

76 Smart Tech Solutions

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Increase productivity, keep your tech safe, and spend your IT budget smarter with these business technology tips.

With all the hustle and bustle of running a business, you may have fallen out of touch with what's hot in technology and which of the latest and greatest gadgets can help you in your business. But never fear--from hardware to tech services, here are compiled tips to bring you up to speed.

Start Controlling Your Tech--Before It Controls You

1. Increase Communication With Far-Flung Employees

It sounds basic, but the first step in setting up a technology solution for working with offsite employees is to figure out just what you need to do with your extended work force. Most growing businesses with multiple work sites will have two particular needs at the top of their list: the ability for employees to talk with each other on a minute-by-minute basis and the ability to have access to files away from the office. To add to the challenge, these needs have to be met at a price point that won't strain the budget.

Meeting these requirements doesn't require deep secrets or complex technology. Basically, it's about e-mail, telephones and IM. For e-mail, outsourcing can provide extra features, higher security and web access. For IM, you can use the many free solutions offered online. And if you want access to customers no matter what IM platform they're using, try chat clients like Trillian that allow you to cross platforms. And for that pesky file-sharing problem? Look for in-house servers that offer secure web access and online file sharing.

2. Use Wiki to Ease Collaboration

Chances are, you may be familiar with wiki by way of Wikipedia, an online encyclopedia fed by contributions from thousands of people. A wiki is a web page that multiple users can collaborate on--it's generally basic in design and easy to use. Now, like the blogging phenomenon, wikis are starting to work their way into the business arena.

Ross Mayfield, CEO and co-founder of Palo Alto, California-based Socialtext, a group productivity and wiki solution provider, says wikis have two main benefits: They boost group productivity and also act as a business knowledge base where information is logged and easily accessible. The constantly-changing nature of wiki means it may never be completely finished, but it does remain up-to-date. Mayfield says candidates for wiki use include companies that generate a lot of documentation through groups, are team-project-oriented or seek a collaborative writing environment. Just freeing your inbox from the heaps of cc'ed e-mails and boosting productivity can be worth the investment.

3. Create a Continuity Strategy

You never know how much you depend on technology until you don't have access to it anymore. If a disaster strikes, you may not only suffer direct losses of data and hardware, but indirect losses due to downtime. But with some foresight and planning, you can avoid sustained downtime--and lost profits.

First, create a broad, holistic plan to ensure business continuity, not just disaster recovery. This plan should involve every part of your business, such as processes, operations, assets, employees and so on. Your overall goal: to prevent business disruption--then minimize it if it does occur. To this end, you should:

- Conduct an impact analysis. How much downtime, loss of productivity, loss of data, loss of revenues and so on can your company sustain? For how long?
- Develop a plan for dealing with mission-critical (revenue-impacting, customer-facing) functions and business-critical (back office, supply chain, e-mail) functions under various disruptive scenarios. Determine which business technologies to employ.

- Educate your workers about the plan before a crisis occurs.
- From time to time, revisit the plan to make sure it remains practicable and viable.

4. Do You Really Need That Tech?

Before you make a large tech expenditure, make sure you actually need whatever new technology you want to buy. Inventory all your current PCs, printers and software, and look for opportunities to consolidate purchases, standardize configurations and root out duplication. A recent study of IT purchasing by New York City consulting firm McKinsey & Co. included one example company that had 30 percent more printers than it needed. The company was also able to reduce PC configurations from 10 to three. To continue spending smart, pick a team of people--be sure to include at least one IT expert--and meet with them regularly to discuss what they need and how to save on it.

Protecting Your Business and Your Data

5. No More Passwords

Biometrics is the use of body measurements to identify people. These technologies rely on the uniqueness of the human body to identify individuals, literally measuring your biological features and behaviors. The technology can scan your fingertips, hands, face, iris, retina, voice pattern or even behavioral characteristics. Eventually, passwords may become unnecessary since biometrics provide a convenient replacement and don't require memorizing obscure combinations of letters and numbers.

Fingerprint identification is making its way into portable devices like cell phones, PDAs and laptops--hardware that's vulnerable when lost or stolen. Since businesses can't afford to lose their data, fingerprint readers make more sense than password protection. The appearance of fingerprint readers in cell phones is the most recent development (coming soon to the US), but they already exist on some laptops and PDAs. External fingerprint scanners have been available for a while, and are growing in popularity.

6. Protect Yourself From Identity Theft

What can you do to make sure your business information isn't stolen? How can you make sure that no one charges personal purchases to your accounts and ruins your business credit history? Limit the employees who have access to sensitive information, screen outsourcing companies thoroughly, and always encrypt sensitive data on your computer network. One form of business ID theft happens when criminals forge payroll checks against your business accounts, so always guard check stock like cash. And don't use preprinted check stock; instead, encourage direct deposit, and shred sensitive documents on a regular basis.

7. Catch 'Em on Camera

Wherever you need an extra set of eyes, a wireless video surveillance camera can help. Don't expect to see sharp details, especially in poor lighting situations, but do expect cameras you can monitor remotely via internet. Just plug them in wherever there's a power supply (although cameras without power cords are on the horizon). Just don't forget to enable your Wired Equivalent Privacy (WEP) and password protection to keep your video signal away from wireless snoops.

8. Don't Let Power Surges Wipe You Out

A power conditioner is a device that hooks up between an electrical outlet and your electronic equipment to keep the flow of electricity constant. A UPS device, or uninterruptible power supply, is basically a battery back-up. It buys you time in case of a catastrophe because if the power goes down completely, the UPS kicks in and gives you a few precious minutes to save your work and shut down your computer. Higher-end UPS devices often come with handy software that automatically saves your work and shuts the computer down as needed.

Besides protecting you against full power outages, a UPS also acts as a surge protector, guarding against the sags and spikes that can cause equipment headaches. For added protection, look for a UPS with a phone jack. Running your modem line through a UPS protects your computer from "back door" damage. Don't forget that lightning strikes that cause sudden electrical spikes can travel through phone lines as well as electrical lines.

9. Back It Up Daily

It's crucial that you back up your business data every day. If you have a small amount of data (less than 1 Gigabyte), recordable CDs are inexpensive--you should be able to buy a year's supply for less than \$200 at most office supply stores. You can save even more money by buying CD-RWs that can be erased and re-recorded over and over again.

Regularly check to make sure that you can actually recover data from your backup disk, tape or CD-ROM. Try downloading specific files from the disk onto your home PC or a computer that is configured differently from your office server. And make at least two backup disks, tapes or CD-ROMs, and keep one in a secure offsite location, protected from natural disasters and theft.

One more thing: Don't forget that whomever hosts your website may also suffer a disaster. If the computer server on which your website is located is destroyed, your site is gone. Make sure that your ISP or web hosting service gives you a CD-ROM containing all the HTML, Java scripts and other software code for your site. Whenever you update or change your site, be sure to get an updated CD-ROM for the entire site.

Ditch the Wires

10. Say No to Dead Spots

Antennas and repeaters are the two most popular ways to stretch your signal on the cheap. Directional and omnidirectional are two terms you'll hear a lot. The omni-directional antenna boosts the signal for 360 degrees, while the directional antenna focuses the extended signal in one direction. There are also Wireless PC Cards with antennas for laptops and desktop antennas that attach to a desktop wireless network card. When selecting range-extending hardware, check with your hardware's manufacturer to avoid compatibility snags.

Repeaters are usually more expensive than antennas. A repeater acts as a relay station to pick up your wireless signal and bounce it along into those hard-to-reach corners and dead spots. Keep in mind that repeaters effectively cut bandwidth while expanding range, so use them sparingly.

11. Mesh Networks

The next step in wireless networking may be mesh networking. Also called multihop networking, it extends the range and strength of a network by using multiple access points. The more nodes you have interconnecting, the better. Each node acts as a router and can talk to other nodes instead of having them all talk back to a main base station. That's a boon for flexibility and reliability: If one node goes down or is too busy, the rest can reroute the traffic. Mesh networking can be used to cover big areas, like an entire city, or older office buildings that give regular Wi-Fi setups fits. It can also extend networks without setting up new base stations.

12. Use Wi-Jacks

While Wi-Fi is a convenient advance, installing a large wireless network can be costly. Large offices and older buildings require special care to extend the network to every nook and cranny. Wi-Jacks are the latest hardware offering aimed at making Wi-Fi easier and cheaper for businesses. Wi-Jacks are Wi-Fi wall outlets that fit an access point into a standard data wall outlet (the kind you're familiar with for Ethernet use) so you avoid installing costly access points on the ceiling. Lower installation costs permit more of a grid approach to building out a wireless network--good news for larger networks, where getting adequate coverage is an issue. Small businesses will still be content with standard hardware, but if you're considering upgrading to wireless or moving into a new building, check into Wi-Jacks.

Great Data Storage Solutions for Your Business

13. Increasing Memory the Easy Way

If you're running a one-person show, your network probably consists of just your computer and printer. If you're hitting memory capacity on that one PC, your best storage solution is an external hard drive that connects via USB or Firewire cable. Installation is a snap since most USB cables now install themselves, and they're easy to use since they just appear on your computer as another drive. You can use your new external hard drive to back up your files or simply to save memory-intensive files and graphics. And at less than \$200 bucks for 200GB, they're a bargain.

14. DVDs--Not Just for Movies Anymore

Want a quick and easy way to store data? For periodic backups, DVDs are still cost effective. DVDs with DL (double layer) technology allow you to burn up to 8.5GB of data on each disk, up from the standard 4.7GB. And while double-layer DVDs may be slightly more expensive and have lower burn speeds, they make up for it in capacity.

15. Access Stored Documents Online

Web-based storage services allow business users to store their documents and other digital files on third-party servers and are usually subscription-based. This helps businesses continue to operate if there are any outages, crises or disasters at the main office. It also allows convenient sharing of large files and real-time collaboration between a business and its partners without clogging company e-mail systems and servers. Online storage services also provide access to content from anywhere there's an Internet connection. They reduce the cost of maintaining, storing and managing hard-copy documents on-site and reduce the risk of lost or misfiled paper documents. They are also scalable as your business grows. One important caveat: Your business must use a broadband connection to take advantage of these online solutions.

16. Share--and Protect--Data

Network attached storage (NAS) devices are dedicated storage that hook up to any available Ethernet port, so they're on a LAN rather than a server. It's an easily scalable solution for storing, organizing and sharing data among users on one or several interconnected networks. A big portion of NAS hardware is made up of hard drives so they're ideal for backing up data. And if they're RAID-ready (Redundant Array of Independent Disks), that's a plus because RAID management software allows you to share and/or duplicate your data across multiple disks, so if one goes down, you can make a quick recovery.

17. Memory on the Go

External flash memory comes in all shapes and sizes, one of the most popular being mini USB drives that are about the size of a thumb and plug into your computer's USB port. Their small size makes them extremely convenient for transferring data and files from one computer to another and they can even be attached to your keychain. For these devices, memory capacity averages 512 megabytes, but can scale all the way to 16 gigabytes. Other flash memory formats include SmartMedia, Compact Flash, Memory Stick and Secure Digital cards.

Communicate Better With Technology

18. Automate Your Customer Communications

In a world where fewer and fewer customer interactions actually take place in person, implementing CRM technology can be an excellent way to provide a more personalized touch when working with your customers.

Sales force automation tools help track your pool of prospects as they move from interested leads to paying customers. Customer support automation improves the process of handling customers so you can better satisfy them while minimizing your costs. Whether you support your customers through a call center, in-person or online, applications range from live online help, searchable knowledge bases where customers can look up answers to previously asked questions, and case tracking to ensure no inquiry gets lost.

19. Reduce Your Phone Bills

VoIp (Voice over Internet Protocol) allows you to make phone calls over the internet. It's an increasingly popular tool that can help growing businesses save on their communications bills and it offers some enticing features. Find me/follow me services can forward phone calls to wherever you are and employees located in home offices can be hooked up with in-office extensions, so dialing is the same as if you're calling somebody two doors down in the same building. For frequent travelers, IP softphones can allow you to call from your hotel room.

Choose a provider based on call features, its experience with growing businesses, network quality and price. Check in with your in-house IT person or IT consultant about getting all your various offices onto the same VoIP page.

20. Simplify Your Life With One Inbox

Getting your voice mails, faxes, e-mails and instant messages in one inbox is now possible through unified messaging (UM), also known as unified communications (UC). You may already get e-mail forwarded to your handheld or

smartphone, as well as use these devices to access your voice mail and to send text messages. But vendors are also now offering services that combine your voice, e-mail and fax inboxes into one account, accessible via a mobile phone or internet-connected computer. You can listen to your voice mail on your computer or your faxes and e-mails via telephone using text-to-speech technology. All this functionality costs around \$10 a month depending on where you live and your messaging needs.

21. Choosing the Right E-Mail Provider

E-mail is considered the number-one productivity application for business owners, so choosing the right e-mail provider for your business is crucial. Like any other technology acquisition, e-mail must enable the specific goals of your business. So before approaching e-mail providers, first understand your business objectives and internal capabilities by considering the following issues:

- The number of employees you have
- Whether your business has a centralized or distributed structure (i.e., do you have any telecommuters or satellite offices?)
- The applications you plan to operate with e-mail, including the size and types of anticipated attachments
- The volume of interaction expected with customers, partners and suppliers
- The frequency of use, time-of-day usage and other expectations
- Whether you have enough in-house expertise to implement and manage an internal system or if you need to outsource that function

Finding the Best Tech Consultants and Service Providers

22. Finding an E-Mail Service Provider

Every business needs e-mail, but there are a wide variety of offerings on the market. So take your time, ask the right questions and conduct a thorough investigation of what's available. It's worth the extra effort to select the e-mail provider that's right for your business.

When searching, you'll want to interview several potential providers. Although the questions you'll ask them will be specific to the needs of your business, this list should provide a good starting point:

- How long have you been in business?
- What features do you support beyond basic send, receive, reply and forward?
- What kinds of security do you offer?
- What is your pricing structure?
- How are backups and restores handled?
- What kind of service level agreement (SLA) do you offer to ensure e-mail reliability and availability?
- Can e-mail be accessed remotely?
- Is live customer support available?

23. Choosing a Web Host

Selecting a web host can be tricky. Thousands of services charge countless fees, make all sorts of promises and raise seemingly endless questions. To help choose one that'll get the job done, here are key questions to ask:

- How reliable is your service?
- What kind of performance do you offer?
- How good is your support?
- What will it cost?
- How do you handle security?
- How much control do I have?
- Can you handle the technology I'm using?

Actually comparing hosts can be difficult, so a good policy is to quietly set up an account and test the host--kick the tires, so to speak--for several weeks before announcing your presence to the world. Isn't that expensive? You bet, when setup fees are factored in. But more expensive--and embarrassing--is to make a big push for traffic, only to have your host drop the ball and leave you with cranky visitors who can't quite make it in. Better to know your host is operating smoothly before inviting guests to the party.

24. Doing Due Diligence

Here's a word of caution: Finding a website consultant can be tricky. Although the web continues to grow at a rapid pace and has become a useful tool for both buyers and sellers, it's also quite unwieldy. As a result, very few organized associations or websites exist to help people find reputable web design firms. So when you do locate a potential design partner, make sure the company you want to work with is reputable. Just how can you do this? Check out a list of sites the company's worked on and look closely at its own site. Ask about arrangements for maintaining the site, and make sure your new designer is interested in your company and its goals.

25. Getting Your Website Built

Countless small businesses rely on web consultants every day to design and build their websites, enhance existing sites, and put together the pieces of each company's distinctive e-commerce strategy. If you're trying to get your company's site up and running, you can choose among independent site developers, web design shops, technology consulting firms, system integrators, traditional advertising and PR firms, and interactive agencies. Some of these outsource the website hosting and site promotion functions, while others keep these functions in-house. In addition, web design and strategic consulting are often provided by web hosting companies.

And like the web consultants themselves, the variety of prices that consultants charge for their services are extreme: They can charge several hundred dollars for a simple site consisting of a few pages to \$1 million or more for a more sophisticated e-commerce site with such features as easily updated product databases, search engines, animated product demonstrations, secure online transactions, and audio and video enhancements. In addition, web consultants vary in how they price their services: Some consultants, typically individual designers, charge by the hour; others, usually web design firms, charge by the project. In general, however, experts say that consultants or web hosting companies can put together a basic, professional-looking website for \$1,500 to \$5,000 (not including monthly hosting charges), and an e-commerce site for about \$10,000 to \$50,000.

26. Hiring IT Consultants

You wouldn't dream of tackling your accounting on your own, so why take on your IT strategy by yourself? Fortunately, there are thousands of service companies dedicated to helping with that problem. IT consultants, or technology solutions

providers, can decide which hardware and software you should use, where to host your website, or how to protect yourself from hackers or viruses.

How much can you expect to pay a solutions provider? It depends. An electrical contractor asked one consulting firm to troubleshoot problems with its billing system. The firm found that the contractor's tape backup wasn't working, its antivirus software was outdated and its network printer was not set up efficiently. The proposed solution cost \$3,000. Another small company, a seven-person firm that helps larger companies outsource HR functions, invested in three high-powered servers with a firewall with the same IT consultant. Such solutions can start at \$5,000.

Improving Your Website

27. Use Autoresponders

Autoresponders are pre-written e-mails that are automatically sent on your behalf so they'll help you provide great customer service and free up your time to do other things in your business. You can use autoresponders to confirm orders placed online, as well as to notify customers when their order ships, so customers are reassured that their order's been placed and processed without problems and they won't have to call or e-mail to check on their order.

You can also fulfill orders through autoresponders if, for example, you sell downloadable software, subscriptions or e-books, you can set up your system to automatically send e-mails that allow access to a password-protected area of your site via a link in the e-mail or by including a password to access the content. This "instant gratification" factor is a great incentive for impulse buyers and impatient online shoppers to purchase your product. You can also send follow-up e-mails like thank-you notes, one of the most effective after-sales techniques. Sending individual e-mails to customers thanking them for buying from you and inviting them to come back would be too time consuming to be efficient; autoresponders can make it happen with little effort from you.

28. Easy Navigation

Make it easy for site visitors to find what they're looking for by making navigation on your site simple. Make sure the following information is easy to find:

1. Contact information, such as phone numbers, e-mail addresses and physical location.
2. Product information, including detailed descriptions of your products or services, including prices.
3. Samples of your products or previous work.
4. Support, including product information, troubleshooting help, FAQs, etc.
5. Shopping, so customers can buy the products online or find a physical location where your products are sold.
6. Company information, such as background information on the business and the management team.
7. News and announcements, including press releases and updated product or service enhancements.
8. An easy way to get back to your home page. The home page is where all paths begin in the customer's mind, and they want to be able to get back to your home page easily.

29. Use Web Analytics

Web analytics track the behavior of your site's visitors. What pages do they visit most? What are the popular paths through your Web site? On which pages do they leave? When customers visit your website, they want information and they want it now. If they can't find what they're looking for, they can get frustrated pretty quickly and leave, or worse--they could wind up looking to one of your competitors for what they need. Site-surfing patterns will show you what pages to modify to better serve the interests of your potential customers.

Web analytics solutions can also usually track search engine positioning, e-mail campaigns, banner ads and other promotional programs. Some solutions provide sales data in addition to visitor data. This enables you to enhance ad campaigns and the corresponding site pages for maximum sales, not just traffic.

Beefing Up Your Company's IT Security

30. How Secure is Your Wireless Network?

The use of wireless networks within many organizations and businesses is becoming more and more widespread. This includes banks, manufacturing assembly lines, airports, restaurants and one-person home offices. What's not so widespread, however, is the employment of information security measures in these wireless applications and networks.

Constant monitoring of access points is one of the best ways to keep a wireless network secure. The most basic security measure you can take with your wireless devices is to immediately change their factory-set passwords and enable encryption keys (commonly known as WEP) so that data transmitted through the wireless network is more protected.

31. Use a Firewall

A firewall is a software application that controls access to your network at the "perimeter," i.e., where it connects to the Internet. This "controlled access" ensures that internet users only have access to particular services provided by your company's network (web servers, e-mail servers, etc.). Any attempts to access unauthorized information or services are blocked.

You can also use your firewall to block employees from accessing some outside information services, such as non-business-related websites or internet chat. Other common firewall add-ons include antivirus capabilities and privacy protection services to block proprietary information from leaving the building in any electronic form (e-mail, file transfer, virus activity, etc.).

For an added measure of protection, you can also add intrusion detection to your firewall. When a firewall allows internet users access to a company's website or other services, system vulnerabilities can also let in hackers. Intrusion detection systems can detect this type of activity and block the would-be hackers before they can do damage or steal vital company information.

32. Perform Security Audits Regularly

Security audits are one of the best ways to identify security risks and validate the protection devices you've already put into place. Comprehensive audits should thoroughly test for vulnerabilities of all systems, correlate the findings, test exploits, identify the true level of risk to the business, and detail remediation requirements.

Such audits should be performed at least once per year against the internal environment and every six to 12 months against the external environment. This frequency is a suggested minimum, and many companies rightfully prefer to test certain aspects of a full audit more frequently. Unless the knowledge, experience and manpower to perform such audits exists in-house, you'll need to consult an outside IT security expert.

33. Establish and Enforce a Security Policy

Security policies provide a roadmap for both IT and non-IT personnel on how your company expects your employees to conduct themselves with any matter that affects the security of the business. In many cases, actions have an obvious impact, such as the disclosure of passwords to unauthorized personnel. But other potentially dangerous actions may be less obvious, which is why it's necessary to outline these risks and your security policies for all employees.

Other security measures you can undertake include swipe cards, changing passwords often, and restricting sensitive areas. A professional consulting firm specializing in security policy development can save time and money and ensure an up-to-date policy.

34. The Enemy Within

Companies usually try to patch every loophole and make every system impenetrable. But guess who knows more about these loopholes and ports of penetration than anyone? Your current and former employees. Disgruntled employees, former employees (especially those who've been fired), and even external service providers--anyone with "insider information"--

are the most likely culprits of a security breach. It's for that very reason that four out of five IT-related crimes are committed from within an organization. Consider running background checks on employees as part of your hiring process, and change passwords after employees leave the company.

Maintaining Your PC

35. Think before you install. So many times someone's computer isn't working properly only to discover they've downloaded several programs from the internet or from a CD of a friend. Installing software on your computer will take up space on your hard drive, which will eventually slow your computer down. These random programs could also be an open door for viruses and cause other programs to crash. So install as few programs as possible on your computer. If you can, use a second computer to "play with" and test programs you're thinking of using company-wide.

36. Install the right software. Ensuring your computer is protected from digital vandals is critical if you want to keep information safe. It's therefore important that you install both an antivirus program and a firewall software program. These two critical pieces of software, which you should update on a regular basis, will serve as a wall of protection for your computer.

37. Update your operating system. Microsoft Windows is the software you're most likely using to power your computer programs and control how your computer operates. It's critical that you update Microsoft Windows on a regular basis by going to the "Windows Update" website www.windowsupdate.com to automatically update your operating system.

38. Dump what you don't need. Every few months you should regularly inventory your computer to find and delete the programs you don't really need. These unused or unnecessary programs take up valuable hard drive space, and if you're not using them, you should remove them from your computer via the "Add/Remove" programs option in your control panel.

39. Defragment your hard drive. Your hard drive is one of the hardest-working parts of your computer—you're using it all the time, every day (whether you realize it or not) to access the programs you use and store the files you create. But the hard drive doesn't save the files in any particular order; instead, it uses the first empty space it encounters (space that's created when you delete files). So the pieces of data become scattered around the hard drive, making it slower for you to access the data stored there. That's why it's critical to defrag your hard drive on a regular basis to keep things running as quickly as possible. Do it monthly if you're a "light" computer user and weekly if you're a power user.

40. Keep things clean. In some offices, people have paper and stickies all over their computers, covering up the air vents. To help ensure your computer runs smoothly, don't cover the air vents—you need to keep the internal components as cool as possible. You should also vacuum your computer every few months to clean out the dust that accumulates.

41. Security is important. When things do go wrong, you want to be prepared. Therefore, it's important to always backup your important data. You can back it up online, to an external hard drive or to a central server, or you can place the data on CD-ROMs or DVDs. Whatever method you choose, make sure to back it up on a regular basis so that if your computer crashes, you can easily recover your important data.

Smart Tips for Buying Software

42. Consider CRM

A customer relationship management (CRM) solution can help you streamline customer service, simplify sales and marketing efforts, find new customers and generate more revenue from existing customers. You can record customer interactions with sales and customer service personnel and keep a centralized database with current customer information that everyone in your company can access. This will allow your entire organization to understand what each customer wants and needs and give you a 360-degree view of your business 24/7, which will help you keep customers happy and boost your bottom line.

43. Keep It Legal

Make sure your business is always BSA compliant. The Business Software Alliance (BSA) is a trade association made up of leading software makers whose job it is to make sure that businesses aren't using pirated versions of their software. If you think making illegal copies of software instead of buying it is cheaper, it's not. Federal copyright law specifies up to

\$150,000 in damages for each infringed work and BSA is on the hunt for those violating their copyrights. You're better off buying it in the first place.

What to do? Spend a lot of time making sure every program in your company is legal. Yes, it's expensive and hard to keep employees in line, but you don't want to get a visit from the BSA.

44. Take a Test Drive

Try it before you buy it. Check out software company websites for downloadable demos that can help you better gauge how easy their products are to use. If a demo version isn't available, there's usually a detailed online tour that gives you a lot more information than a paper brochure. And before you buy the package outright, check with the software company to see if it's bundled with other software or equipment that you might be in the market to buy anyway.

If you're shopping for a new accounting package or other critical software, consider doing a "scripted demo," where you enter your data and run through test scenarios specific to your business's transactions. It may be time-consuming, but if you buy the wrong software, it will be more costly later.

45. Evaluating Your Software Needs

Before you rush off to buy software, keep in mind that you have several factors to consider other than just the capabilities and costs of the software. Your selections should be based on your company's size, industry, internal organization, computing environment, technical expertise and, of course, the ever-important user interface. Even a great product can end up being a nuisance if it's not intuitive to you as a user.

Re-evaluate your company's staple software. For each program, draw up a wish list of features or enhancements that would make using the package easier. Often, the solution may be as simple as an upgrade to the latest version available. Consider hiring an IT professional to examine your system and business needs and tell you whether you even need to upgrade. Getting an expert opinion can be a money-saving move for small-business owners who would prefer to spend time keeping up on the latest developments in their industries than on the latest in software.

Accepting Online Payments

46. Choosing a Shopping Cart Program

Even if you've got the best-looking site selling the best product at the best prices, you'll lose customers if your shopping cart system is difficult to use. It's important to make the right choice early on, but first ask yourself if you actually need a shopping cart. If your site sells just one or two products, you can probably just set up an online order form for those products, rather than needlessly complicating your life managing a shopping cart program.

If you do need a shopping cart, look into an ASP. This means that the service is hosted and maintained by a third party. They're easy to set up on your site and you don't need advanced programming skills to get them to work. Most ASPs also offer package deals that include a merchant account and payment gateway so you won't have to go through the hassle of trying to get those things sorted out separately. Though an ASP won't have a personalized look, when your company grows you can either buy software or hire a programmer to customize it for you.

47. Credit Card Industry Terms to Know

The following are terms you should familiarize yourself with as you shop for a card processor.

- **The discount rate:** The percentage of each transaction paid to the merchant account provider. If your monthly charges are less than a certain volume, the processor may charge a higher percentage.
- **Transaction fee:** a flat rate charged for each transaction processed.
- **Equipment:** Some examples include point-of-sale terminals, printers and peripherals. Also find out about installation costs, which may or may not apply to internet-only business owners.

- **Monthly minimum fees:** These are minimum fees that the merchant account provider collects each month from the merchant if the merchant's discount rate and transaction fees don't add up to the monthly minimum specified on the original merchant application. It is usually about \$25 per month if the monthly minimum volume isn't reached.
- **Reserve fees:** If your credit history is in question, or if you own a new or high-risk business, you may be required to set up a reserve account, which protects the processor from any future losses. The reserve account is calculated as a percentage of your sales.
- **Chargeback fees:** These are the costs charged by a processor to cover disputed charges.

48. Security and Fraud Prevention

Process all credit card payments in real time using Secure Socket Layer (SSL) technology which encrypts all confidential information during the transmission and authorization of transactions. This can be part of your shopping cart program, or you can purchase the technology separately from companies like VeriSign.

You can also protect yourself using the MasterCard's card validation code 2 (CVC2) system and Visa's card verification value (CVV2) verification system. Visa and MasterCard have basically imprinted three-digit codes on all their cards to help determine whether a genuine card is being used in a transaction. These are especially helpful in online and phone orders since merchants don't have the card in front of them to run their magnetic strip through the system.

49. How to Accept Credit Cards

The first step is to set up a merchant account with your existing bank. If your bank says no, try other local banks or companies like Cardservice International or VeriSign. A typical fee schedule for a small-volume account (fewer than 1,000 transactions monthly) would include startup fees of about \$200 and monthly processing fees of around \$20. Any vendor that sells you credit card processing should also provide a secure transaction environment as part of the package. If they don't, look elsewhere.

Be sure to ask prospective processors about the costs of storefront solutions that you must have to effectively operate your website, such as shopping carts, web hosting, payment gateways, virtual terminals, virtual checks, databases for fulfilling orders, customer tracking, and a way to calculate tax and shipping charges.

Buying Used & Refurbished Equipment

50. Online Bargains

Refurbished hardware can be a smart way to save money. Many online manufacturers and retailers have sections of their web sites devoted to clearance outlets. You may have to poke around the site to find them, but it's worth checking into when you're on a tight budget.

Refurbished items are usually returns that have been looked over and checked for functionality. As with auctions, check to see if all documentation and software is included. Compare prices to what is normally charged to see if the savings is worthwhile.

Often warranties are shortened. What might have originally come with a one-year warranty may only include a 90-day warranty when it's sold as refurbished. If you're comfortable with that, go ahead and save some money.

51. Software Beware

Used software can be tempting, but you should proceed with caution. Some software is not legally transferable to other computers. Watch out for bootlegs or pirated software and stay on guard for disreputable sellers. It's usually better in the long run to just purchase new copies.

52. Sitting Pretty

When it comes to buying used equipment, furniture is one of your safer bets. Chances are, you'll buy local and have the opportunity to examine the pieces before you pay up. Used desks, dividers and file cabinets can help you furnish or expand your office at substantial savings.

Use more caution when it comes to chairs. Your long-term comfort is more important than saving a few dollars. Some higher end ergonomic chairs come in different sizes, so be sure to get the one that fits.

53. All About Warranties

One of the biggest sacrifices you can make when buying used equipment is lack of a warranty. That's not always the case, though. If there is still warranty time remaining, check to see if the warranty is transferable. Otherwise, you might want to think twice, particularly when it comes to business critical hardware.

Laptops, for example, are more prone to problems than desktops and you might want at least a partial warranty in case anything goes wrong. For less critical items, like a mouse or keyboard, the savings may be worthwhile.

54. Up for Bids

Auction sites like eBay are popular hunting grounds for technology bargains. The up side is that you can often find great deals on equipment. The down side is that you need to proceed with a healthy dose of buyer beware, especially when it comes to used equipment.

Take a moment to look into the background of the seller. Do they have a lot of poor feedback or have their previous customers been happy? Is all documentation and software included? What is their return policy? Is shipping refundable? Be sure to calculate shipping costs before you bid. Some sellers charge handling fees that can add up to more trouble than it's worth.

Keeping Up on the Road

55. Take Advantage of Hotspots

The internet is your ticket for staying in touch. Whether you need to check email, check up on your web site or do some research, a Wi-Fi hotspot is the place to go. The easiest way to find a hotspot is to book your room at a Wi-Fi equipped hotel. Some hotels include it as a free service for guests. Others charge a small fee.

Before you hit the road, take a moment to find some hotspots at your destination. There are several hotspot conglomerators that let you access the internet through their nationwide networks for a daily or monthly fee. Just be sure to use a VPN if you need to protect your business data.

You don't have to be traveling far from the office to take advantage of hotspots. Local cafes, coffeehouse or public buildings can be convenient stopovers when you're out at lunch or just need to step away from the desk for a while.

56. Travel Light With a PDA

Some entrepreneurs leave their laptops back at the office and opt to travel with just a PDA. Many PDAs these days come stocked with the kind of processing power and memory you would have seen in a full-fledged notebook a few years ago. Throw in a smartphone features for making phone calls and accessing the web, or add in Wi-Fi, and you have a well-connected device that can easily tide you over until you get back to your desk.

57. Choosing a Laptop

The most powerful way to stay connected to your business while on the road is with a laptop. Two popular classes of laptops are desktop replacements and ultraportables. Which you choose depends on your needs.

Desktop replacements pack all the punch of a regular desktop with large displays, plenty of processing power and useful extras like DVD-rewritable drives. The downside is their hefty weight. If you place a premium on power or are looking to get rid of your desktop altogether, this is the way to go.

Ultraportables are just like they sound: svelte, lightweight traveling machines. While they're easy on your shoulder, you often make sacrifices in peripherals, screen size and sometimes power. Still, mobile warriors that are constantly running through airports may find the compromises very worthwhile.

E-Mail Safety and Security

58. Watch What You Write

While you're formulating an e-mail security policy, give some thought to e-mail content. Unlike a phone conversation, e-mail doesn't just disappear into the ether after it's sent. A record remains--one that can come back to haunt your business.

Discuss with your employees what is considered appropriate content. You may want to minimize personal use of business e-mail. Even sending seemingly innocuous jokes around the office can be risky. Tie e-mail usage in with your sexual harassment policy. Make sure that the e-mail usage guidelines are clear for your employees.

59. Educating Your Employees

One of the best ways to ward off e-mail security issues is to educate your employees. Have an e-mail security policy and make sure they are familiar with it and adhere to it. Some spam will inevitably get through. The best ways to keep the problem from increasing is to simply not reply and not click on any links it contains. Just delete the messages.

Also, make sure employees aren't giving out their e-mail addresses online. For example, if they post to message boards or blogs, they shouldn't leave their e-mail addresses out for spammers to harvest. Keep them up to date on new threats like phishing attacks. A proactive policy for e-mail security is better than dealing with breaches later.

60. Don't Get Hooked

Phishing isn't a strictly business-related problem, but it can have serious consequences for unsuspecting entrepreneurs. Phishing is when a deceptive e-mail arrives that often asks you to visit a web site and verify personal information like pin numbers, usernames, passwords or account numbers.

Some phishing attacks are blatantly obvious and loaded with misspellings and bad grammar. Some are very sophisticated and look like they could be a real communication from a credit card company, bank or online auction site.

What's the best way to deal with it? Delete it. Any e-mail that asks for personal information to be given out through the web or through a form embedded in the e-mail is likely a phishing attack. If you're still not convinced, take a moment to check in with the company that supposedly sent it. A few minutes can save you a lot of grief.

61. Fighting Spam

Spam is more than just a nuisance; it's a drain on your time and resources. It's impossible to avoid, so you have to deal with it. If you don't have spam protection through your email service provider, put anti-spam software on your shopping list right after anti-virus. Some vendors bundle it all together in a security suite package.

62. Keeping Viruses Away

When it comes to email security, anti-virus software is one of the first items that come to mind. Whether you purchase an off-the-shelf software package or choose to go with an online service solution, it's a must-have. Users of some free services, like Hotmail, may already have this area covered. Check to see what your email provider has to say about it.

You'll want to make sure all your employees' desktops and laptops are protected. The cost of anti-virus is minimal compared to the potential damage a virus or worm outbreak could cause your business. They can not only get at your computer systems, but also send emails out to your address book. That's not something your customers will want to receive.

Here are a couple of tips for keeping an eye on your anti-virus measures. Double check that you're getting the latest virus updates. Most programs will update themselves automatically, but it doesn't hurt to do a manual update on occasion to make sure the process is working. Also, when your software subscription time period is up, be sure to renew. Don't let it lapse.

Buying for Your Homebased Office

63. Shopping Online

Bargain hunting over the Internet doesn't have to be time-consuming. Web sites such as PriceGrabber.com, PriceSCAN.com and MySimon.com are hubs for price comparisons. They're especially handy if you already know what you want and are just looking for the lowest price. Don't be blinded by what seem to be incredible bargains. Always check into an online retailer's reputation if you're not already familiar with it. You probably know this already, but always use a credit card for your purchases in case you have to dispute charges later.

Another great resource for home office hardware is eBay. You can pick up a wide array of products—from extra cell phone batteries to monitors and ink cartridges—at prices that would make some retailers blush. But eBay is no utopia. You still have to check into the seller's reputation. Also check to see if the product you're buying is refurbished, if it comes with an original warranty or tech support, and if all documentation and pieces are included. Some entrepreneurs may decide that the savings are worth living without some or all of those things. It's not good or bad, it's just a matter of deciding what you feel comfortable with.

64. Brick-and-Mortar Buying

If you're the type of person who likes to "handle the merchandise" before you buy, find a local retailer you can visit in person. Prices may be a little higher when you just walk into a store, but you also have the security of having a physical location to return the product to in case of a problem. The Sunday ads are a good place to compare prices, and you should keep an eye out for specials and rebates at your local stores. You can also take advantage of price-matching policies or even visit warehouse-style retailers like Costco or Sam's Club to look for business equipment savings.

65. Get Connected

If you have a website and plan on hosting your site with your Internet provider, and if you'll need more bandwidth and e-mail addresses than what a standard consumer Internet account offers, you need to look into business services. Your options for Internet connections from home are satellite, DSL and cable, which are available in a variety of downstream and upstream speeds ranging from 400Kbps to 2Mbps. Monthly fees vary accordingly; they usually range between \$40 and \$100 per month, but can reach a few hundred dollars for higher speeds. If you travel quite a bit, you may want to look into some of the wireless Internet connection options, which provide an Internet connection wherever you go.

66. Loving the Laptop

Just because you have a desk doesn't mean you must have a desktop computer. A pricier but more flexible laptop may be the ticket. If you'll be doing a lot of business traveling or will need to take your computing power with you on sales calls, then a laptop is something to consider. They're also nice for getting out of your office for a while, even if it's just to sit on the back porch. And if you decide a laptop's the way to go, you might want to consider purchasing a monitor to view your laptop through when you're at your desk to save on eye strain.

Out With the Old: Ridding Your Office of Old Technology

67. Give It Away

Most old PCs have years of utility left in them—just not for you. There are tons of schools, community groups, senior homes and other needy institutions that would be happy to take them off your hands. Unfortunately, donation is another of the more costly disposal options. By the time you get done with moving, temporarily storing, shipping, tax record-keeping, making contractual arrangements with the beneficiary, possible testing and repair, and, of course, facing the ever-present legal exposure, IDC figures it will cost you \$344 for each PC donated.

And the legal exposure is real. You could get sued for donating a defective or virus-infected computer, or you may be asked to defend the tax deduction. On the upside, the infrastructure for charitable donations is well-advanced, making this option less time-consuming.

Regardless of the option you choose, you can click on over to eBay's Rethink Initiative to explore your options.

68. The Resale Option

One popular option for PC disposal is selling them. IDC says your net out-of-pocket per PC is \$272 if you can sell it to an employee for \$100, and \$119 if you sell it to a third-party broker for \$200. (Remember, costs vary among disposal options and you'll still need to scrub the machines of company information.) The good news is, the PC is gone. But in both cases, you have to sell the PC before its value reaches zero. And those three years for a mid-range PC and four years for a high-end box go by quickly.

Of course, brands vary. You can look up the residual value of your PC in the Orion Computer Blue Book. You can purchase the latest version of the Blue Book with the most recent prices from the Orion Research website, or look up prices for individual PCs online at \$3.99 per shot.

69. What Will It Cost?

In general, a lot of PC disposal costs are realized in soft dollars, and a certain amount of those are fixed. IDC says it will cost companies at least \$150 for every PC taken out of service. First, there's the labor involved in physically removing a system and its network components, disconnecting peripherals and scrubbing the hard drive of software, passwords and sensitive company files. Then there's the downtime for employees during the move. After that, your costs will vary depending on how you choose to dispose of the old PC and may include payment for things like testing and repair or, in many cases, contractual or other legal costs.

70. Why the Dump Isn't the Answer

According to Gartner Research, more than 400 million computers will be replaced by individuals and businesses from 2004 to 2006. But according to ACNielsen International Research, only 15 percent of those polled realized they could recycle electronics in their local area.

Old PCs have chlorinated and brominated substances, Poly Chlorinated Biphenyls (PCBs) and Poly Vinyl Chloride (PVC), heavy metals, gases, acids and plastic additives--and that's just for starters. (For a complete list, see the SVTC website.) All those chemicals have incredibly long half-lives. You want your new house sitting on top of this stuff? Not to mention, the EPA will be all over you if you're discovered throwing PCs in the trash.

71. Exit Strategies for Computers

Old PCs don't die, and they don't fade away, either. The average PC will run almost forever, and the harmful chemicals inside it will survive in your local landfill for even longer. How many long-lived-but-obsolete computers is your company moving around among staffers? There's definitely a point of diminishing returns in holding on to PCs past their prime, as well as hidden costs in just about any disposal method you choose. Recycling, selling them to employees or giving them to charity are all viable options, but they all have costs attached--many of which may surprise you. It's a good idea to have an exit strategy for your old hardware--and it should be in place long before the intrinsic value of your PCs hits zero.

Complete depreciation is often here before you know it, but there's good news in that respect: After years of decline, PC life expectancies are in an upturn, says IDC analyst Alan Promisel. The average middle-of-the-road PC now has a useful life of about three years; a high-end desktop, about four years. But be careful: Nurse an old PC along for too long, and productivity suffers--for low-level staffers as well as managers. Worker efficiency declines along with equipment efficiency, so when software takes longer to load, screens take longer to redraw and incompatibilities start to occur, memory upgrades need to be deployed.

Smart Tech Shopping

72. Setting Up a Tech Savings System

A recent study of IT purchasing by New York City consulting firm McKinsey & Co. says timely purchases, clever negotiation and internal controls can help businesses save megabucks. The McKinsey team estimated that savings of 10 to 20 percent on IT outlays were possible using the following recipe:

- 1. Renegotiate existing contracts for services such as network support and consulting.** Telecom is especially ripe for bargains. Start by setting standards for rates and auditing bills to make sure you're not overpaying. And instead of buying all long-distance, local phone and other telecom services from one vendor, dual-source it. Vendors will treat you better and charge you less.
- 2. Make sure you need whatever new technology you do buy.** Inventory all PCs, printers and software. Look for opportunities to consolidate purchases, standardize configurations and root out duplication.
- 3. Set up a system to keep on top of things.** Pick a team of people from your tech and other departments, and meet with them regularly to discuss what they need and how to save on it. That can save as much as 3 to 7 percent on IT outlays alone.

73. Warranty Warnings

You can't afford to have a key business hardware component go down without protection--a warranty will give you peace of mind. Most products come with some sort of manufacturer's warranty, and you'll frequently be offered an extended

warranty when you're checking out. But think hard before you purchase that extra coverage: Many products won't earn back the cost of that extended protection. For example, you don't need a \$50 extended warranty on a \$200 PDA. But for some items, you may prefer to have the peace of mind. Laptops, for example, often come standard with a paltry one-year warranty. Extending that to three years can get you safely through until the next upgrade cycle.

74. Buying Online

When shopping for tech products, why not try that great bastion of bargains: the Internet. EBay can be a gold mine, but "buyer beware" still applies. EBay is useful if you know what you want, especially if you can narrow down a model number. A few things to watch out for are whether the original documentation is included and whether the warranty is still in effect and transferable. If in doubt, e-mail the seller first.

For some purchases, you can narrow down the seller's location to find someone nearby. That way, you can pick up the product in person and take a look. EBay is a place you probably don't want to go to for your primary computer, but the discounts may outweigh the risks for secondary machines. Items like cords, monitors and peripherals can be had at great savings and little risk if you do your homework first.

You can also try the online outlet stores of technology manufacturers-these stores carry discontinued and refurbished merchandise. Chances are, the prices will be good, but the warranties will be lacking. Refurbs are typically only under warranty for a few months at the most. After that, you're on your own. Still, refurbished can be an affordable option for adding a second or third computer to your business.

75. Bargain-Hunting Sources

Discount clubs like Costco and Sam's Club have decent-size technology sections and can net you good value on everything from laptops to printer cartridges. What you won't get is a lot of one-on-one service. If you're sure of what you want, go ahead and look out for good deals. If you need to ask questions, go somewhere else. You can always check prices on their Web sites before you join the club.

Speaking of shopping locally, you can also save money by working closely with a value-added reseller (VAR). This is a good route to explore for large purchases where you want the reseller to also be the installer. The reseller will be up on the latest special offers and promotions that fit your needs. Selecting the right VAR is also important. See how long they have been in business and whether they have experience serving your particular market. The technology needs of a graphic design business can be very different from those of a personal chef service.

76. Knowing What You Want

When it comes to buying technology products and services, part of the process of getting a bargain is knowing what you're looking for. Before you shop, you should have a pretty solid idea of how much power you need in whatever it is you're buying. For example, suppose you're scouting out a stock notebook with 512MB RAM but you know you'll be running intensive graphics programs and will need more memory than that. The time to buy that extra memory is right away. You'll get a better deal customizing it online to boost it up to 1GB than trying to buy RAM later and upgrading. The same often goes for adding items like a DVD-RW drive. Make a shopping list that includes your bare minimum requirements-plus the extras you'd like to have-before you start shopping around.