



Making Utility Communication Easier

Introduction

Sensus is a global leader in utility infrastructure systems and resource conservation. Helping utilities and consumers make the most of finite water and energy resources takes more than just innovative technology and know-how. Sensus delivers reliable, flexible, and proven products and solutions that provide advanced measurement, data collection, analysis and control capabilities that help customers improve operational efficiency while reducing their environmental impact.



Sensus leads the industry in long-range two-way radio infrastructure. The Sensus FlexNet™ system provides point-to-multi-point communications for gas, electric, and water utility smart grid applications including smart metering, distribution automation, demand response and more. Long-range base stations transmit and receive data between meters and other smart endpoints in 15 minute intervals. This continuous feed of

real time information helps the utility improve operational efficiency, enhance decision making, and better understand overall system status.

Solution

Sensus required, for its utility infrastructure, a system with components that would be unobtrusively reliable and perform flawlessly for the life of the infrastructure, which can be 20+ years. Advantech's EKI-2525I and EKI-7629CI Ethernet switches have all the specifications needed – auto-crossover, 24 volt operation, small physical size, high performance, versatility, reliability, and a wide -40° to 85°C temperature range making them an excellent fit for the base station needs. Advantech's competitive

pricing was also an important factor in the decision to use the EKI Ethernet switches.

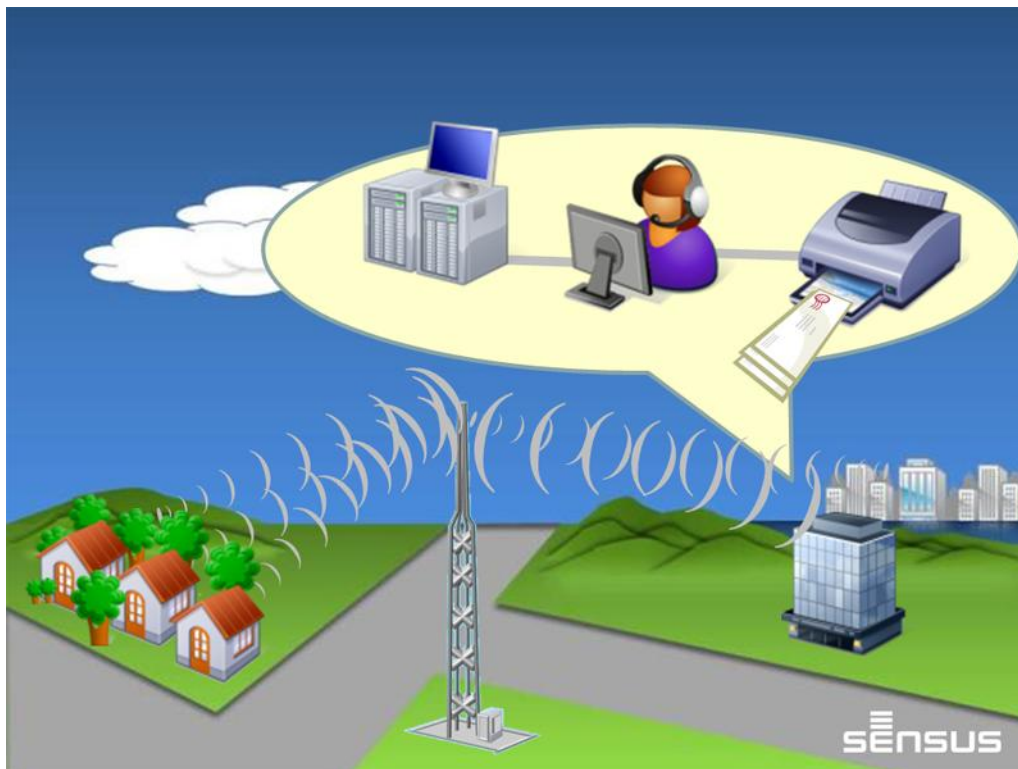


System

Throughout North America, large numbers of utility meters are equipped with internal communication devices that relay information to and from one base station which returns this information to the utility main office. Each meter has its own unique information that is gathered and securely communicated wirelessly to a base station where the switches communicate with the transceivers and other ancillary equipment, such as smart power supplies, also installed at the location.

The information gathered, such as tamper alarm, power outage, actual usage, etc. is sent to the utility main office where it is analyzed and converted into usage cost and, if needed, can send a command response back to the meter to make any corrections or updates. Also, if needed, utility crews can be dispatched to the troubled location pinpointed by the meter via alarm reporting.

These base stations may have many thousands to tens of thousands of meters reporting into them and could be over a wide area or in a highly populated city.

**Benefits**

The utility home office can now gather multiple readings a day to provide a more accurate meter usage report and pave the way for TOU billing as desired by the utility. This allows timely and accurate billing and eliminates the need for an on-site reading that would normally take days to achieve. Other benefits include the ability to quickly receive power-fail indication, and to implement demand response programs and load control commands to control devices such as air conditioners, pool pumps, etc. This process has greatly improved the overall utility operations and has cut reaction times and costs considerably.