AMR System (Wireless/Wired)

Integrated Application

Network charges

SMS Notifications

Self-Service

Data Management

Upload Date

Data Server

GPRS
Ethernet

Data Collection

PDA

Concentrator
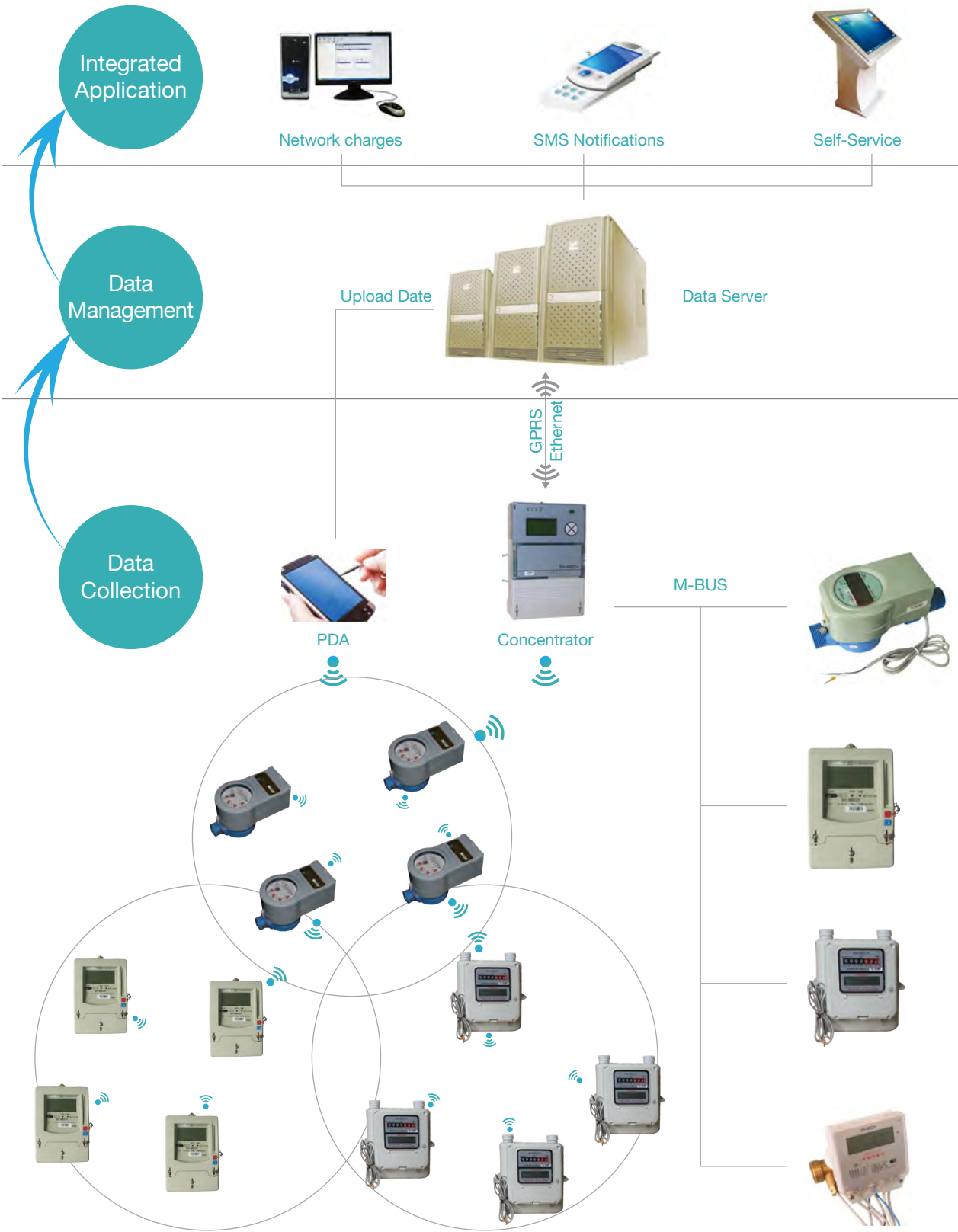
M-BUS

AMR System (Wireless/Wired)

System Composition

The automatic meter reading system is comprised of management software, concentrator and AMR meters of water, electricity, gas and heat.

Systems Introduction & Application

Integrated with smart meters, computer technology and network communication technology, this automatic meter reading system gathers data from meters on real time / timing, saves and analyzes the data for practical application.

Based on analysis and statistics of data from meters, information networking, self-assist search, data report can be implemented according to customer requirement. Managing demands of billing system, arrearage management and so on are also can be implemented. Meters belong to defaulting subscriber can be closed remotely.

Digital energy management system founded on these data is the decision basis for energy conservation and emission reduction.

Mode Of Data Transmission

Two layers data transmission:

First layer:
· Radio frequency communication: The fixed data transmission between meters and concentrator via wireless ad hoc network, available for 7 layers data transmission.

· M-Bus cable communication: The fixed data transmission between meters and concentrator via M-Bus port. The protocol is DL/T 645 or CJ/T 188.

Second layer:
The data transmission between concentrator and data center via GPRS or Ethernet.

M-BUS Technology

M-Bus is the short for meter-bus, a bus architecture special for public utilities of meters. With embedded M-bus module, data can be transmitted between meters and concentrator via two parallel wires cable.

Technical Feature:
1. High speed communication rate, long distance stable communication
2. Available for serial interface, start connection, cross connection
3. Non-polar two parallel wires cable easy for field installation.
4. Anti-Interference, insulating devices by constant current electric current loop communication.

Ad-Hoc Network

The Ad-Hoc network based on which meters communicating with concentrator or with other meters is the most important feature and technology of this system. In this Ad-Hoc network, wireless water meter is available for 8 layers route data transferring. With the possibility of meter data being sent from first meter step by step to the eighth meter, this technology expands the communication distance and strengthen the data transmission, makes the functions of automatic meter reading & controlling, auto-matic data upload, router management be implemented quickly and in high success rate by wireless concentrator without any manual work, even meters installed in complicated surroundings.

AMR Solution

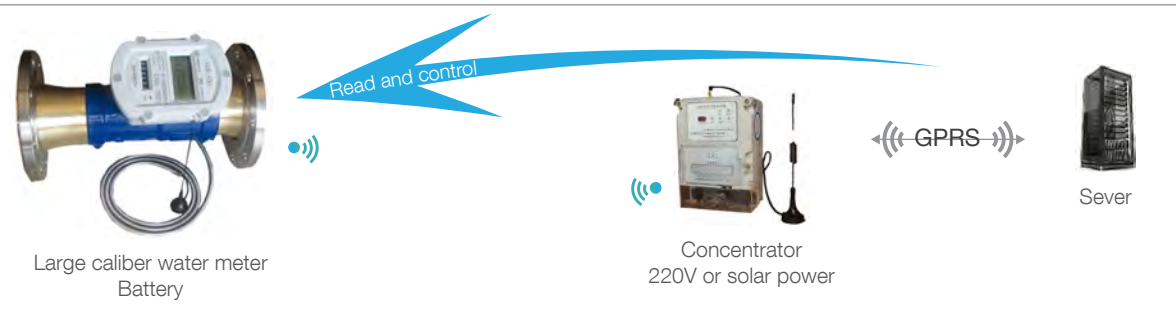## Monitor and control on agricultural irrigation

Water Meters (DN32-100)

The system is comprised of management software (server), concentrator and AMR large caliber water meters.

This meter is available for both remote read and control.

Mode of data transmission

· First layer: Water meter send data to concentrator via radio frquency (470-510MHz) or M-Bus cable.

· Second layer: Concentrator sends data to server via GPRS.

Large caliber water meter
Battery

Read and control

GPRS

Sever

Concentrator
220V or solar power

Water Meters (DN150-300)

The system is comprised of management software (server), concentrator and AMR large caliber water meter and butterfly valve.

Water meter is for remote reading, butterfly valve is for remote control.

Butterfly valve powered by 220V electricity when it is M-Bus communication, powered by battery when it is Radio frequency communication.

Mode of date transmission

· First Layer: Water meter and butterfly valve send data to concentrator via radio frequency (470-510 MHZ) or M-Bus cable.

· Second layer: Concentrator sends data to server via GPRS.

Large caliber water meter
Battery

Read

Concentrator
220V or solar power

GPRS

Sever

Control

Butterfly valve, Battery
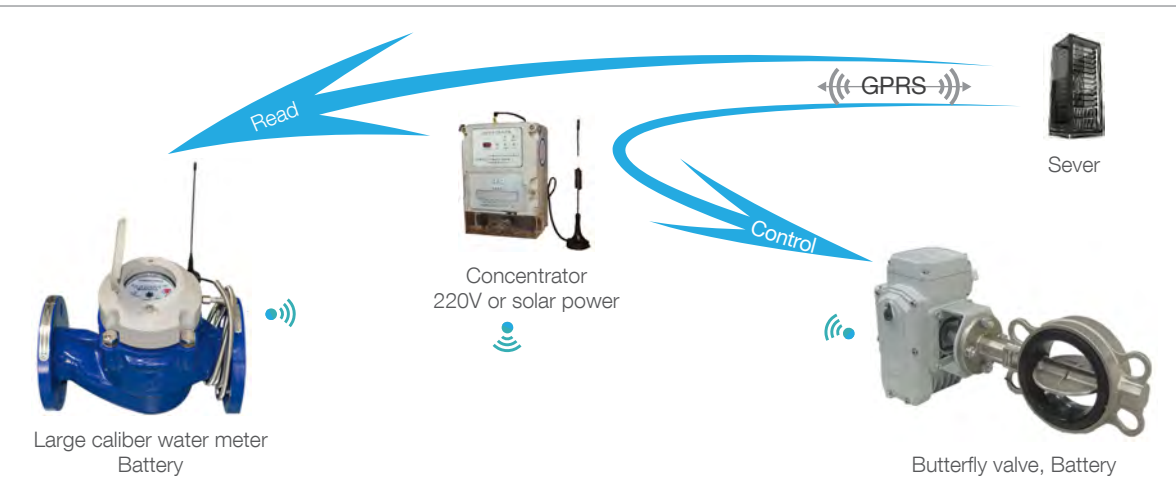
AMR Solution

Collecting data by electricity meter

Solution Of Collecting Data In A House

The system is comprised of management software (server),AMR electricity meter, water meter and gas meter.

It is a solution of collection data by electricity meter. Meters are available for remote read and control.

Mode of data transmission

· First layer: Water meter and gas meter send data to electricity meter via radio frequency (470-510MHz) or M-Bus cable.

· Second layer: Electricity meter send data to server via GPRS.

GPRS

Electricity

Sever

GPRS

Electricity