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Using wireless devices to communicate within departments in a company is a hot topic. The Internet and handheld computers have added new features and capabilities; however, this is not a new topic in the maintenance field. We have been using RF, bar coding, pagers, and more recently, cell phones to communicate for years.

While there are a number of issues to be resolved, the wireless world seems inevitable, at least according to the reviews by industry experts. The convergence of the Internet and this wireless world holds the promise of many opportunities for maintenance personnel to increase their efficiency and ultimately reduce operating costs.

With computerized maintenance management systems (CMMS) now available for use over the Internet from application service providers (ASP) for a rental fee, one part of the puzzle is in place. The promise of wireless technology is that maintenance personnel can access, from any work location, their CMMS application to review work orders, check manuals and equipment drawings, enter labor and parts used, or browse the Internet for pertinent information.

For more than a year now, on-line software rental has allowed organizations to use sophisticated software applications on their personal computers for a low monthly service fee. Internet delivery of maintenance management software reduces the overall cost of the CMMS application, while it eliminates the need of organizations to maintain and upgrade these software modules. This is all part of the service included in the monthly rental fee, as is implementation assistance, training, and on-going support. (See accompanying section " ASP Delivery Model .")

The wireless connection

With this CMMS software delivery model in place, we have to determine the part to be played by wireless technologies. These technologies need to be reviewed to evaluate what benefits flexible communications can bring to the maintenance department. Ask the following questions:

- Is the fundamental design and concept reasonable? Is it feasible to have a general-purpose handheld device that allows access to all of the features of a CMMS, and what are the benefits of increased information, such as drawings and manuals, on a handheld device?

- Is immediate notification about the receipt of an inventory part required, or can the stockroom simply notify the tradesman via the paging system?
- Is time saved by entering work time on a handheld device? More importantly, do we want the tradesman burdened with another tool when he can have a full-sized PC screen to enter his time?
- Are the technologies available to deliver these features? We have not seen a single PDA that effectively delivers voice, data, and Windows, and standards are still evolving for the communication between these devices.

The cost of supporting wired infrastructures and their inherent static design provides a significant opportunity for wireless technology. We are in the early stages of delivering the technology to a maintenance department because much of what is reviewed is material such as pictures, drawings, text, and manuals.

Three tools or one?

Based on my review of the state of wireless technologies, a maintenance staffer would need a pager, cell phone, and handheld computer in his toolbox to deliver all of the hype promised. He also would need communications protocols from one of the five or six major suppliers.

Unfortunately, these protocols are neither standard nor compatible between different devices. Europe has adopted a standard called Global System for Mobile Communications, while North America has several competing standards. Pagers will work in most environments, cell phones will work only in certain areas, and handheld devices are supported only in large cities for on-line Internet access.

In certain specialized areas where mobility is the main criteria, such as for service management personnel, contractors, or managers of multiple facilities, there is definitely a benefit to using wireless technology to provide information at the service site. For plant maintenance personnel, wireless has a fairly limited application at this time because of the size of the devices and the need to have more than one device.

But, there is hope. The next generation of devices is predicted to combine the necessary features that would be beneficial for a maintenance department. The incorporation of an Internet browser in a cell phone allows the sourcing of parts and specifications via the Internet. It also allows limited database access to the CMMS. The necessary

communications protocol will be available in most areas of North America in the near future.

When these events take place, maintenance personnel will be able to remotely sign on to their Internet-delivered CMMS application, review parts availability, select the preferred supplier, call the supplier, place a requisition on the system, receive notification when the part arrives, and surf the Internet for the latest manual on the appropriate piece of equipment.

The convergence of these technologies is happening today, but until that time, I suggest we continue to use the proven approach of a phone, pager, bar coding, and desktop PC to provide the information needed for maintenance operations. **MT**

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ASP Delivery Model

The application service provider (ASP) delivery model has a number of advantages for the software application user:

1. Smaller organizations (or smaller purchasing departments) have access to more sophisticated solutions than they would otherwise be able to afford due to the typically low monthly service fee.
2. For budgeting purposes, managers know the exact cost of using applications.
3. Early studies indicate a 30 to 50 percent lower cost of ownership, according to Cherry Tree & Co. in its report on the ASP industry. (Report can be reviewed at http://www.webharbor.com/industryanf.shtml .)
4. The implementation cycle is much faster.
5. All organizations benefit from a reduced ownership risk because there are no up-front capital expenditures for the software.
6. Utilizing the services of an ASP reduces the demand on in-house IT professionals whose time is usually at a premium.
7. Purchasing departments can focus on their key area of concern or core

competency rather than on maintaining systems and applications that are supposed to be supporting them.

8. Organizations are supported by the service provider s professional consultants who understand both the application and their business environment.
9. Purchasing departments no longer have to worry about keeping up-to-date with technology. This is the concern of the service provider who must stay current to stay competitive.
10. Upgrades to newer versions of software are smoother and easier. Once the central site is upgraded, all users are automatically on the new version.
11. Organizations now can use one application for many sites without the large overhead of maintaining and upgrading multiple software licenses, or an expensive WAN or LAN.

Questions to ask an ASP about CMMS rental

1. Is your price protected? What is any price increase linked to?
2. If I am unhappy with the service, is the supplier required to put my data into an industry standard format (Excel, SQL)?
3. If the supplier goes out of business, does the software, including source code, transfer to me, and am I in possession of the most current software?

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