

Is e-commerce unplugged?

The dot-coms have discovered that superintendents are in no rush to change the way they do business

BY LARRY AYLWARD, EDITOR

Mike Scott is laughing, but you can tell it's a hollow and humble laugh.

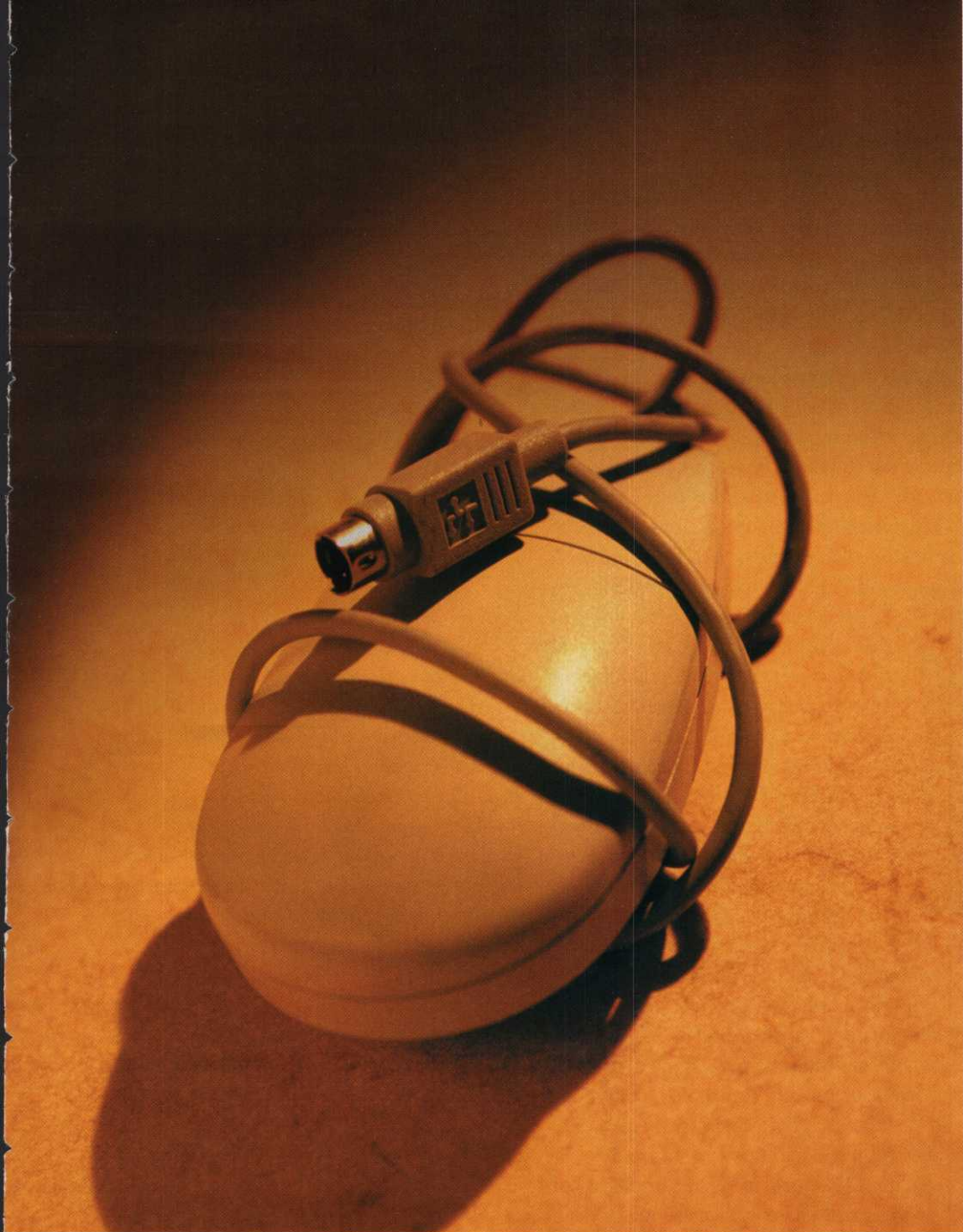
"That's a little embarrassing," admits Scott, founder and CEO of San Diego-based Golsfat Inc., upon learning that his company's Web site, *golsfat.com*, was not functioning for nearly a week. "I didn't even know the site was down."

For about five days in early August, you could type "www.golsfat.com" on your Internet browser, and the site wouldn't appear. Yes, that's the same Golsfat that took the GCSAA show by storm in New Orleans two years ago with an unprecedented marketing blitz by a dot-com company in the golf course maintenance industry. That's the same Golsfat that set out to change the way the industry does business by lobbying superintendents and suppliers to come to its site so it could initiate product sales between them. That's the same Golsfat that offered superintendents an assortment of cyber goodies, including computers, to lure them to its site.

A year ago, in the midst of Golsfat's marketing push and pilot program, Scott would have probably had a meltdown if the site had crashed for five days. But not today. In fact, despite his embarrassment, Scott admits that *golsfat.com*'s August disappearing act was no big deal.

"It reflects the attention we're giving to our site," he says. "We've been ignoring it for some time because our focus is now on licensing our technology to various suppliers."

With \$9.5 million already invested in the company, Scott is taking Golsfat in another direction. The company is now licensing its technology to industry suppliers and distributors to help them build their own customized Web sites complete with e-commerce capabilities. "Our primary objective is to use Web-based technology to bring efficiencies and enhance communications with distributors, manufacturers and their business systems," Scott says.



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In the past three years, superintendents have watched the evolution of several third-party e-commerce companies, such as *golfsat.com*, which tried to attract them to their sites with news, weather, technical information and e-mail. The e-commerce companies counted on superintendents to purchase equipment, chemicals and other goods from the industry suppliers they featured on their sites so they could garner 3-percent to 5-percent transaction fees on the sales.

But Scott realizes the e-commerce scheme that Golfsat and several other dot-com companies introduced to the industry has fizzled like a cheap firecracker on Independence Day. Most superintendents, whether they're from the computer generation or not, weren't interested in purchasing goods from Web sites operated by

third-party vendors. Suppliers were also skeptical. They weren't sure if they wanted to sell their products on sites that also featured the competition's goods. Suppliers also didn't want to share private sales data with e-commerce vendors.

One thing is for sure: E-commerce in the golf course maintenance industry is about as steady as a puny rowboat on rough seas.

Golfsat is not the only dot-com company that has struggled. After failing to sell items on its site, Lyons, Colo.-based GolfSolutions Inc. (*golfsolutions.com*) also did an about face and is now licensing its technology.

Other dot-com sites are missing in action. *pgcgolf.com* is lost in cyberspace — its site is down and the phone number of its president,

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Kirk Sanders, has been disconnected. *E-greenbiz.com* is a virtual ghost town — its online auction is not functioning, and its president and CEO John Cochran can't be reached via phone or e-mail.

Other sites appear abandoned. A news item on *igreens.com*, which utilized the "request for quote" e-commerce strategy, is about a call for entries for the 2001 Environmental Steward Awards. The entries were due last October.

Some sites never got off the ground. GCSAA had planned an exchange site in conjunction with XS Inc., which operates *XSAg.com*, an online site for farmers. According to the initial plan, GCSAA and XS would share a percentage of the online sales of selected goods made to superintendents. But the site never made it out of its pilot program after superintendents and suppliers rejected it. (GCSAA and XS have since revamped their approach and will introduce an online shopping mall.)

The bottom line is the bottom line, and it's not performing for many industry e-commerce vendors. Hence, they've either packed it in or changed their strategies.

"It mirrors what's happening in the overall Internet world," says Jeff Bollig, GCSAA's director of communications, pointing to the general demise of dot-com companies. "Everybody said the Internet is the hottest thing in the world, so they rushed in and threw money at it."

Richie D'Ambrosio, superintendent of Olde Stonewall GC in Ellwood City, Pa., says he briefly thought about trying one of the third-party e-commerce sites two years ago but never did.

"I don't see myself using it in the future," D'Ambrosio adds. "It's pretty cut-and-dried what I need and where I get it."

What gives?

Many people, including a few superintendents, thought e-commerce would change the way the industry does business. So what happened? Why did most superintendents reject *golfsat.com* and other vendors?

One word — distributors. Many superintendents didn't embrace e-commerce because they didn't want to sacrifice relationships with their distributors.

D'Ambrosio says he's known some of his

No Shopping Sprees Here

Most superintendents aren't interested in purchasing golf course maintenance equipment and chemicals online, according to recent *Golfdom* research. Our survey reveals that 79 percent of superintendents use computers for work-related purposes, and that 41 percent of those superintendents said they're likely or somewhat likely to make work-related purchases over the Internet in the next year. However, 28 percent of those superintendents said purchases would be for books and training materials, and 26 percent cited replacement parts.



'If anybody is going to get my money, it's the distributor here supporting me.'

PETER SALINETTI
SCHUYLER MEADOWS GC

distributors' salespeople for 12 years, and he says they'll be at his course on the double if he needs something in a rush. "Are you going to get that type of service through the Internet?" D'Ambrosio asks.

Scott says his intention with *golfsat.com* was to make transactions between buyers and sellers more efficient, but not at the expense of distributors. But Scott says superintendents still viewed *golfsat.com* as a threat to the superintendent/distributor relationship. He says superintendents wanted their salespeople to gain commissions on sales and believed they wouldn't if they purchased products online.

"Distributors play invaluable roles," Scott says, noting that superintendents rely on distributors for advice. "It's a strong and established business relationship."

There were two other grievances heard from superintendents, Scott says. They said *golfsat.com* didn't have the suppliers they wanted, and the prices posted on *golfsat.com* weren't the same as they'd been paying.

Dan Murnan, president of Edmonds, Wash.-based Cybergolf Business, operator of *igreens.com*, says he placed the site "on the back burner" last January because he realized superintendents weren't going to change their buying habits. "We can't change the way superintendents have done business the past 100 years," Murnan says.

John Mueller, creator of GolfSolutions, says the hype of e-commerce may have confused superintendents.

"From day one, we said the Internet wasn't going to kill the salesperson," Mueller

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says. "Look at the fax machine. It didn't kill the sales person."

Pete Salinetti, certified superintendent of Schuyler Meadows GC in Loudonville, N.Y., and a member of Golfsat's advisory board, believes e-commerce can work but stresses that distributors must play an integral part.

"I'm not going to buy a load of fertilizer from somewhere in Wisconsin to save a few hundred dollars," Salinetti says. "If anybody is going to get my money, it's the distributor here supporting me. Superintendents across the board feel the same way. They've developed professional relationships with their salespeople."

Where Are They Now?

A year ago, several e-commerce companies were vying for superintendents' business. What has happened to them?

■ **golfsat.com** took the GCSAA show by storm in New Orleans two years ago with an unprecedented marketing blitz by a dot-com company in the golf course maintenance industry. But Mike Scott, golfsat.com's founder, is taking the company in another direction. It's now licensing its technology to industry suppliers and distributors to help them build their own e-commerce sites.

■ **golfolutions.com**, one of the industry's earliest e-commerce players, has also changed its approach. It now offers its development, hardware and advisory services to superintendents and suppliers.

■ **pgcgolf.com** is nowhere to be found. Its site is down and the phone number of its president, Kirk Sanders, has been disconnected.

■ **greentrac.com** has streamlined its focus. "Superintendents have told us they want to work with their existing suppliers, and they've expressed a need for private marketplaces," says Toan Bui, director of business development for the company. Greentrac is offering to establish private procurement networks where superintendents would have the opportunity to establish their own private procurement net-

works, which would allow them to deal only with their existing suppliers.

■ **e-greenbiz.com** resembles a vacant house. Its online auction and other components of its site aren't functioning. Its president and CEO, John Cochran, also can't be reached.

■ **igreens.com** site still functions, but hasn't been recently updated. Dan Murnan, whose company Cybergolf Business operates *igreens.com*, admits he placed the site "on the back burner."

■ **precisionusa.com**, operated by Pompano Beach, Fla.-based Precision Small Engine Co., has had some success, says president Andy Masciarella. The site offers about 150,000 golf course equipment replacement parts for sale online.

■ **golfbusiness.com**, headed by the National Golf Course Owners Association and private investors, has had marginal success because it bills itself as a distributor. The site offers up to 15 percent savings on purchases by leveraging its supplier relationships and reducing transaction costs.

■ **epurchase.net**, ClubCorp's e-commerce initiative, was shelved when ClubCorp joined Marriott International, Hyatt Hotels, Bass Hotels & Resorts and Fairmont Hotels & Resorts early this year to form Avendra (*avendra.com*), a huge procurement company.

What now?

Many people, including Scott, believe the third-party e-commerce method is dead. "I'm absolutely convinced of that," Scott adds.

But that's not to say that the general concept of e-commerce is flat on its back. In fact, many people believe it can still thrive, and there are signs that it's working in the industry.

Andy Masciarella, president of Pompano Beach, Fla.-based Precision Small Engine Co., has had some success with his site, *precisionusa.com*, which offers about 150,000 golf course equipment replacement parts for sale online. Has Masciarella struck e-commerce gold with his parts approach?

"We're getting more play, but it's still nowhere near what we hoped it would be," he says. "We get about 25 new superintendents who register every week. It doesn't sound like a lot, but we're pleased with it."

Tampa, Fla.-based *golfbusiness.com*, headed by the National Golf Course Owners Association and private investors, has had marginal success because it bills itself as a distributor. The site offers up to 15 percent savings on purchases by leveraging its supplier relationships and reducing transaction costs. The site has agreements with Helena Chemicals, Standard Golf, Pennington Seed and other companies to distribute their products.

"We're still here," says Jim Bailey, executive director of *golfbusiness.com*. "We're a little different. We don't make money on a set margin transaction; we make money on the actual margin of the product sale."

Rockville, Md.-based Avendra is also different. Formed earlier this year by Marriott International, Hyatt Hotels, ClubCorp USA, Bass Hotels & Resorts and Fairmont Hotels & Resorts, Avendra (*avendra.com*) is a huge procurement company, in which golf course maintenance is a part. ClubCorp suspended its own e-commerce site, *e-purchase.net*, to join Avendra. But Doug Fiedler, the company's vice president of program development and marketing, says Avendra is not strictly an e-commerce company.

"Our philosophy is to allow customers to do business the way they want to do business," Fiedler says. "So we allow them to do business face to face, over the phone, by fax or over the Internet."

Time will tell if GCSAA's new e-commerce initiative is successful. When GCSAA discov-

ered that superintendents and suppliers weren't interested in its initial proposal, the association backed off to rethink its approach, Bollig says. At issue was that GCSAA should serve the needs of its members, not profit from them.

GCSAA and XS have since changed their approach. Later this year, GCSAA plans to introduce an online shopping mall, featuring suppliers' Web sites. XS will create the format, but neither it nor GCSAA will profit on any sales.

"All the transactions that occur between buyers and sellers in the shopping mall will be between them," Bollig says. "We're not involved. The only money we'll make is if we decide to charge anything for rental space (in the mall)."

Golfsat's fate is also unknown. Scott says the company's new approach is going well. In August, Scott was closing a deal to raise \$5 million to inject into the "new" site.

"But we've had to tear down the company and rebuild it," he says. "Our needs are different now."

Mueller says GolfSolutions' new approach — it now offers its development, hardware and advisory services to superintendents and suppliers — is "going slower than we want."

"We've found in the golf business that everything is slower in terms of technological migration," Mueller adds.

No major equipment and chemical companies have emerged as e-commerce juggernauts. Whether that industry segment pursues the Internet as a business opportunity is also unknown.

There's hope

Despite the gloomy news, there are optimists who believe e-commerce will flourish in the appropriate structure. Scott says it's vital that suppliers and distributors convince superintendents that it's OK for them to purchase products online.

"A salesman needs to tell a superintendent, 'If you need to order something from me but you can't reach me, just get on our Web site and order it,'" he says. "But it will take many years before superintendents as a whole are comfortable

placing any orders online. It will be up to distributors to determine how much they want to encourage their customers to order from them online."

Last year, Salinetti said e-commerce would change the way most superintendents do business in the next five years. Salinetti stands by his statement, but he reiterates that it's vital for distributors to

be part of any e-commerce mix if it's going to be successful. Salinetti believes third-party e-commerce sites, as well as industry suppliers, will eventually have their day.

"This industry is loaded with a lot of well-educated, aggressive and computer-literate young guys," Salinetti says. "At some point, e-commerce will become a part of our everyday life." ■



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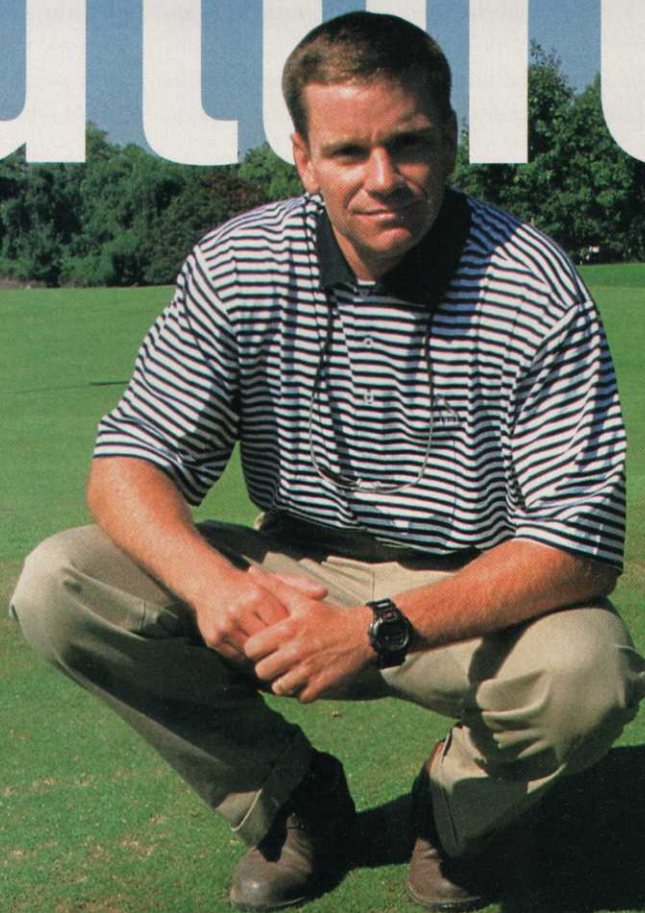


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A GLIMPSE INTO THE Future

Gadget guru Christopher Sykes, superintendent of Cherokee CC in Knoxville, Tenn., looks like he might need an assistant to carry around the technological equipment he depends on daily.



Chris Sykes runs down a mental checklist of all the technological devices he carries before checking on Cherokee CC in Knoxville, Tenn., where he is the superintendent.

Cell phone: Check. Digital recorder: Check. Palm Pilot: Check. Walkie-talkie: Check. Pager: Check. With the inventory complete, Sykes breathes a sigh of relief. Now he's equipped to face whatever challenges the golf course throws at him.

"There's so much to remember every day between taking care of the golf course and managing my staff that I can't imagine how superintendents used to do it before technology advanced to where it is today," Sykes says. "I have 500 computer files that I use to help me do my job. Without a way to access them on the course, I'm not sure what I'd do."

Though technology is only another tool for the profession, it's streamlining maintenance operations so superintendents can spend the bulk of their time practicing what they enjoy most: the art of golf course management.

Sykes embraces technology as an integral part of his career, and he doesn't understand why more of his colleagues don't take advantage of it.

"If you stick yourself in the past, you will be left behind as the industry moves forward," Sykes says. "The superintendents who learn how to harness the power of technology will be those who progress professionally."

Perhaps the most important technological innovation of the past 30 years was the introduction of personal computers to the industry. According to the 2001 GCSAA Leadership survey, 41 percent of superintendents ranked computers as the most important piece of personal technology they use in their work. PCs revolutionized the way superintendents conduct business, says Bob Collins, certified superintendent at Cripple Creek Golf & CC in Bethany Beach, Del.

"Nearly all superintendents have computers now, and with the advent of e-mail and the Web, computers are almost indispensable," Collins says. Superintendents can save time because they don't have to recreate routine documents every year, he adds. Having computer files also makes record storage easier, Collins says.

David Stone, superintendent at The Honors Course in Ooltewah, Tenn., says he uses his computer primarily for word-processing and budget spreadsheets. He also keeps files of the instruc-

tions he gives his crew so he can monitor their progress on jobs. "It's been an incredible help to me in streamlining the process," he says.

The prevalence of computers inspired development of: computerized irrigation systems; global positioning system (GPS) maps of golf courses; and the use of Web sites and e-mail to disseminate turf information to industry colleagues at lightning speed. (The GPS is a government network of 24 satellites orbiting the earth that tracks the location of moving objects on the ground.) These technologies allow superintendents to perform tasks, from water applications to staff budgeting, more efficiently and effectively than before.

Cellular phones, which followed on the heels of computers, liberated superintendents from their desks, allowing them to spend more time in the field. Collins says if you'd told him five years ago that he would carry a cellular phone,

Superintendents expect computer-driven mowers and the global positioning system to be at the forefront of the next generation of technological advances

he would have said you were crazy. Therefore, he finds it ironic the phone is now his constant companion.

"I carry my cell phone with me so my assistants can reach me if a crisis arises on the course," Collins says. "It makes me more secure about my job and relieves a lot of stress because I know I can always be in contact."

The advances in cellular phone and two-way radio technology have turned the gadgets into more than communication devices, however. Many cellular phones have Web access, which helps superintendents stay in touch as they prowling their courses looking for problems, says Dan Dinelli, superintendent of North Shore CC in Northbrook, Ill.

"You can be out on the course in the morning and check a weather report without having to go back into the office," Dinelli says. "If you find there's going to be a storm, for example, then you can use the device to change the settings on your irrigation system or communicate some

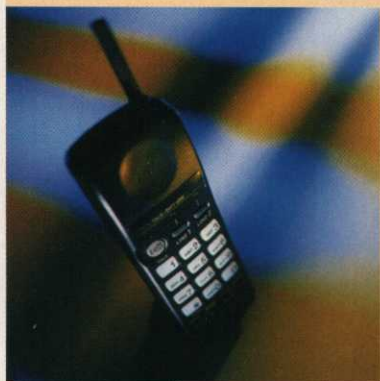
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Choosing Communication Tools for You and Your Crew

When Bill Spence arrived at The Country Club at Brookline (Mass.) in 1984, he noticed crew members walking around the 230-acre property with small, outdated Motorola two-way radios that barely reached the first green from the first tee. He had to improve the communication system — and fast.

"We tried to boost the range by using a repeater, but it was only a matter of time before we had to make a change," Spence says. "Communication is far too important on a golf course to let an inefficient system hurt it"

The sophistication of communication tools has expanded considerably since the days of the older two-way radios, says Bob Farren Jr., director of



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golf course maintenance at Pinehurst Resort in Pinehurst, N.C. Farren says the increasing complexity makes it imperative for superintendents to choose the right systems.

Spence and Farren offer the following ideas about what you need to know before purchasing a new communication package for you and your crew:

■ Conduct a survey to determine how much range your radios will need.

Both Spence and Farren say a survey is an essential first step to buying communication equipment.

"You have to know what your limitations are before you can buy a system," Farren says. "Topography plays a large role in determining how much power you'll need to reach all areas of your course."

■ Shop around.

Farren, whose system includes two-way radios and cellular telephones, says shopping around is particularly important for cellular phones because the number of companies with differing offers is staggering.

"You want to acquire the right package," Farren says. "With the number of companies on the market, you should be able to find a deal that's both economical and effective."

■ Make sure the radios/phones are multichannel and programmable.

Spence says having multichannel capability is vital for his facility. The clubhouse, pro shop and front desk all have specific frequencies to use, which makes it helpful when the maintenance staff needs to contact them.

"If you have a problem on the course — for example, a golfer collapsing from a heart attack — you need to get to the front desk immediately to call for help," Spence says. "You don't want to be fumbling around trying to get someone to respond on an open frequency. Multichannels address that issue."

■ Investigate the equipment's toughness.

"I've seen radios fall out of golf cars and pockets and bounce off the ground," Spence says. "You have to make sure that whatever equipment you buy will stand up to that kind of treatment."

■ Check the availability of parts and service on the system you purchase.

Superintendents should find out where the closest service center is and how quickly it can turn around a repair, Spence says.

"The last thing you'll want to do if your radio goes down is drive an hour to a repair shop that will take a week to fix it," Spence says. "Your communication equipment is like any other piece of equipment you own. You don't want it out of commission for long, so you'll need to know who can fix it fast."

— Frank H. Andorka Jr., Managing Editor

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piece of information to the crew. It will make you more efficient."

Dinelli says superintendents can also use Web-access phones to view Web sites that have information to diagnose pest problems more accurately and quickly, allowing superintendents to treat problems with precision.

Where to go

Where superintendents would like technology to expand in the future is as diverse as the number of superintendents you ask. For example, Sykes says he'd like to see robotic, GPS-driven electric mowers where superintendents could program mowing patterns and the machines could mow without operators. He also feels electric equipment is the future, particularly with energy shortages and noise-pollution concerns spreading across the country. "You'd save money because you'd be able to reduce your staff," Sykes says.

Dave Ward, superintendent at Olympia Fields CC in Olympia Fields, Ill., says GPS-controlled equipment will revolutionize the profession's future. He'd like to be able to track his maintenance equipment from his desktop (or even a hand-held computer) through GPS. He'd like to see manufacturers install sensors on equipment that would diagnose mechanical problems while machines were out in the field *before* the problems became a major hassle. In addition, Ward's dreams go further.

"Someday, maintenance equipment will have sensors to alert you to soil, pest and disease problems," Ward says. "It will feed the information back to you on a hand-held computer so you can make an instant decision about what actions to take. I'm looking forward to that day."

Unless the latest technology can work in concert with what already exists, however, it will never reach its full potential, Dinelli says. The major missing piece — and source of constant frustration for Dinelli — is the lack of software to allow computerized systems to work together as one.

"That's what diminishes its overall power to affect the way superintendents do business," Dinelli says. "It's so piecemeal. Plenty of superintendents see the potential, but until someone can find a way to make all the computers work together, we'll only scratch the surface of what technology can do." ■

Internet service providers and hardware manufacturers provide high-speed connections so you can surf more swiftly



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Cruising the Web at Warp Speed

TECHNOLOGY UPDATE

BY JOE DYSART

Once you're comfortable cruising the Internet, one of the first questions you'll ask is: How can I go faster? Fortunately, several Internet service providers and hardware manufacturers have responded to the clamor for high-speed Internet connections with hardware and line connections that make the typical 56K modem seem prehistoric.

Currently, the two primary high-speed Internet alternatives — commonly known as “broadband Internet” — are cable and digital subscriber lines (DSL). While there are other contenders — satellites and Integrated Services Digital Networks (ISDN) — neither is significantly faster than a standard 56K modem. Given that you already have or will soon have a choice between cable and DSL, it doesn't make sense to get involved with satellite or ISDN.

One of the easiest services to link to is high-speed Internet cable. Offering speeds up to 50 times faster than a 56K modem, high-speed cable is available in select markets and is generally provided through local cable TV companies. Linking to it involves little more than hooking a cable modem to your PC.

High-speed Internet cable is also relatively inexpensive. After installation fees, which range from \$99 to \$175, basic cable modem service can be had for as little as \$39 per month. For more information, check out companies like @HomeNetwork (www.home.com) to see if you happen to be lucky enough to be located in one of the markets serviced by cable modem companies.

Cable Internet access can also be extremely quick. Some cable companies promise download speeds of up to 8,000 Kbps. Compared to a 56K

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Cruising the Web

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modem, such speeds seem lightning charged.

Unfortunately, the downside of high-speed Internet cable is that speeds vary. Generally, access speeds drop during peak usage hours. The more people who use the system, the slower your access will be.

Currently, the primary alternative to cable is DSL service. Provided by local telephone companies, DSL lines can be 25 times faster or more than a 56K modem. Not surprisingly, prices vary. But generally, users should expect to pay around \$100 for line installation, and a \$30 to \$120 monthly fee for service, depending on speed.

Unfortunately, the high speeds promised by DSL also vary. But with DSL, access speed is generally less dependent on the number of local users on the system and more dependent on your physical proximity to what is referred to as the DSL provider's central office. At distances of less than 12,000 feet, for example, you should be able to get download speeds of up to 8,000K, according to the DSL forum. But at more than 20,000 feet, expect 256K downloads at best.

Establishing a link involves installing an ethernet card in your PC (NetGear by Bay Networks is a reliable card), and hooking your PC to a DSL modem. The modem interfaces with a standard telephone line, which is augmented with a special jack that's installed by your DSL service technician.

Like high-speed cable, DSL is a tempting invitation to the Internet's fast lane. But be forewarned: DSL installations can be tricky, and it's a good idea to bulletproof your DSL installation before the service technician ever darkens your door. First and foremost, size up the competition: You can get a list of DSL providers for your community at www.getspeed.com.

You'll also need an ethernet card, and it's best to verify with your DSL Internet Service Provider which card is best for your PC and its service. Any local PC store can easily install an ethernet card. You can also do the installation yourself by removing your PC's protective shell, and plugging



the ethernet card into the appropriate slot.

Moreover, you should also be sure to demand "always on" DSL service, or a connection that is live 24 hours a day and seven days a week. At an average of \$50 or more per month, you shouldn't have to settle for a limited DSL connection.

If possible, you'll also want to verify that your PC works well with DSL. For example, test your PC on a friend's DSL connection, if possible. The reason: Occasionally, if you're not getting the DSL access speeds you were promised, a DSL installer may blame the performance problem on your PC (surprise). If you can prove your PC works fine on another DSL connection, your service tech will have to knuckle down and troubleshoot the connection.

Moreover, when readying for a DSL connection, you'll want to keep a clean machine. Translation: The fewer additional appliances plugged into the same surge protector as your DSL modem, the better. Sometimes, a non-computer appliance sharing a surge protector with a poorly shielded DSL cable modem, for example, can degrade the connection.

Whether you choose cable or DSL, you should put the tech support department of your potential provider through its paces before you sign. Often, smaller eager-to-please cable or DSL providers will run circles around their monolithic counterparts with faster and more efficient customer service. Do a little homework now to save headaches later.

It's also a good idea to be personal with your salesperson. Use the personal e-mail address of your salesperson to document in e-mail any ongoing problems with your

service, for example. The written history will come in handy if you decide your provider is not working for you, and you want to bail.

As with most things high-tech, detailed research before you commit never hurts. For more insights, check out www.dsreports.com, www.dslife.com, www.dslprime.com, www.cable-modem.net, www.cablemodemhelp.com and www.speedguide.net.

You'll also find that your local Internet club can be one of the best sources of info for how local cable and DSL services operate. Enter the keywords "Internet club" (and your town) on any popular search engine for links to the friendly propeller heads in your area.

A final note: Be aware that "going broadband" unfortunately offers cyber ne'er-do-wells unfettered access to your



PC. Whether you're connected via DSL or cable, your PC will be hooked to your provider's network 24/7, offering Internet hackers nothing but time to crack into your PC if they choose.

You can frustrate all but the most hyper-diligent of these pranksters by adding firewall security protection between your system and your 'Net connection with programs like Zone Alarm (www.zonelabs.com), Norton Personal Firewall (www.symantec.com/product/hom-is.html) and Black Ice Defender (www.networkkice.com). ■

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