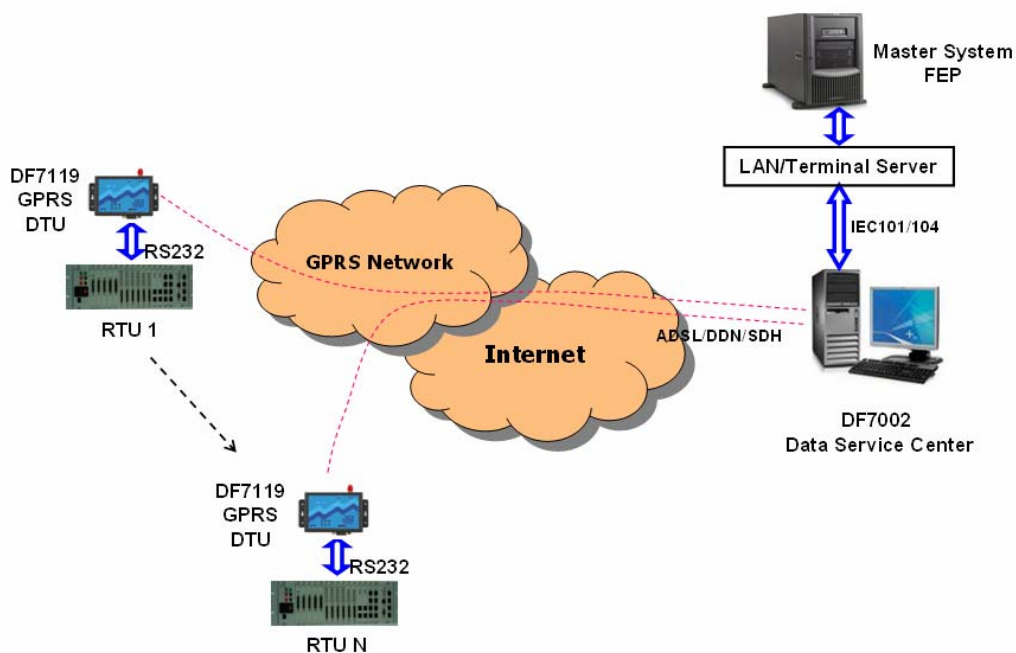# DF7000 Wireless Communication System

DF7000 Wireless Communication system is a whole set integrated solution for GPRS/CDMA wireless Communication. DF7000 system provides a high speed, always online, and transparent virtual lease line between remote site and central network.

The main application areas are focused on power supply and industry supervision, traffic control, securities, finance, utilities and so on. With the transparent data transmission feature and variety of applications, DF7000 system can be configured as a virtual private network, which consists of:

- DF7002 Data Service Center: It is a set of software to concentrate the remote RTU data and convert the data to the third partner's protocol for customers to integrate with their applications.
- DF7119 GPRS DTU: RS-232/485 interface, high performance

System Topology Configuration Diagram

DF7002 Data Service Center

DF7002 DSC Overview

The DF7002 Data Service Center is a set of software to concentrate the remote RTU data and convert the data to the third partner's protocol for customers to integrate with their application system. DF7002 DSC Software provides the GPRS or CDMA packed data protocol conversion. It can connect with the third SCADA system via LAN or Terminal server. The protocol will be customized according to the customer requirement.

DF7002 DSC Features

- Provides uniform application developing interfaces to improve the efficiency of system upgrade and customer development
- Provides Uniform, extensible, distributed, transparent operating system platform
- Flexible configuration and expansion ability
- Standard external communication interface to integrate with other systems
- Communicate with DTU in accordance with the customer requirement, adopts UDP or TCP protocol
- Provides the GPRS or CDMA data protocol conversion
- Managers DTUs on the network, and displays the DTU status
- Monitor the GPRS connection to avoid being disconnected by the Service Provider
- Communicate with master system with the customer requirement, whose protocol library contains most industry communication protocol, including IEC60870-5-101 Balanced, IEC60870-5-101 Unbalanced, IEC60870-5-104 and DNP 3 protocol etc.
- Convenient configuration and diagnosis
- Reliable and easy to maintain

DF7119 Data Termination Unit

DF7119 Overview

DF7119 GPRS DTU is one wireless data transmission terminal using GPRS. It supports SOCKET standard interface and lots of network protocols such as PPP, TCP, UDP and ICMP. Two transmission modes are provided to customer: one is fully transparent mode and another is user controlled mode. DF7119 DTU can simultaneously support several communication modes: PTP (point to point), PTMP (point to multiple points), inter to terminals and terminal to center. Through RS232/RS485 interface, Customer can access to Internet to receive and send data anytime anywhere, no matter what complicated network protocol are involved.

DF7119 Features

- Integrate GPRS and TCP/IP, it can provide flexible wireless network model such as PTP or PTMP.
- Embedded industry-level GPRS engine and CPU. It can provide comprehensive network protocol such as PPP, ICMP, TCP, UDP and DNS, and also transparent data transmission channel.
- Stability of performance, it can work reliably for long time under bad situation.
- Embedded watchdog circuit is provided.
- Customer can configure keep-alive interval and keep service always online.
- When DTU loses connection caused by bad signal or closure of service center, DTU can automatically restore connection when condition permits
- DTU can ensure user data integrity
- DTU can work under fully transparent or user controlled mode
- Support fixed IP or dynamic IP + DNS
- Provide RS232/RS485/RS422 communication interface, series of baud rates from 300bps to 115200bps, start/stop bit and parity check. And RTS/CTS flow control.

- Provide two-way 100K data receive/send buffer to ensure reliable busty data transmission and receiving.
- Support remote parameter configuration, and DTU closure by remote control
- Support remote awaken by telephone call.
- Support short message transparent channel. If GPRS network has problem, DTU can send and receive data by short message channel. Customer only need change one parameter to change DTU to fully short message DTU.
- Support double serial and 8 extra IO, and conveniently customize other functions for customers.
- Support electric power down warning notification by some special DTU model which can send notification to center when it is power down.
- Support soft power down function by special models. Customer can let DTU power down when finish data transmission, which can satisfy the customer who has requirement for power consuming
- Embedded FLASH memory can preserve configured parameter for long time.
- Support firmware upgrade by serial or remote mode.
- Support APN data specialized network service.
- Prevent interference to make it work find under bad electromagnetism situation
- Wide power range design make it work under different power supply. It support Solar energy power supply. In always on mode, It has lowest current 20Ma(12V DC) compared to similar products.