

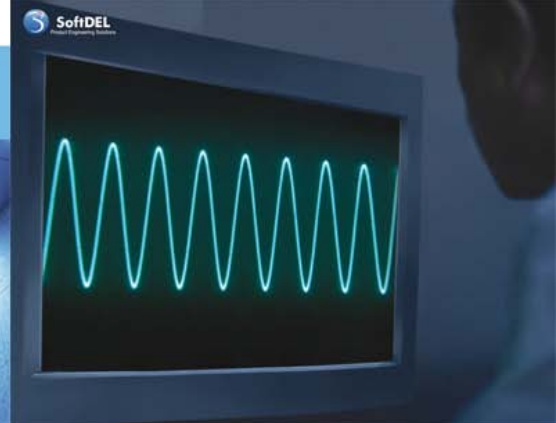


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*Partner to global industrial product companies for control & connectivity based engineering solutions.*

## Wireless Gateway

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### The Customer

The customer is a worldwide technology leader in wireless systems for remote data acquisitions systems for Offshore Oil Platforms.

### Customer Need

The customer wanted a hardware and software solution which can address:

- Common hardware platform which can support varying needs of different clients. Multiple Hardware Platforms are difficult to manage
- Support to Long Distance Wireless Mesh Network
- Faster time to market for new products at lower cost
- Remote Management of Field Deployed RTU's

The Customer's requirement was to develop a common Gateway, which can get data from remote transmitters installed in the field on wireless radio and sent it back to the SCADA systems.

### SoftDEL Solution

The software development for this controller was developed in 2 parts:

#### Platform Development

The target platform chosen for the development is Linux Operating System (kernel 2.6.18.1)

The various drivers and protocol stacks that were supported on the selected target OS were as follows:

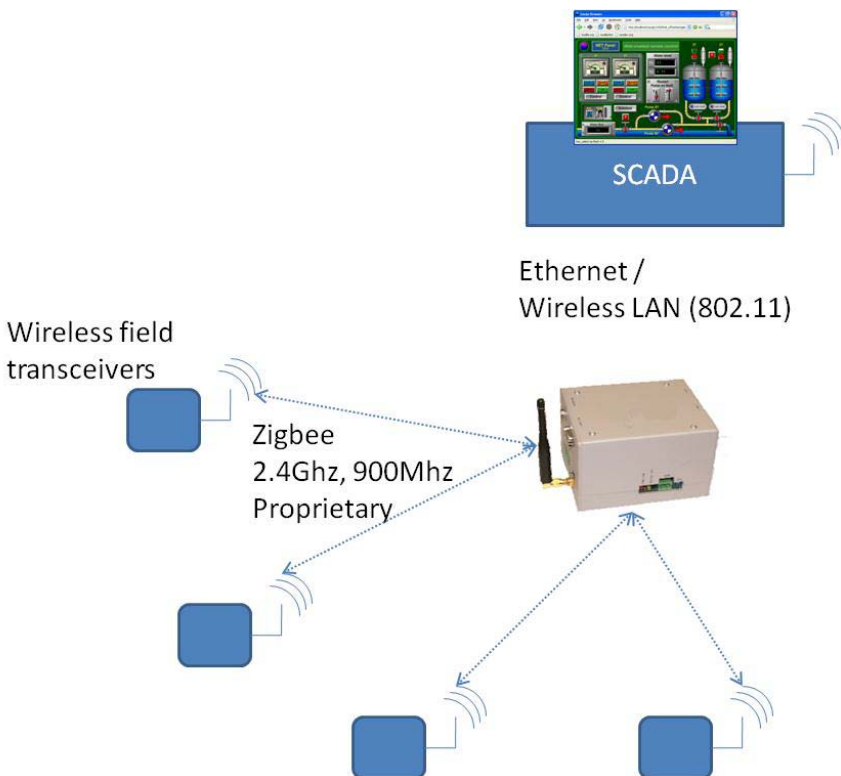
- Serial Driver (RS232 and RS485)
- Ethernet Driver (10/100 mbps)
- TCP/IP stack
- Telnet
- Watchdog timer
- FTP
- SMTP

## Application Development

The following components were developed as part of the Application Development:

- Gateway Application: Gateway firmware is the application developed on Linux OS to get and store data received from remote transmitters installed in the field using proprietary protocol and serve this data back to the SCADA using Modbus protocol.
- Web Server: Since a web server interface is provided, data of the gateway and the transmitters can be viewed, controlled and configured remotely over a network.
- Report Generator: to generate and email reports for the Gateway application running in the system to the users configured for particular events.
- HTML Engine: It generates HTML pages at defined interval or when requested by browser client.
- Database: Gateway application updates database according to the configuration and the data received from the transmitters installed in the field. Report Generator and HTML engine uses this database to generate reports.

## Field Setup



## Key Features

**User Levels:** Gateway has been designed to cater to 2 user levels

### End User:

- Monitor sensor data
- Change the setting of the remote transmitters
- Monitor alarms and status of the transmitters
- Data logging

### Commissioning Engineer:

- Configure the system.
- Setup.
- Firmware upgrade

**Communication Protocols:** This Gateway communicates over following protocols

- Modbus over TCP/IP
- HART
- Proprietary (UCMP) protocol

**Programming:** No separate software is needed for programming of this device. It is completely configurable to meet end User requirement through the various configuration files statically and dynamically.

**Diagnostics:** Remote logging feature is available for system error.

**Testing:** Test setup included actual field devices. Tools used for testing protocol and gateway functionality.

- Modbus poll
- ModSIM
- FrameAlyst
- Hart server

## Impact

- Easy Maintenance Life Cycles through Common Framework
- Additional Market Reach

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