Mi.Net®

MI.NET MIGRATABLE AMI

Mobility that drives the network.

Mueller SYSTEMS®

ABOUT US

Mueller Systems enables utilities to manage water and data more accurately and effectively. Our state-of-the-art solutions and products are designed to increase operational efficiencies, improve customer service and conserve our most vital natural resource. We offer a full line of residential, fire line and commercial/industrial meters, migratable Advanced Metering Infrastructure (AMI) systems and related products for smart utility applications.

In 2009 we introduced our Mi.Net® AMI solution, a revolution offering real-time, two-way command and control capability in a battery-powered water network. This groundbreaking capability enabled innovations such as remote disconnect in water, and in 2012 we introduced the first remote disconnect water meter (420 RDM) powered by the Mi.Net AMI system.

MIGRATABLE AMI TECHNOLOGY TO GROW WITH YOUR UTILITY

While Mueller Systems is leading the way for water utilities to join the smart cities revolution, the company offers an entire suite of products that meet the needs of utilities of all sizes and topographies. The Mi.Net migratable endpoints allow a utility to mix and match mobile, hybrid, or fixed network AMI solutions. While a utility today may not be ready for smart cities technology, our Mi.Net migratable technology can be installed as a mobile system and later be migrated to fixed network AMI. The utility can even choose to make some areas fixed network AMI and deploy mobile solutions throughout the remainder of the utility - all while maintaining the full two-way command and control capability that enables functionality such as the remote disconnect meter, on-demand data log retrieval, and even over-the-air firmware upgrades.

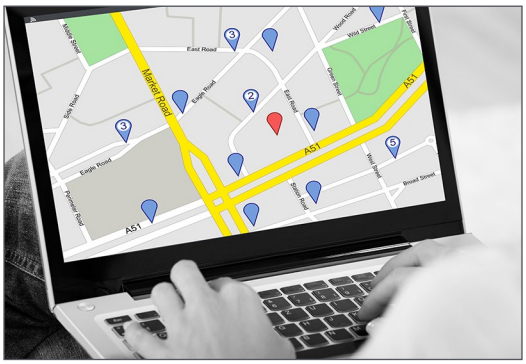
MI.NET MIGRATABLE MOBILE MODE

Our advanced Mi.Net network design outperforms every other competitor. In mobile or AMR mode, the Mi.Net migratable endpoint transmits data every few seconds utilizing LoRa® long-range technology. The lightweight mobile transceiver works in tandem with our software to provide data that reliably interfaces with your billing system.

The Mi.Net migratable system also includes a comprehensive and powerful data logging feature called “Consumption Profiling”. This capability permits over forty days of hourly usage analysis to be retrieved from the meter, with alarms that are graphically displayed to enable utilities to quickly respond to customer questions and proactively approach customers about possible leaks or tampering.

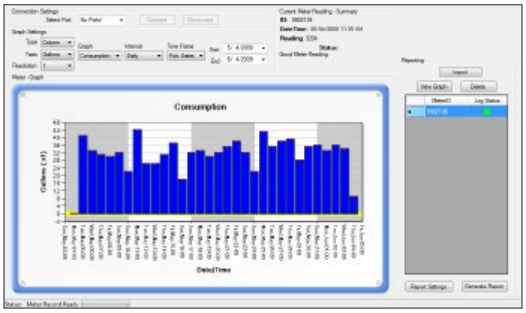
Our platforms make it easy to get up and running. All Mi.Net migratable endpoints have a variety of mounting options to optimize your system performance and ease of installation.

MI.NET MIGRATABLE MOBILE MODE FEATURES AND BENEFITS:



LONG-RANGE LORA® MODULATION

Mi.Net migratable endpoints transmit every 6 seconds when operating in standard AMR mode to ensure reliable meter reading collection. LoRa modulation delivers significant distance improvements in communication over previous AMR systems available in the market.



MOBILE CONSUMPTION PROFILING:

Specifiable data logging intervals are available in hourly and daily buckets. Select the interval and time frame that meets your needs: daily usage for the big picture as you drive by, or more granular hourly data to assist your customer-facing employees in responding to billing questions and detecting when leaks and backflow conditions started or ended. On-screen prompts help the driver determine when they need to slow down to gather significant amounts of data required and when they can proceed.

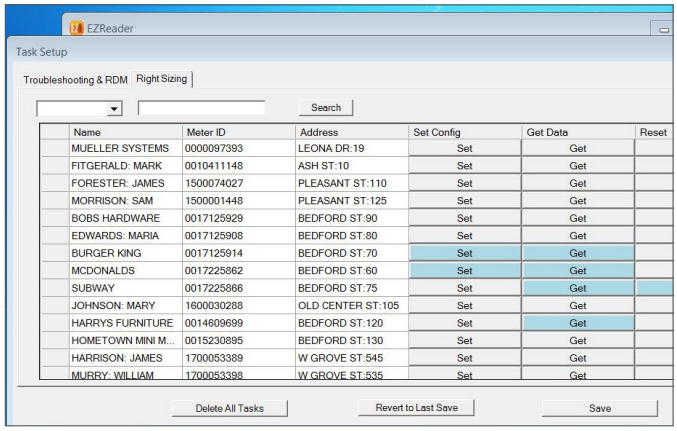
REMOTE DISCONNECT METER (RDM) ACTIVATION:

The Mi.Net® AMI system offers unique two-way communication for advanced functionality such as the ability to remotely connect/disconnect water service through our tested and proven 420 RDM meter. The unique RDM incorporates a pilot valve in a standard 5/8" positive displacement meter which can be turned on or off while reading the meter route. The accounts are selected prior to the meter reading process with the required activation taking place as the meter technician drives by the location at a normal speed.

MI.NET MIGRATABLE MOBILE MODE FEATURES AND BENEFITS

METER RIGHT-SIZING MODE

Five-minute interval data allows utilities to determine flow profiles of meters to optimize the meter type and size selected for the specific application and flow ranges required. Simply select the required meters from the route file and collect the interval data as you drive the route. The software screens keep you updated on the status of all meter reading, right-sizing, data logging, and event/duration notifications to optimize the meter reading experience.



MI.NET MOBILE TRANSCEIVER

The two-way Mobile Transceiver can accept thousands of meter readings simultaneously, eliminating the need to worry about route size or processing speed. Do more with less – LoRa® long-range communication means you'll achieve unparalleled reception distances which reduce read times and enhance employee productivity. The transceiver is also capable of reading legacy Hot Rod transmitters, providing a bridge from our legacy AMR technology to our latest offerings. A durable metal casing protects the electronics inside, and LED lights provide verification of successful operation during the reading process.

MI.NET MIGRATABLE INSTALL TOOL

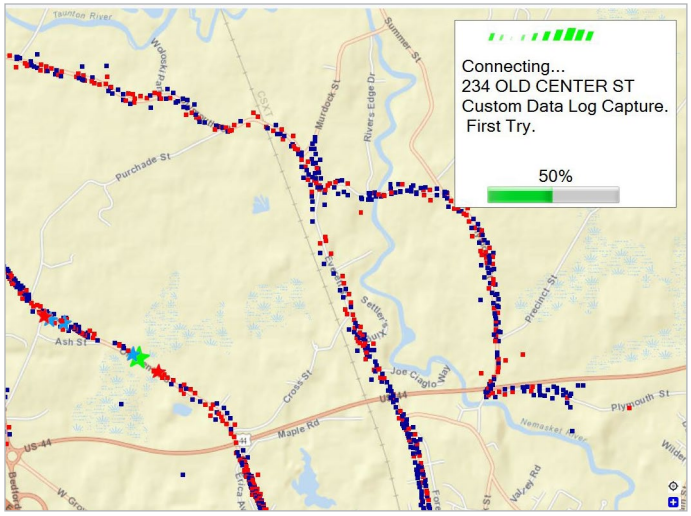
The install tool provides a rechargeable, battery-powered hand-held device that can be used to verify proper installation in the field. Capable of short-range communication, the Mi.Net Migratable Install Tool verifies proper communication from the endpoint to the meter during retrofit field splices and when Nicor connectors are utilized for a plug-and-play system.

MI.NET® MIGRATABLE MOBILE SOFTWARE: EZ-SUITE OVERVIEW

Designed for performance and ease of use, EZ-Suite software puts you in control of your mobile network. Powered by the Mi.Net Mobile Transceiver, EZ-Suite software provides meter reading data that reliably interfaces with all billing systems and provides easy access to route, customer, meter, and previous reading data. Detailed information can be viewed in the field or office to resolve customer billing inquiries, examine meter health/performance, and to monitor and enforce water restrictions.

EZ-SUITE FEATURES AND BENEFITS FOR MOBILE AMI

- Instant event and duration data allows the meter reader to proactively request data logging information to diagnose potential customer service concerns while near the meter.
- Instant event and duration data prevents additional trips to the meter, saving vehicle rolls and personnel resources.
- EZ-Reader provides pre-selected and on-the-fly access to hourly and daily consumption data, providing utilities with data to address customer concerns and system performance.
- Two-way communication for the operation of Remote Disconnect Meters during the reading process allows field personnel to access remote meters while ensuring their safety.
- EZ-Suite provides the opportunity to gather five-minute interval data for meter right-sizing, so utilities can ensure they are using the proper size and type of meter to generate maximum revenue and accuracy.
- The system offers simple installation, operation, data retrieval, reporting, and uploads to your billing system.
- Your success is ensured with outstanding technical support from our team at 800-323-8584.



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INTELLIGENCE THAT DRIVES THE NETWORK – MI.NET MIGRATABLE AMI MODE

When you are ready for a two-way smart utility system, our Mi.Net® Infrastructure Network for Utilities is your ideal solution. The Mi.Net System is an AMI communications network that fully automates the meter reading-to-billing process by linking meters, distribution sites and control devices in a single, highly efficient data network.

The Mi.Net System is flexible and scalable, enabling utilities to deploy newer technology in stages as their needs and budgets allow.

MI.NET MIGRATABLE AMI MODE

The Mi.Net System uses Mi.Net transceivers on metering devices to gather and pass data to local collectors through LoRa® long-range unlicensed technology. These gateways collect and upload data to Mi.Host MDM software using cellular or other data backhaul options. The many benefits of the Mi.Net System include "On Demand" meter readings, email alerts and alarms based on near real-time information, and the ability to effectively manage your water resources through ongoing access to custom data and information.

The Mi.Net system employs LoRa technology. LoRa, short for "Low Range", is an RF modulation technique that offers high-power transmissions and increased range when compared with traditional systems with lower battery usage.

The Mi.Host consumer dashboard's intuitive user interface helps consumers easily monitor their monthly usage and estimate costs, ensuring that they're never surprised by their monthly bill.

FASTEST FULL TWO-WAY COMMUNICATION IN THE INDUSTRY

Each command sent from the server gets an acknowledgement ensuring successful communication.

- Instant on-demand reads allow you to immediately address customer concerns
- Remotely connect and disconnect meters quickly from the comfort and safety of the utility office
- Remote, over-the-air firmware upgrades future-proof your system
- Configurable alerts allow you to customize notifications to suit your needs

DISASTER RECOVERY

In the event of a loss in network connectivity, each Mi.net migratable endpoint will revert to a bubble-up transmission allowing the units to be read with the Mobile Transceiver ensuring all meter reads are captured for billing. Upon restoration of network connectivity, each node automatically switches back to AMI mode and sends missed reads to the server.

MI.NET FIXED NETWORK AMI FEATURES AND BENEFITS:

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LONG-RANGE LORA® MODULATION

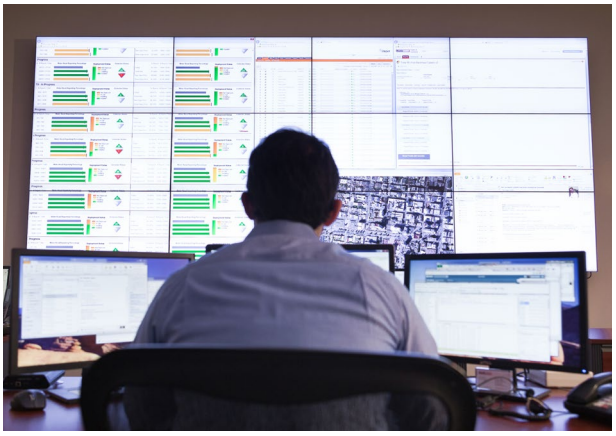
Mi.Net radio modules utilize state-of-the-art RF modulation to allow the radio to transmit over long distances, in turn reducing infrastructure while still utilizing the 900MHz ISM band.

DATA LOGGING

In the event the radio cannot communicate through the network, each node will store up to 511 days of hourly records. When network connectivity is restored, any missed data is automatically sent back through the network to ensure no data is lost.

NETWORK OPERATIONS CENTER (NOC)

The network operations center continuously monitors the health of each Mi.Net AMI deployment. A dedicated analyst is assigned to each account. This analyst reviews data and trends to ensure the network is performing at a high level. If an issue is found, the analyst communicates this to the customer and the appropriate specialist within the company to quickly resolve the issue.



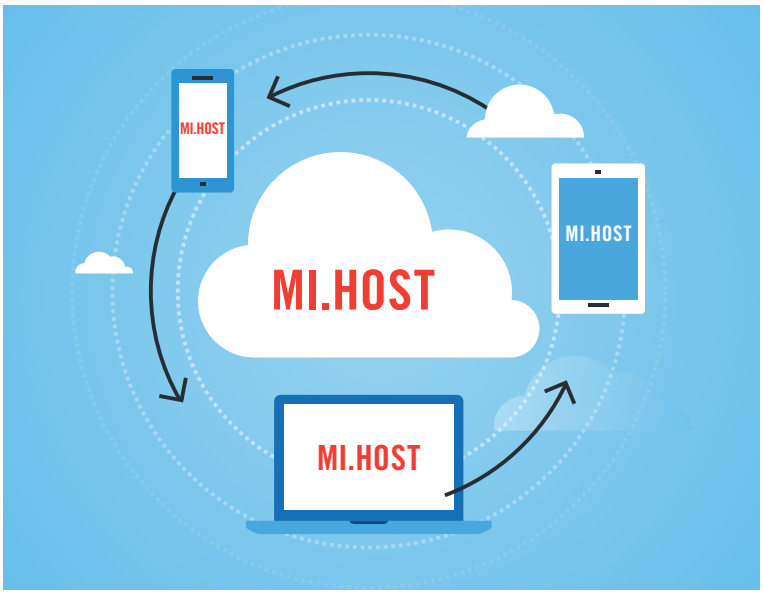
MI.NET MIGRATABLE SOFTWARE
MI.HOST OVERVIEW

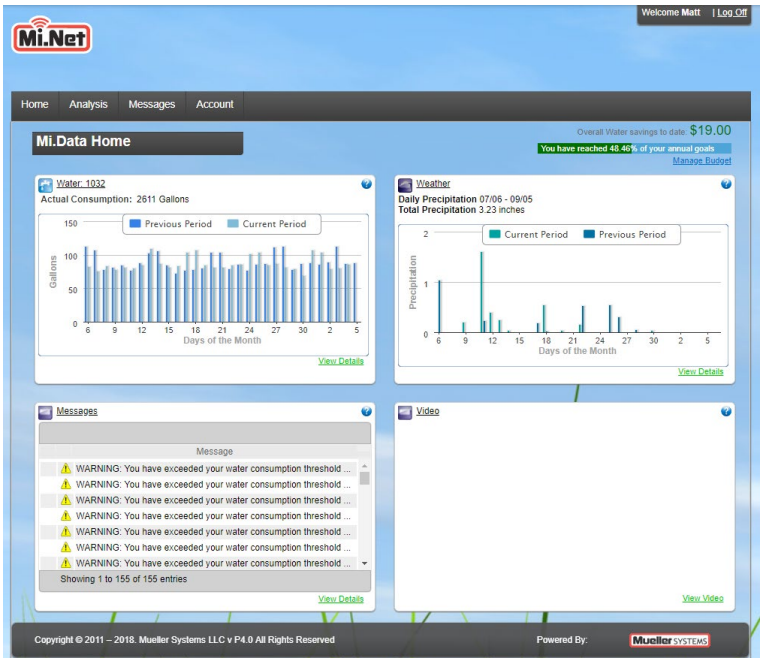
Fast, secure, and reliable, the Mi.Host software is a true water analytics and management platform. The Mi.Host platform aggregates data from a variety of meters, nodes, and sensors to provide a holistic, intelligent approach to reducing non-revenue water, conserving resources, optimizing infrastructure investments, and gaining operational efficiencies.

Analytics is built into the system with a modular micro services approach. As we grow our state of the art system, new and more powerful analytics are added to the system for customers to leverage. Nearly every action of the Mi.Host software is informed by analytics, deployed both actively and passively to power your tasks. Analytics are seamlessly integrated into the user experience, so you can use these powerful tools to drive day-to-day work with just a few clicks and without extensive training or changing existing procedures or workflows.

MI.HOST FEATURES AND BENEFITS

- The Mi.Host software interface is fast, intuitive, and powerful, giving utilities the ability to best manage their water resources through ongoing access to powerful custom data and information.
- Fast on-demand meter readings and remote connection/ disconnection allow utilities to improve their customer service, avoid costly truck rolls, and ensure employees' safety.
- Email alerts and alarms based upon near real-time information give utility employees a valuable tool to proactively address potential customer service concerns.
- District Metering Area functionality gives utilities the power to identify and reduce non-revenue water by tracking water inflow, usage, and outflow in user defined zones.
- Mi.Host has the flexibility and scalability to meet the needs of any size, geography and budget.





The Mi.Host consumer dashboard enables municipalities to strengthen relationships with consumers by providing a consolidated view of their water consumption online, helping them to better understand and manage usage behavior and enhance communication with their municipality.

COMMUNICATION FROM THE OFFICE TO THE CURB, AND ALL POINTS IN BETWEEN

The 420 Remote Disconnect Meter* (RDM) enables utilities to remotely manage water services from the office. This capability helps municipalities to improve customer service, as consumers no longer need to wait for a field crew to arrive to turn on their water. The 420 RDM also helps municipalities—especially those that experience high account turnover—to improve employee safety, reduce labor and operational costs and reduce their carbon footprint, as field crews and service vehicles do not have to be dispatched to connect or disconnect water services.

420 Remote Disconnect Meter (RDM)* §

ECHOSHORE®-DX LEAK DETECTION

The EchoShore®-DX leak detection platform incorporates the latest generation of acoustic sensors to transform your existing field assets into a smart water network. A proven leak detection technology, the EchoShore-DX platform has been successfully deployed on metallic, concrete, and asbestos cement, and operates seamlessly over the Mi.Net system or cellular network. The acoustic technology is built into a standard fire hydrant pumper nozzle cap, maintaining a stealth appearance. EchoShore-DX technology allows you to find leaks sooner, monitor leak progression, assign field crews based on actual leak urgency, and become proactive with your pipe repair program.

Battery-powered monitoring "nodes" incorporating an ultra-sensitive acoustic sensor built into fire hydrant pumper nozzle caps enable the system to identify and locate potential leaks or flow issues.

MIGRATE IN THE FUTURE WITHOUT DISRUPTING THE PRESENT...

With the only full-featured, two-way AMI system that works seemlessly in drive-by mode. Mi.Net Migratable AMI gives you complete two-way functionality of our AMI system in a mobile application. Meaning your workers can remotely disconnect service and download 105 days worth of hourly usage data from the meter — all from the comfort of their vehicles. And the system's built-in flexibility lets you cost-effectively migrate to a fixed network solution whenever you're ready

Migrate your operations on your terms, not someone else's. Find out how at muellerwp.com/migrate or call 866.324.6564.

Mueller SYSTEMS®

For more information about the Mi.Net solution or to view our full line of water products, please visit muellersystems.com or call 1.866.324.6564.

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