

# Fixed Network 2.0

## specifications

### A whole new world

For decades utilities have been realizing the operational value of automatic metering reading. Meter reading for billing purposes became less intrusive for the customer and easier and less costly for the utility.

Now utilities are recognizing that more frequent and timely consumption of meter data increases operational efficiencies and can offer innovative opportunities for customer service. To achieve these business results, utilities are asking for advanced meter data collection to provide them with this information.

Itron's Fixed Network 2.0 is here to answer the call from utilities to deliver frequent consumption and meter data, reliably and accurately. With a ten year pedigree, Fixed Network 2.0 is the result of real-world experience and product improvement over time, and is designed to provide advanced meter data for the lowest cost.

If operational issues, such as improved outage and restoration detection and off cycle reads are important, Itron's Fixed Network 2.0 is your answer. If advanced tariff structures like TOU, Demand and Critical Peak pricing are important, Itron's Fixed Network 2.0 is your answer. If realizing these advanced capabilities at a competitive price is important, Itron's Fixed Network 2.0 is your answer.

### Fixed Network 2.0 – Advanced Meter Data Collection

As a utility's business needs grow, so does its need for more data. Fixed Network 2.0 is designed to be one of the most cost-effective network solutions that enable advanced meter data collection. By continuously collecting granular electric, gas and water meter data, utilities can improve customer service and offer new and innovative rate structures. Fixed Network 2.0 helps utilities achieve higher levels of operational efficiencies.

### Architecture

Field-proven hardware and software integrate to create a robust, low-cost network, using 900-MHz unlicensed, spread spectrum RF technology.



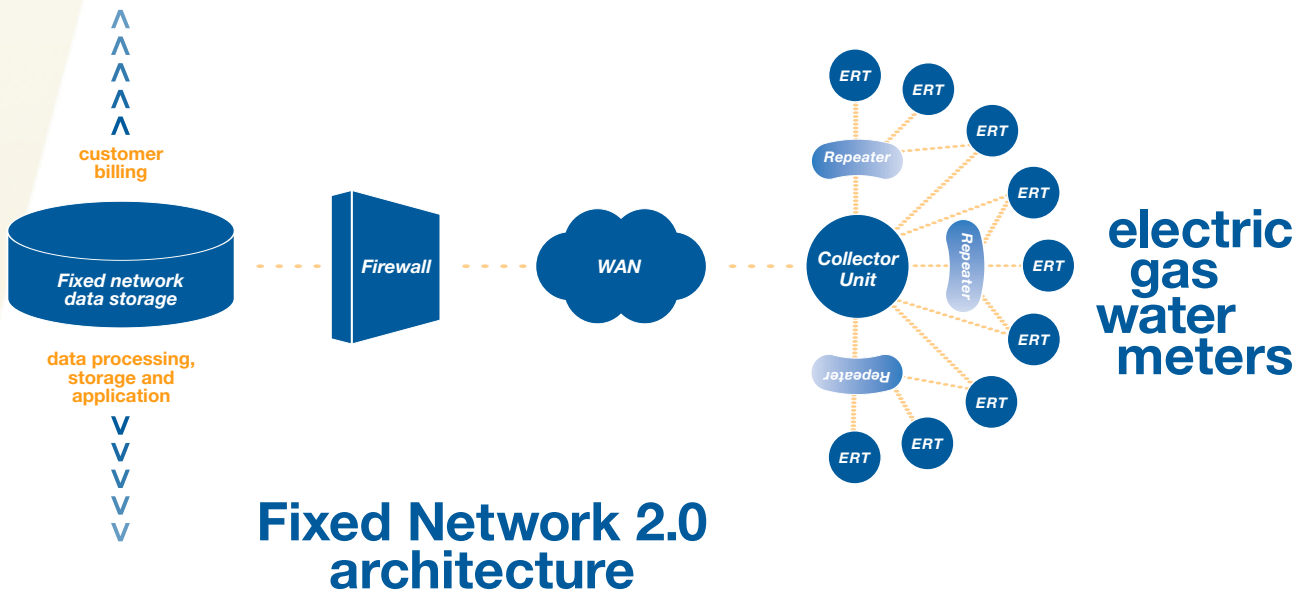


## Meter Modules

Itron's field-proven meter module, or ERT®, technology provides the foundation for Fixed Network 2.0. Itron Fixed Network 2.0 offers utilities a wide array of choices for ERT deployment. Use your existing ERT module-enabled meters, retrofit your meters with new ERT modules, or purchase new solid-state electricity meters from Itron equipped with ERT technology. Fixed Network 2.0's infrastructure gives you the flexibility to design the network deployment that best suits your business needs.

Electromechanical meters with 45 series ERTs provide interval data messages (IDM) for residential electricity customers. Interval data is transmitted to the network along with standard consumption data. Solid-state meters with integrated ERT technology, such as an Itron's CENTRON®, are also available with IDM capabilities. Each IDM transmission, sent every few seconds, contains four hours worth of five-minute interval data. The network captures this interval data and passes it to the collection system. Interval data allows utilities to perform desired rate or demand calculations, and simplifies the management of rate structures for complex tariff structures like TOU and Demand and Critical Peak pricing without requiring any meter reprogramming. Itron's Fixed Network 2.0 also supports polyphase solid-state meters, collecting up to three standard consumption messages with any measured quantity in the meter.

Fixed Network 2.0 works with Itron's gas and water ERT modules for suitable advanced meter data collection for these services. All meters with ERT modules bubble up standard consumption and tamper data.



## Fixed Network 2.0 architecture

### Neighborhood Collectors and Repeaters

Neighborhood Collectors receive data transmissions from ERTs and/or Repeaters and communicate the information back to the utility, and are typically mounted on a power pole or street light. Each Collector has the ability to collect consumption and other information from several thousand meters, plus has the capacity to store over a hundred reads per meter. These Collectors serve as virtual meter registers to provide functionality such as on-demand reads. Collectors are designed with modularity in mind, and support multiple types of WAN connections for communications back to the utility.

Repeaters extend the range between the meter module and the Collector, thereby minimizing the number of Collectors needed to cover a given area. Sleeve and pole mounting options help utilities leverage the available infrastructure.

ERTs and Repeaters work in self-discovery mode, so the network components auto-connect with the Collectors from end to end. This means that no site programming or special configuring is required for the network to start collecting data. Whether you plan a strategic deployment or a complete rollout, Fixed Network 2.0's self discovery provides flexibility and ease of installation.



The network is architected for system redundancy, so that every ERT module can be typically read by multiple Repeaters and/or Collectors – ensuring you reliable meter data collection.

### **WAN Communications**

Itron Fixed Network 2.0 offers bi-directional communication between the Collectors and the Fixed Network Collection Engine using a wide range of public and private networks, including GPRS, fiber/Ethernet, POTS and WiFi. Collectors can also use Broadband Over Powerline (BPL) networks as a back-haul option. With the freedom to choose from an array of available networks, you can select best-in-class options and optimally deploy them under one system. The flexibility to use any IP-based network provides the ability to benefit from ever-evolving public networks.

### **Fixed Network Collection Engine**

The Fixed Network Collection Engine software controls processing, management and distribution of meter data. It also manages the distribution of software and configuration information to the Neighborhood Collectors. The Fixed Network Collection Engine includes a web server, message processing, database functions and external interfaces. Capacity of Collectors gives you the freedom to back-haul readings whenever you choose. This flexibility lets you meet different collection schedules, or gather data when backhaul traffic rates and pricing are most favorable.

### **Benefits**

- > Lower Costs – Itron's Fixed Network 2.0 features one of the most affordable fixed network architectures. The deployment of Repeaters substantially reduces the number of Neighborhood Collectors required, which means lower deployment and WAN communication costs compared to other systems.
- > Ensure Data Accessibility – Fixed Network 2.0 provides exceptional system redundancy. Every meter module is typically read by multiple Repeaters and/or Collectors, ensuring accessibility to your meter data. This eliminates the need for polling, re-routing or network reconfiguration.
- > Maximize Existing Meter Assets – Itron offers meter compatibility and integration with different electric, gas and water meter types, providing utilities with choices that are unmatched in the AMR market. Electric utilities can retrofit their existing electromechanical meter population or deploy new solid state meters for enhanced accuracy and reliability.
- > Trim Communication Costs – Fewer Collectors in the field means fewer back-haul communication points for lower associated costs. The memory capacity of Collectors gives you the freedom to back-haul readings whenever you choose. This flexibility lets you meet different collection schedules, or gather data when backhaul traffic rates and pricing are most favorable.
- > Streamline Business Systems – Itron Fixed Network 2.0 provides a single, common technology platform for advanced metering reading for electricity, gas and water services.
- > Monitor Service – Further enhancing the value of the Fixed Network 2.0 is the ability to provide data for outage and restoration detection, and detection of “blinks” to help measure the reliability of the system.
- > Improve Business Cases – Access to granular meter data enables utilities to offer time differentiated rates, enhanced revenue assurance, and the ability to implement demand response and load profiling for effective resource management.
- > Enable Advanced Applications – Armed with timely and accurate meter data from Fixed Network 2.0, you have the ability to better evaluate your operations. Add in the ability to augment the advanced meter data collection solution and energy management, load control and other control functionality, and you gain unprecedented insight into new opportunities.

Fixed Network 2.0 system architecture and software create an end-to-end solution that is cost-effective to deploy and operate, and it provides the ability for advance meter data collection for improved operations. Put that data to work for you. Deploy Fixed Network 2.0.

# profile

## Itron

Itron is a leading technology provider and critical source of knowledge to the global energy and water industries. More than 3,000 utilities worldwide rely on Itron technology to deliver the knowledge they require to optimize the delivery and use of energy and water. Itron delivers value to its clients by providing industry-leading solutions for electricity metering; meter data collection; energy information management; demand response; load forecasting, analysis and consulting services; distribution system design and optimization; web-based workforce automation; and enterprise and residential energy management.

**To know more, start here: [www.itron.com/global](http://www.itron.com/global)**



### **South America**

2818 North Sullivan Road  
Spokane Valley, Washington 99216  
U.S.A.  
Tel.: +1 509 891 3007 (English)  
Tel.: +1 800 624 5461 (U.S. only)  
Fax: +1 509 891 3061  
[support.sam@itron.com](mailto:support.sam@itron.com)  
Tel.: +1 509 891 3003 (Español)  
[soporte@itron.com](mailto:soporte@itron.com)

### **Corporate Headquarters**

2818 North Sullivan Road  
Spokane Valley, Washington 99216  
U.S.A.  
Tel.: +1 509 924 9900  
Fax: +1 509 891 3288  
[www.itron.com](http://www.itron.com)