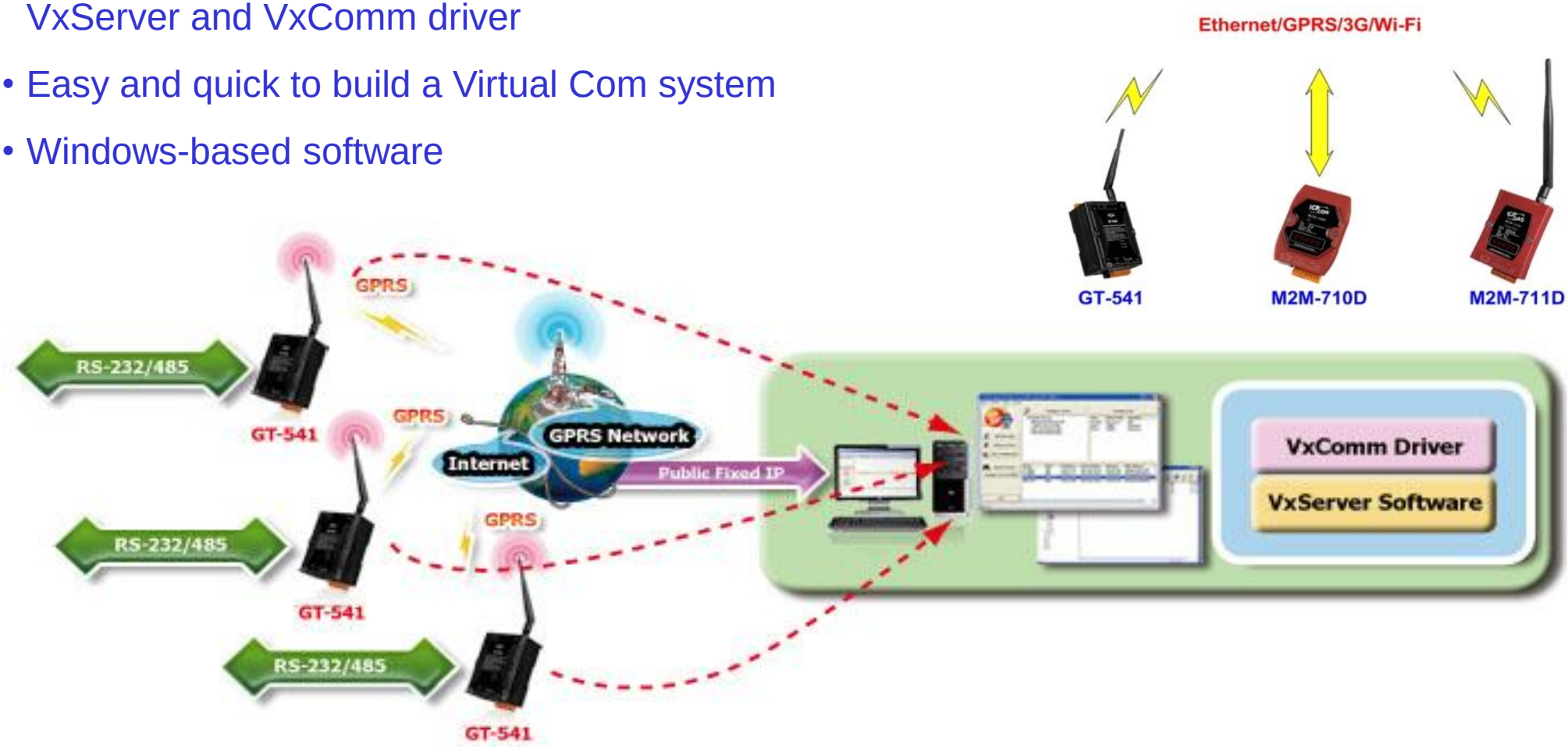
- Support GSM 850/900/1800/1900 MHz
- Support Virtual COM Function
- Remote Configuration via Virtual COM
- 1 x RS-485 port for Virtual COM.
- 6xDI, 2xDO, 1xAI
- Remote I/O Control via Virtual COM by Modbus RTU Protocol
- Power Reverse Polarity Protection



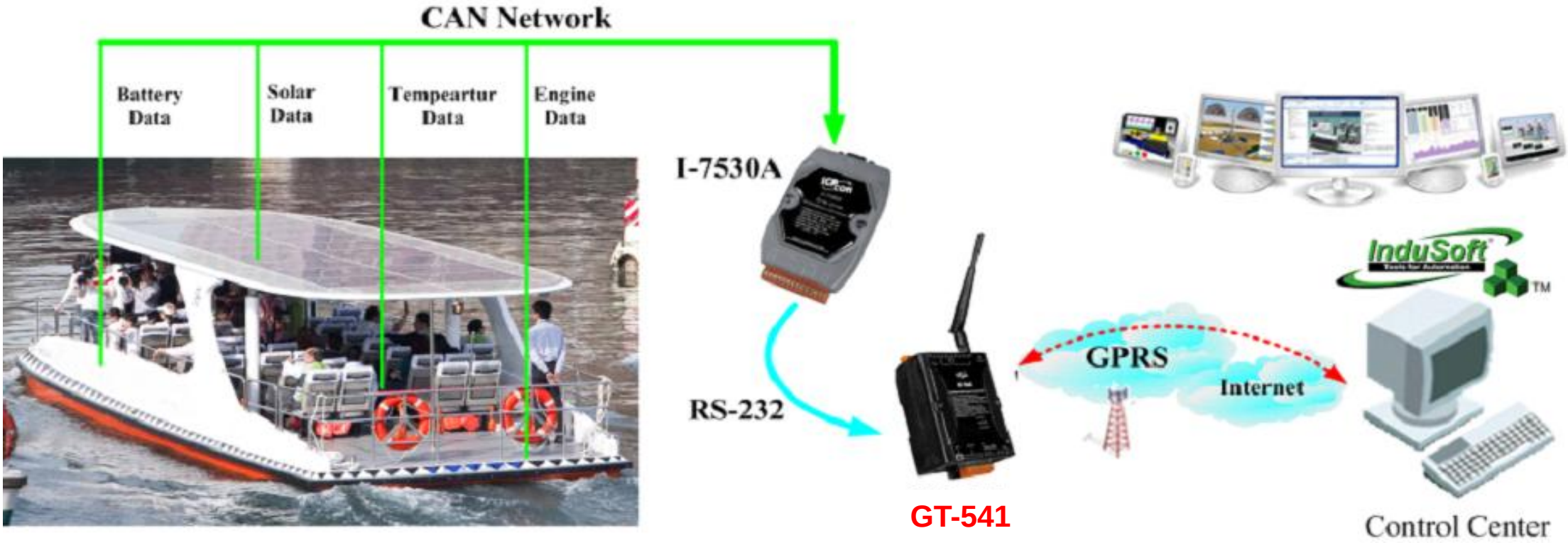
Virtual COM middleware VxServer

- Virtual Com middleware
- Up to 128 Virtual Com devices can be managed in VxServer and VxComm driver
- Easy and quick to build a Virtual Com system
- Windows-based software





Solar Ship Remote Monitor



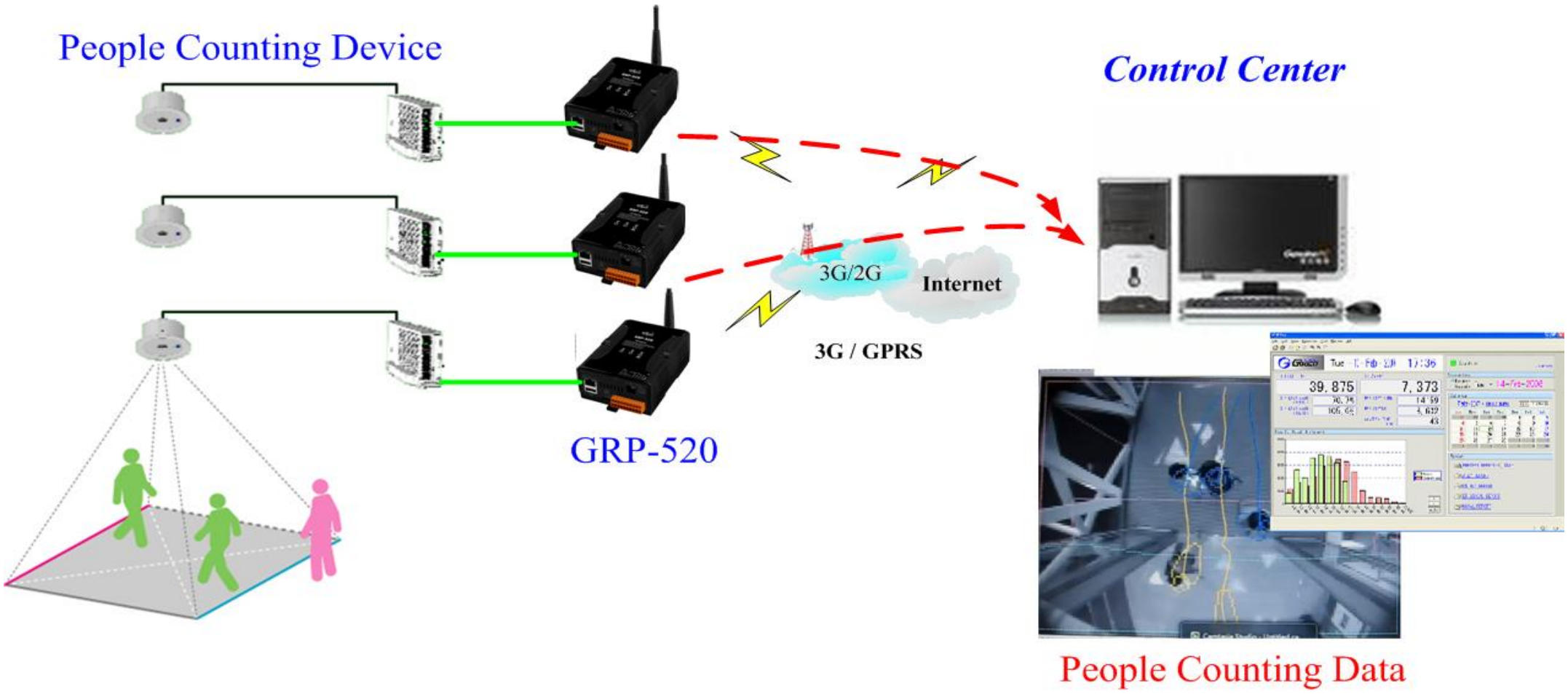
Refrigerator Truck Remote Monitor

3G Gateway for Ethernet and Serial Port - GRP-520

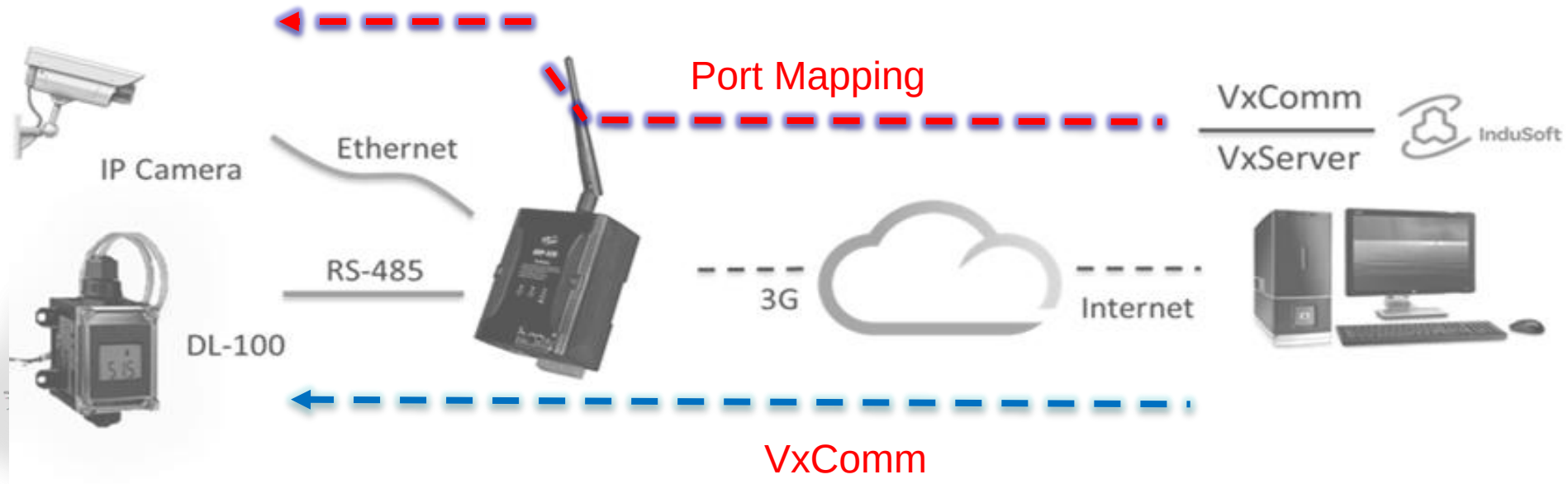
- Support GSM 850/900/1800/1900 MHz
- Support WCDMA 850/1900/2100 MHz
- Remote Configuration via Virtual COM
- 10/100 Base-TX compatible Ethernet controller
- 1 x RS-232 port and 1 x RS-485 port for Virtual COM
- Provide 3G Router function
- Support port mapping (port forward) function
- Serial Port to 3G Gateway
- Support Micro SD card
- Power Reverse Polarity Protection
- Power supply 10 ~ 30 VDC
- DIN-Rail mountable

IP Camera + VxComm Application

People Counting Application



Green House Application



2G/3G PAC
G-4500 Series

2G/3G PAC Serial

2G/3G PAC										
	2G GSM (MHz)	3G WCDMA (MHz)	GPS	LCD	RS-232/ RS-485	DI	DO/ Relay	AI	Solar Charger	Power Saving
G-4500(PD)-2G	850/900/ 1800/1900	-	Option	Option	2/1	3	3/0	8	-	-
G-4500(PD)-3GWA	850/900/ 1800/1900	850/1900/ 2100	Option	Option	2/1	3	3/0	8	-	-
G-4511(P)-2G	850/900/ 1800/1900	-	Option	-	1/1	3	3/1	8	Yes	Yes
G-4513(P)-3GWA	850/900/ 1800/1900	850/900/ 1900/2100	Option	-	1/1	3	3/1	8	Yes	Yes

G-4500-2G series

G-4500-2G	G-4500D-2G	G-4500P-2G	G-4500PD-2G	GD-4500P-2G
2G PAC	2G PAC with LCD Display	2G PAC With GPS	2G PAC with LCD Display and GPS	2G PAC With GPS (Plastic)

2G PAC
G-4500-2G

- GSM/GPRS Quad-band 850/ 900/1800/1900 MHz
- Built-in MiniOS7 OS
- TCP Client, UDP Client static GPRS lib
- 10/100 Base Ethernet
- Built-in Self-Tuner ASIC RS-485 controller
- Support microSD Storage Card
- 128 x 64-dots LCD display(option)
- Built-in RTC, NVRAM, EEPROM
- 3 DI/ 3 DO/ 8 AI
- GPS 32-ch (option)

TAIWAN EXCELLENCE 2009

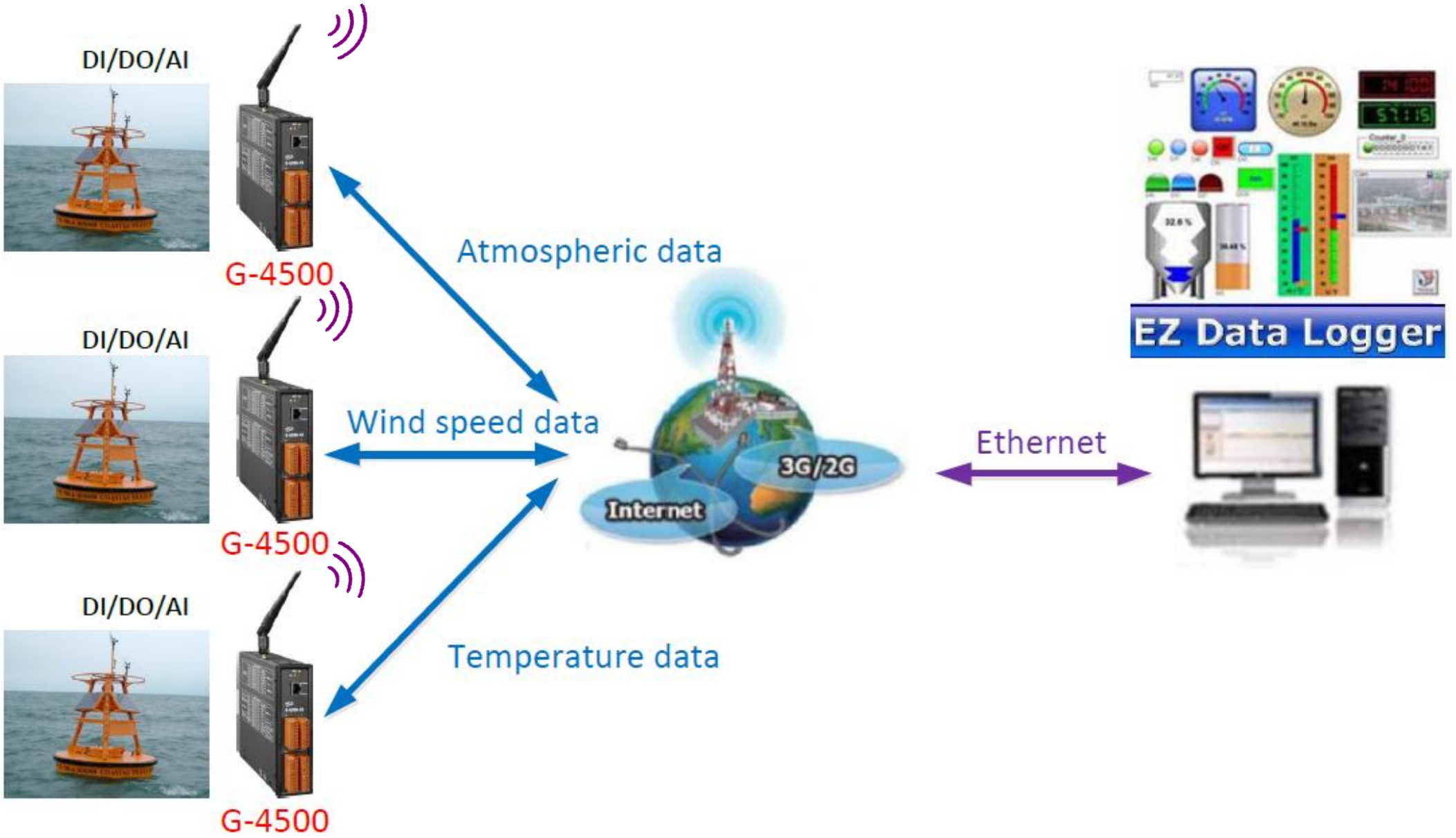
G-4513-3GWA series

G-4513-3GWA	G-4513D-3GWA	G-4513P-3GWA	G-4513PD-3GWA
3G Power Saving	3G Power saving with LCD Display	3G Power Saving With GPS	3G Power Saving with LCD Display and GPS

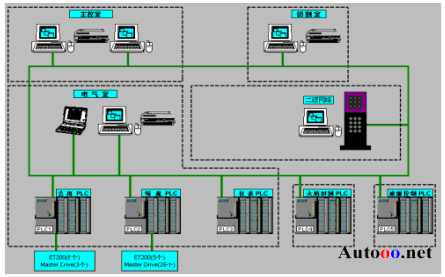
2G GSM Power Saving PAC with Solar charger: G-4511-2G

- Support GSM 850/900/1800/1900 MHz
- WCDMA 2100/1900/900/850 MHz
- Built-in MiniOS7 OS
- TCP Client, UDP Client Library
- Solar charger for Lead acid battery
- Provide Power Saving Library
- 10/100 Base Ethernet
- Support microSD Storage Card
- 128 x 64-dots LCD display(option, not available now
- 3 DI/ 3 DO/ 8 AI
- GPS 32-ch (option)

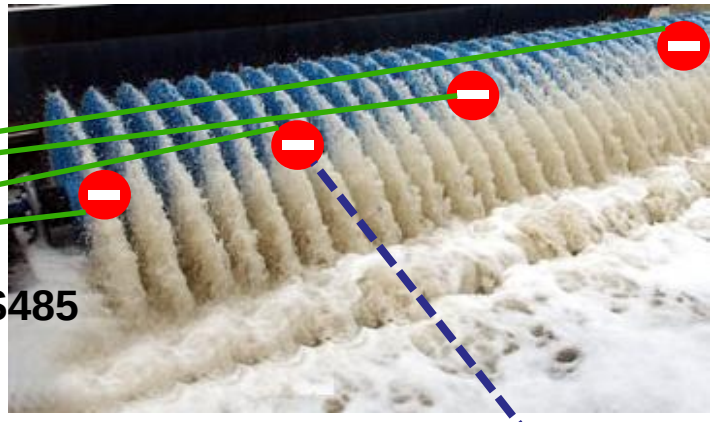
Coastal Hydrology Monitoring system



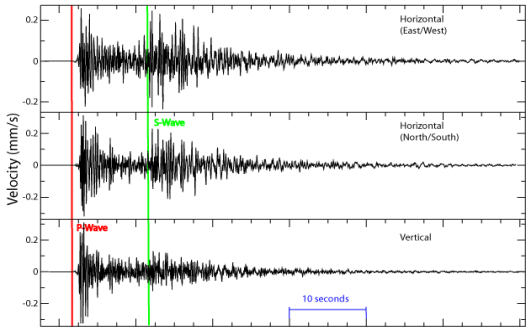
Earthquake alarm system in Dam



Ethernet/RS485



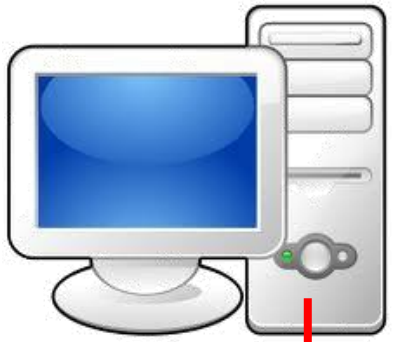
Control Center



SW-7613

Earthquake sensor

Hydrological Monitoring System with Solar Battery



GPS

2G/3G

Internet

SMS

Level Meter

G-4511P-2G

Solar Panel

Battery

Thanks

http://www.icpdas.com/

http://m2m.icpdas.com