



Remote Access Devices – Technology for Mobility Part 1 of 3

The evolution of field data collection technology is changing the way fastener distributors and manufacturers do business. More and more sophisticated wireless scanning devices are now available for performing remote warehouse operations such as inventory control, and item and asset management.

In the last 30 years, one of the biggest factors limiting the effectiveness of field data collection has been the cost of communications. With this economic barrier rapidly eroding, the cost benefit in being able to communicate back to the office using remote access devices has changed dramatically. Solutions for mobile workers are probably the most visible representation of that.

In this article we will highlight the different ways of collecting data in the field and how it has evolved over time. Subsequent articles will focus on taking your business to the field and on future technology.

MODES OF COMMUNICATION

There are two modes of communication: batch and real time. One communication method is not any better than the other. However, depending on your situation, one may be more appropriate to implement than the other.

In the fastener industry, batch processing has been the traditional approach to data collection. In batch mode, mobile workers gather information in the field using a data collection device. The device stores the information in its memory for later transmission to the back office system that processes it. Data is verified for accuracy after transmission.

In real time, the data collection device communicates live over a network or the Internet. The data collected goes right into an application that immediately processes it or stores it for processing at a later time. Data is verified for accuracy in real time as it is entered.

The important difference between the two is that batch processing is self-contained. Data is not transmitted until a manual process is done. Real time is live and does not require an additional manual process. It is already connected to the system to which it communicates.

DATA COLLECTION EVOLUTION

Until recently, several barriers have made real time communication with mobile workers difficult. 1) The cost of communication has been high; 2) The cost of communication devices has been high; and, 3) The quality and speed of that communication has been limited.



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In addition, the nature of the business has not demanded real time processing enough to make it worthwhile. As the cost of communication is dramatically decreasing and the quality of communication is improving, that cost justification point has changed significantly.

In some situations, a batch terminal is all that is needed. The data is collected in the field, later transmitted to a computer and then validated and processed.

Now that the cost of communication is getting more and more economical, it is becoming more feasible to validate the information during the field data entry process. When mobile workers gather information in the field in real time, that information is transmitted directly from the field to the home office within minutes. This can save a lot of time, as there is no need to worry about fix-it processes after the fact.

DATA COLLECTION DEVICES

There are three main types of data collection devices: 1) Batch Data Collection Terminals, 2) Handheld PCs and 3) Hybrid Tablets. All three categories of devices have ruggedized versions, which are industrial strength devices that can withstand being dropped or banged around in the field. They were designed for a mobile work force that doesn't have the time or inclination to treat the device delicately.

BATCH DATA COLLECTION TERMINAL

The traditional device is a batch data collection terminal, such as the Intermec Trakker, which is used for collecting data in batch mode. Trakkers are a very viable connectivity device in many, many applications. These devices have been around for quite some time and have evolved over the years. They perform a single function and are very easy to use. On the downside, they run on proprietary software that isn't portable for use on other devices.

HANDHELD COMPUTERS

The second type of device is the handheld computer. One of its advantages is that it uses a wireless modem for communicating with corporate computers or the Internet. Some can use the Microsoft Windows operating system or be expanded with a barcode scanner.

This gives you access to varied applications and capabilities that the batch terminals traditionally have not had the smarts to do. Now you can have access to your customer relationship software, your calendar and your email all from a single device. Your mobile staff can be more productive because they don't physically have to come into the office as frequently. They can keep up to date remotely and stop carrying around heavy, expensive laptops.



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There are two issues of which to be aware with handheld computers. First, you are running some powerful applications on a device with a fairly tiny screen. Software vendors can re-write pieces of the application to fit on the screen. Secondly, although the applications can be as simple to operate as on a batch terminal, the multi-use nature of the device can make it more complicated to use.

HYBRID DEVICE - TABLET

The third device, a tablet, is a handheld computer with a really big screen. Now you have the combination of a regular size screen and a very lightweight, portable, rugged device. Software modifications are fewer because existing applications are meant to be used with a screen of that size.

With the tablet, you have all of the advantages of the handheld device while eliminating the screen size issue. However, the tablet does have a bigger form factor. It is the size of an 8.5x11 piece of paper requiring two hands to operate vs. a device that fits in your hand.

As with different communication modes where one type of communication may be more appropriate than another, no one device is better than another for all applications. It depends on your situation, your budget, and other factors we will cover in subsequent articles.

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