



# Field Collection System with FC300

Itron's latest generation mobile meter data collection software

Field Collection System (FCS) is meter data collection software designed specifically for today's utilities. FCS is a state-of-the-art, open-architecture software solution that works with Itron mobile technologies, field-proven ERT modules and meters for electric, gas and water utilities. FCS seamlessly integrates with Itron networks, existing enterprise billing systems and advanced meter data management systems for flexible and ease-of-use data sharing and management capabilities. FCS combines all the best features from decades of experience with innovative new features that will fulfill your meter data collection needs, now and into the future.

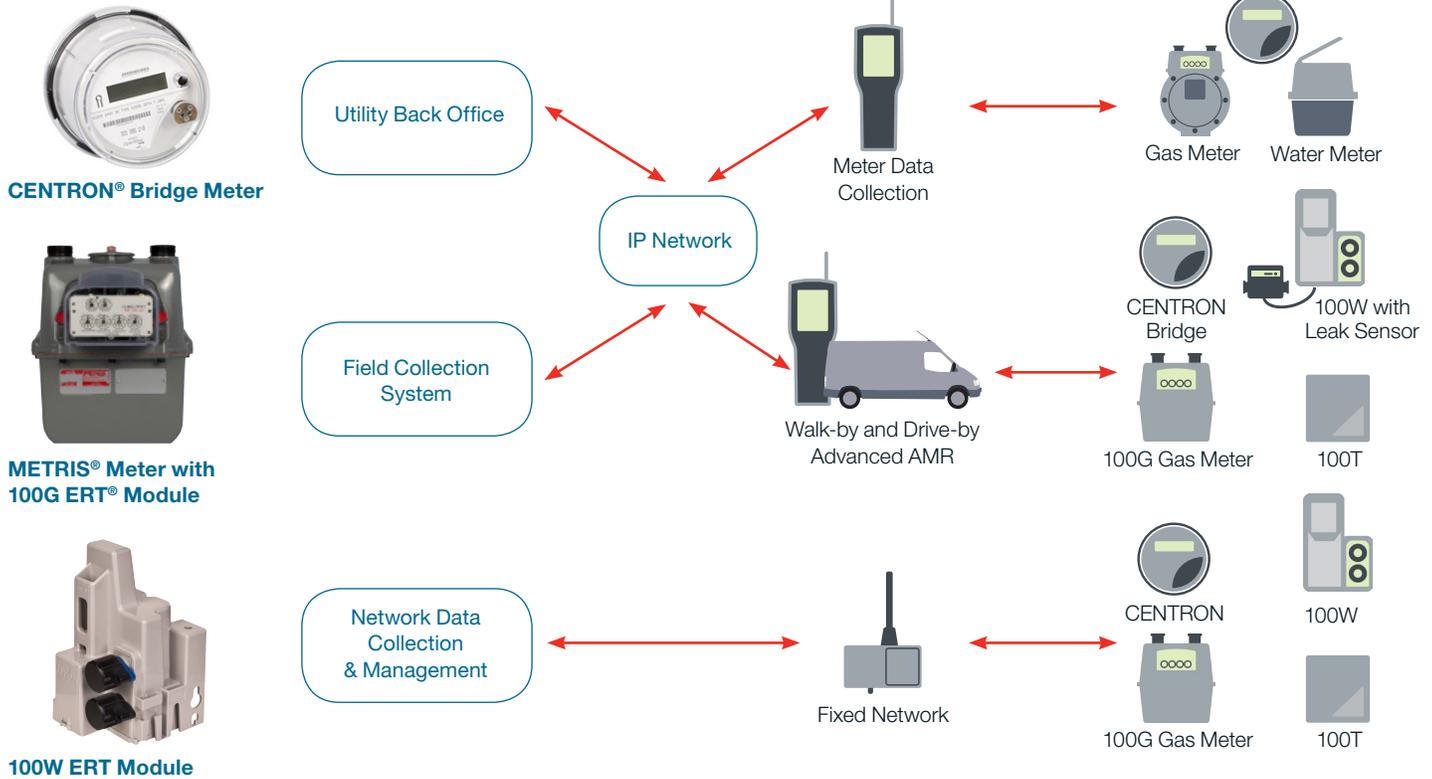
FCS is a client/server application and is Microsoft® .NET-connected. FCS represents Itron's commitment to open software architecture that "plays well with others". XML, a widely-used programming standard, ensures interoperability between

different software applications running on a variety of platforms. Standard file import-export features connect directly to established interfaces.

FCS transfers meter data to and from mobile computers using the TCP/IP

communication protocol. The speed of TCP/IP gets employees to the field quickly which immediately increases daily productivity. The flexible and reliable FCS communication system opens the door for utilities to use a wide array of wired and wireless data backhaul options.

## FIELD COLLECTION SYSTEM



## ARCHITECTURE

The FCS application server software imports and assigns routes to handheld and mobile collection devices, manages data collected in the field and prepares routes to be exported for billing. The FCS handheld application software provides field employees with an efficient means for collecting meter readings, other valuable data, and performing related work in the field, using rugged mobile devices.

### Flexibility

FCS is off-the-shelf software that is highly configurable allowing the utility to configure the business rules for office and field processes.

### Security

The FCS security system simplifies user and password management by leveraging existing Microsoft Windows® user accounts. Role based security allows office managers and field managers to easily manage operational rights of groups and individual users.

### Database

FCS stores system parameters, routes and statistics in a relational database. FCS supports Oracle® and Microsoft SQL Server® databases. These open database systems allow utilities to mine the data in the FCS database to satisfy a variety of business needs.

### Automation

The integrated Unattended scheduling system reduces office work requirements by using flexible and intelligent tasks automatically at any time of day. Job status notifications improve reaction times and reduce time spent monitoring the system.

### Reports

Over 40 standard reports and templates are available along with the tools and ability to customize reports according to specific business needs.

### Networking

FCS provides a variety of features to improve operations related to network based metering systems. ChoiceConnect Fixed Network reading data can be imported and applied without changing the monthly route based billing process. FCS filtering dispatches only meters not collected by the network or through out-of-route readings.

### Integration

FCS interfaces seamlessly to existing customer information and billing systems using XML, Premierplus4 and MV-RS® import/export file interfaces. A variety of other interfaces link FCS directly to powerful applications such as Itron Security Manager, RouteSmart®, MV-90 xi and Itron Enterprise Edition™ to provide an easy migration path to value-added customer services that are required when business needs evolve.

## DATA COLLECTION

FCS transfers data to and from data collections devices with Internet Protocol (IP) based communications offering a flexible array of backhaul options, such as wired and wireless networks, public telephone, and broadband Internet. IP-based communications can transfer data over four times faster than collection systems that require serial communications, getting employees to the field as quickly as possible. Automated network data transfer replaces manual file transfers reducing human error and reducing labor.

### Handheld

FCS utilizes ultra-rugged Itron FC300 handheld computers to collect meter data from electricity, gas, and water meters and other field assets. FCS provides handheld meter readers with an expansive suite of account and meter information, allowing for safe and efficient data collection. FCS can process manual readings, optical or touch probe readings, and advanced meter data from Itron radio-based endpoints.

### Mobile Collector Lite

FCS with MC Lite provides a low-cost, flexible hybrid solution for rural AMR deployments or where AMR is not fully deployed. The MC Lite uses a low-cost mobile radio unit and an FC300 as the data processor. The FC300 can toggle between standard walking mode and MC Lite drive-by mode for reading AMR-equipped meters. While in walking mode, keyed and probed reads can be collected or reads can be collected via walk-by AMR when using an FC300SR.

### Mobile Data Collection

FCS supports the Itron Mobile Collection System, including the MC3, the most widely-used mobile automatic meter reading technology in the world and the most cost-effective way to collect meter readings. FCS integrates seamlessly with Mobile Collection System software via wired or wireless networks to transfer valuable route information quickly and reliably. The ability to collect large volumes of advanced meter data safely and efficiently makes mobile collection a very attractive option. Available with a GPS mapping system for graphical display of meters and mobile routes, Mobile Collection System and FCS are the automatic meter reading choice for utilities that need accurate, reliable and cost-effective meter data.

### ADVANCED RADIO TECHNOLOGY

Itron radio technology has taken huge leaps forward in recent years allowing Itron to provide products to meet the rapidly evolving needs of today's utilities. FCS supports two-way radio communications with a new generation of endpoints including the CENTRON Bridge meter, 100W, and 100G Datalogging ERT modules enabling utilities to collect 40 days of time synchronized daily or hourly meter readings. This data can be used to fulfill a wide variety of utility needs and eliminate special trips to the field releasing field service personnel to perform more important tasks. Itron has extended value beyond meter reading with 100T endpoints for monitoring cathodic protection, pressure correction and more. Utilities can also use FCS with radio equipped mobile devices to remotely connect and disconnect service for electric, gas and water. The utility may assign these tasks to specialist employees or perform these tasks automatically as part of existing meter reading operations.



FC300 Handheld Computer



Mobile Collector Lite



MC3 - Mobile Collection System

## BENEFITS

### Performance

Today's growing utilities face challenges such as managing a variety of meter reading systems connected to various customer information databases. FCS provides the power and flexibility to consolidate operations and connect to those systems through various file interfaces—all automatically—and all on a single system. Through a scalable architecture, FCS provides a combination of power and nimbleness not found in any other system.

### Improved Data Security

FCS supports advanced user authentication, as well as role-based functional security, so utilities can secure FCS based on specific business requirements. Each collection device is authenticated by FCS prior to downloading data. FCS can limit data access based on the utility's organizational structure and individual employee rights. Upper-level managers may view all data, while office employees see only data relevant to their office. FCS has the ability to read and interact with Itron's latest generation radio-based endpoints in an enhanced security mode where radio transmissions are encrypted and authenticated enhancing security for utilities and their customers.

### Increased Field Safety

When used for automated meter reading, FCS enhances employee safety by significantly reducing encounters with potential obstacles such as dogs, irate customers, especially important when reading meters and disconnecting services. FCS also enables the employee to locate the meter efficiently. Account and meter-specific information can be proactively

displayed on the collection devices to provide updates or cautions to meter readers along their route. Meter readers can be notified of this critical information using audible tones or through handheld vibration for the hearing impaired and to avoid potentially alerting dogs to their presence.

### Reduced Operational and Equipment Costs

With its IP-based communications, FCS can download routes and upload data from any data collection device given a connection to the utility network. These features eliminate the need for dedicated PCs at every utility office. The FCS software horizontal scaling architecture allows utilities to accommodate an expanding utility and customer base by adding additional servers, rather than replacing existing servers with bigger, more expensive servers. Also, with the ability to set more than 400 processing options, utilities can deploy FCS without costly internal IT or third-party software customizations. When using the FC300 handheld, a utility has access to multiple applications on a single tool for improved workforce automation and field service.

### Increased Operational Efficiency

Automated meter reading is significantly faster and more reliable than traditional key-in meter reading, reducing the number of resources devoted to meter reading and reducing the number of attempts to access a meter due to locked gates, dogs and other meter reading obstacles. Through its seamless communications with data collection devices, FCS provides meter readers with the information that enables them to quickly find and process electricity, gas and water meters. FCS and the

multi-purpose FC300 handheld computer enable field employees to perform a variety of tasks allowing the utility to do more with less. Enhanced FCS reports provide managers multiple export formats and data that is automatically summed by office and cycle. FCS collects, stores and matches out-of-route readings to unprocessed meters reducing work dispatched to the field by exploiting readings already collected. When combined with datalogging, telemetry and other capabilities, FCS reduces special trips to the field and gives the field employee the tools to use that time to perform other valuable work.

### Guaranteed Investments

FCS guarantees that your current investment in Itron technologies will be protected going forward. FCS is compatible with all Itron mobile collection systems, the FC300 and FC200 handheld computers, all models Itron's industry-leading AMR endpoints, and Itron telemetry endpoints. FCS and Itron advanced endpoints allow the utility to take advantage of AMR and even AMI features today then migrate to a fixed network system for all or just some of the utility territory. This unique combination of backwards compatibility and migration features enables the utility to get the most from investments made in the past, exploit new technology now and perfectly position the utility for the future. Itron's commitment to the scalability and extensibility of our software means that no matter where your business is with respect to AMR, AMI or Smart Grid adoption, Itron's solutions can take you where you want to go.



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