

SDReaderCE

A White Paper on the Handheld Meter Reading System

Introduction:

Significant Digits Incorporated (SDI) is a software engineering company that focuses primarily on the utility industry providing software tools and embedded systems for route management, meter reading and utility billing. The vision of SDI is to become the premier software engineering systems provider for metered utilities industry through a total commitment to customer service and product excellence.

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SDI utilizes the latest Microsoft.NET environment in all their software development.

SDI works hard to stay ahead of the technology curve.

Historically, SDI was incorporated in 1992 when work was begun on the first SDReader Route Management System. The initial implementation was completed in 1993 with SDI's first customer. It was the first Route Management handheld meter reading system offered as a complete Microsoft Windows based tool. Development tools have since evolved and SDI with them. Today, SDI utilizes the latest Microsoft.NET environment to develop their utility management, meter reading and billing systems. SDI is staffed by competent and capable software engineers with a wealth of experience that reaches back to the 1970's. Through this experience and a strict determination for customer satisfaction, SDI's client base climbed to 400 in 2007 with customers spanning the United States, Europe and the Middle East.

Significant Digits Incorporated does not work on its own however. SDI has partnered with the top meter equipment and electronic equipment providers to offer the customer the highest quality equipment and software tools. Also SDI is constantly updating and increasing the scope of their products to ensure that they stay on the forefront of the technology curve. Not only does SDI constantly increase the scope of their current offerings, they also develop new technologies to increase the productivity of its users.

Significant Digits strives to win your business through superior, cutting edge products and retain your business through excellent customer service.

In summary, SDI is realizing their vision to become the premier software and hardware provider for municipalities and utilities through their commitment of providing powerful software products and excellent customer service. SDI prides themselves in being innovators in the field of utility management and consistently staying ahead of the technology curve by constantly thinking forward. The commitment to excellence in product development and customer support pursued by SDI can be summed up by a single fact. Their first customer remains a customer.

Overview:

SDReaderCE is the migration of SDI's character based handheld application to the Microsoft CE platform. Like all current SDI products, SDReaderCE is developed in the Microsoft .NET environment which allows the latest technologies to be incorporated. And incorporated they are, Bluetooth communications, incredible graphics, GPS, imaging and more.

SDReaderCE is able to read touch and radio meters as well as visually.

Maintaining the 'open systems' quest, SDI has included the capability to interface to all open AMR systems. This includes both touch read technologies as well as radio read technologies. Switching from one technology to another is a simple configuration selection. The versatility of the CE handheld includes being a docked drive by radio system, or a typical handheld visual read system, or a GPS device for gathering grid coordinates, or a touch read system in either batch mode or real time, all while using voice and graphics for process feedback and control.

Meter points can be plotted on a real time map of the meter route by SDReaderCE

All the traditional handheld reading features are included for completeness. However, the features are greatly enhanced by the embedded features of the CE environment. With continued innovation, SDI has incorporated mapping into the handheld. The map is complete with all the features of any mobile reading system. Namely, it includes detail location data, searching, progress feedback, trouble area identification, and more. Mapping on the handheld is provided as a service of SDI. Finally, all metered services may be integrated simultaneously and are distinguished graphically for the meter reader.

Solution Details:

- SDReaderCE utilizes a Graphical User Interface in combination with touch screen technologies maximizing the ease of operation
- SDReaderCE links to SDReader6 as either a network device or utilizing Microsoft's ActiveSync for instantaneous transfers
- Visual reading provides for eight access methods that are easily traversed or selected
- Touch read meters in one of three methods:
 - The touch probe is serially connected with real time updates
 - The touch probe is connected serially for batch read updates taking advantage of the probes memory capabilities
 - The touch probe is connected for batch read updates utilizing the Bluetooth module
- Radio read meters via one of many AMR systems in any of three methods available through the configuration
 - Read radio meters one at a time by selecting the ID to read
 - Read radio meters in a burst mode where all meters within signal range are read and updated
 - Read radio meters in mobile mode where reading and updating is continuous until stopped by the operator

- Utilize the radio read demo feature for diagnostics
- SDRReaderCE supports communication between the billing administrator and the meter reader by displaying messages associated with a location from billing and collecting field notes by the meter reader to be returned in the upload process
- Speed search for specific accounts via route sequence number, consumer name, service location, or meter ID, or using the mapping search feature
- Track reading progress with the mapping features where points disappear as the meter reads are collected, or simply by the feedback embedded in the graphical user interface

Business Benefits:

The many business benefits of SDRReaderCE are similar to all the SDI product line, feature rich and affordable. The entire suite of SDI tools are versatile and modular, allowing the customer to pick only those modules necessary to fulfilling their particular requirements. In this suite, the SDRReaderCE tool is perhaps the most versatile in that it includes all the components of meter reading in one product; visual, touch and radio.

The SDRReaderCE handheld of choice is the PsionTeklogix WorkAboutPro which is both feature rich and rugged. Although the unit initial cost is more than the typical off the shelf laptop, the flexibility of use deems it a greater value. Moreover, the ruggedness extends the life cycle of the unit so that the cost per read is actually less in the long run.

The evolution of the SDRReaderCE tool has been decades in the making. Hence the product is all inclusive with function while the sleek interface design provides for shielding the meter reader from the breath of implementation features. This allows the actual meter reader interface to be simplistic at the surface of approach but extremely deep in the underlying capabilities of the application.

The GPS capabilities included in SDRReaderCE are an innovative first for handheld reading systems. Coupled with the GPS feature is an optional camera feature for collecting field images and associating those images to a meter location. The incorporation of image data as part of the route data available to the meter reader is a welcomed first in the industry, not to mention how powerful the feature is.

SDI offers the SDRReader suite, including SDRReaderCE, for a below competitive price. As all SDI products, the tool is intuitive and easy to operate. For example, half a day for setup and half a day for training is typically all that is required to fully utilize this product.

Finally, as always, SDI's personable and knowledgeable customer service is available 24 hours a day, 7 days a week. Coupled with other products in the SDI suite, SDI offers one stop shopping to utilities.

SDReaderCE is part of the SDI, all inclusive, suite of tools.

SDReaderCE utilizes the latest in ruggedized handheld computer technology.

SDI offers utilities a resource for one stop shopping.

Summary:

Significant Digits Incorporated has been providing advanced software and hardware technologies to the utility management community since 1993. The staff of expert software engineers is constantly developing and re-engineering ways to better serve their customers. By utilizing the latest advancements in hardware technology and software development practices, SDI remains on the cutting edge of utility management innovation. In addition, Significant Digits Incorporated offers around the clock customer service that is knowledgeable and personable and second to none.

SDReaderCE was developed in the Microsoft .NET environment to be used with handheld computers utilizing the Windows CE operating system. SDReaderCE is a feature rich application that simplifies the task of meter read collection. Knowing that the vast majority of utilities have an infrastructure diverse in technology options, SDI designed SDReaderCE to address it all with one tool. Namely, the 'open systems' features of SDReaderCE includes the ability to universally read all touch meters, read radio meters of all open AMR systems and include all the features of visual reading as well. In addition to that, perhaps the most innovative feature of SDReaderCE is the mapping technology employed. As an industry first, the meter points are shown on a map of the meter route that is updated as readings are entered via AMR or manually. Or better yet, the option of a camera and the inclusion of images with the route data may be the most innovative feature. Either way SDReaderCE is viewed, the competition will scramble for a long time before catching up.

Briefly, SDReaderCE in combination with SDReader6 offers the latest and greatest in utility management software for a below competitive price. SDI's personable and knowledgeable customer service is available 24 hours a day, 7 days a week. With the features included in SDReaderCE and the SDReader system, in combination with the competitive pricing and customer service offered by SDI, make this a no brainer tool to incorporate.