

White Paper

Look Beyond the Limit through the ReliSource's
Wireless Sensor Network

RF Wireless Sensor Network : A Potential
Application for Remote Monitoring

Remote monitoring has been one the well-versed technical applications in the fields of telemedicine, supply chain, robotics and satellite communication across the world for years. ReliSource has developed the industry-oriented remote data monitoring systems incorporated with RF based wireless sensor network for the large scale deployment. With an enormous potentiality and an urge to meet the global demands, the WSN can play significant roles to promote flexibility in sustainable cutting-edge technologies with the possibilities of widespread applications.

ReliSource's Successful Development of a WSN Using RF Communication

ReliSource developed remote data monitoring system that could store data in memory to monitor being facilitated with the RF communication. This RF communication was off any Bluetooth, serial or wifi communication rather it formed a customized interconnected networking system consisting of monitor, gateway, cloud, and repeater.

However, the monitor used to log data in regular interval and store in memory wirelessly from the sensor nodes by means of Radio Frequency or RF communication. It was connected with a central device called gateway.

Gateway was an internet connected IoT device with an integrated embedded chip of compact edition. While Gateway requested for data through wireless communication, the data logger could provide the stored data from the memory. It then encrypted the received data and transferred for the cloud storage.

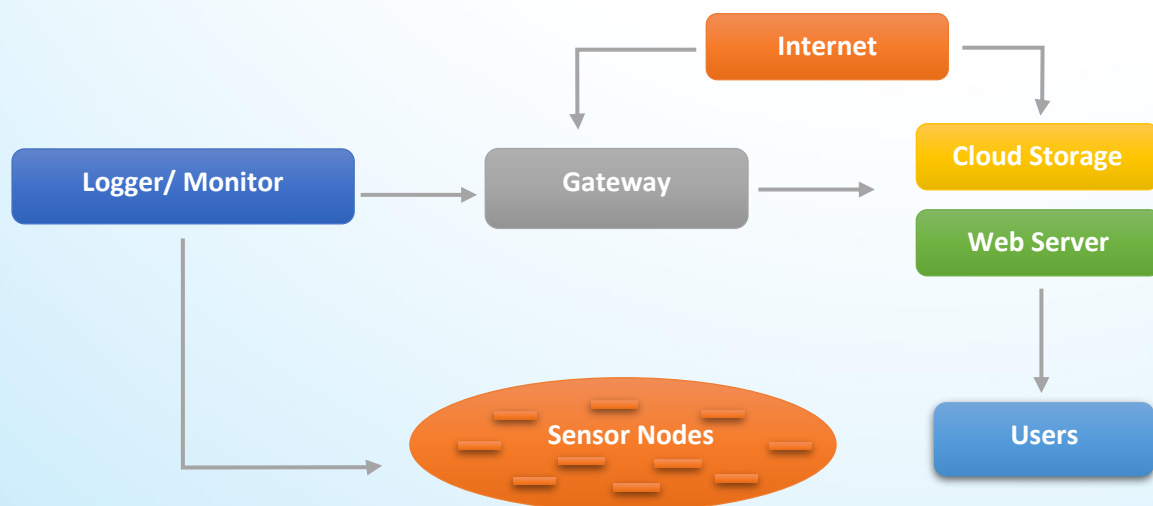


Figure 1. Block diagram of ReliSource's implemented Wireless Sensor Network

While a Gateway receives data from monitor and transmits to the cloud for storage, a Repeater was also used to enhance the network coverage by boosting the capacity to transmit

and monitor data beyond the range of Gateway. The wireless coverage area was increased using the repeaters.

Thus, an efficient Wireless Sensor Network consisting of a chip and controller enabled with RF communication served as a backbone of the implemented monitoring system, that could monitor and upload data to cloud for remote monitoring, illustrated in Figure 1.

Hence, the data loggers/ monitors were possible to be remotely monitored, configured and controlled. The WSN enables this remote monitoring of data allowing the user to know and access various other information also including the information of location on a website.

Use Cases

ReliSource designed and developed the high-performing and innovative data monitoring system applying a RF based WSN that facilitated the users with the access to remote controlling, and monitoring of data. The Embedded & Firmware Engineering team at ReliSource is responsible for and works relentlessly to ensure the smooth operation and sustainability of this project since its inception in the areas of:

- Sensing and Data logging
- Remote Monitoring & Controlling
- Additional Data Monitoring
- Cloud Storage of Data through WSN
- Efficient Applications of RF in WSN
- Repeaters Allowing Large Coverage

References:

1. ReliSource's Embedded Engineering Team