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Computer Corner

Making Wise Use of Technology; Being Practical About Obsolescence

Although the dictionary may define the word obsolete as "outmoded in design, style, or construction", I've always said that where spending money on computer technology is concerned, one must apply a more practical definition. When considering upgrading, it is important to consider two questions. First, does the item in question still serve the function it was purchased for in the manner and time frame now desired and do the job satisfactorily without any newer additional hardware or software? For example, if a printer takes longer than desired to produce reports, or computer entries come along with a noticeable and annoying delay, perhaps it's time to think of moving on. Or, is there now some newer technology or a technology that has become affordable to enhance the work of a water office like using automated meter reading technology? Second, even if one is unconcerned about keeping up with the Joneses and is perfectly satisfied with the performance of their older hardware and software, they must, nonetheless, keep in mind that if there are consumables required, or anything else, the item must work in conjunction with, they may need to look at upgrading simply because the needed products become unavailable.

While it doesn't seem long ago that we used tape backups for data storage, VCR tapes for video and tape cassettes for recording and playing music, all of those forms of media storage are considered obsolete today. Technology is supplying a whole new language with a list of vocabulary created to give names to the many new gadgets and ways of doing things. They include NAS, DAS, RAID, Netbooks, iPad, Android, Atrix Android Smartphone, iPhone4, Kindle, Cloud Computing, etc. Today, we find ourselves under what seems to be a constant demand to learn a whole new jargon, and how it might affect us. The following are some of the technologies we are most frequently asked about.

NAS and RAID: Network Attached Storage can be a good choice for offices with a "Local Area Network" or LAN for short, i.e. computers set up to share information with other computers in the same office. (This is not the Internet communication). The NAS is a device that contains at least one hard disk drive for storage of software and data and attaches to the network with an Ethernet cable to the Network's Switching Hub.

The best way to use a NAS is to spend a little extra money and have it include a second Mirrored Drive known as a RAID configuration (Redundant Array of Independent Disks). Any shared data can be accessed by all the computers from the NAS and the Mirrored drive will

duplicate every change to that hard drive on a second drive to defend against data loss from hard drive crash. The warning that might go along with this is not to depend solely on the RAID to ensure data protection. While data is protected and preserved right up to the minute from the specter of hard drive crash, that same constant mirroring will also instantly write a virus to both drives or duplicate a serious blunder. Because utility systems usually run on a monthly cycle, it is important, no matter what other form of back up insurance is used, to create a non-multi-session backup CDR or DVDR prior to the close of each and every cycle, not only for protection from data loss, but as a permanent, unchangeable snapshot of that moment in time. The disk should be stored in a SECURE location. Internet backup services may also be used, but they are not always all they are cracked up to be. One of our customers was using such a service only to discover when they needed their backup that the service let them down. There are numerous choices for augmenting backup but nothing takes the place of a monthly CDR/DVD, non-multi-session, i.e. finalized disk.

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DAS: Data Attached Storage is a very versatile form of backup that can be used on one or more stand-alone computers or moved from computer to computer on a network. The DAS plugs into the USB or Universal Serial Bus. This port is aptly named "Universal" because if there are ten USB ports on a computer. It doesn't matter which is used for what. Any USB device can plug into any USB port and is recognized automatically by the computer by a process known and "Plug and Play".

USB Thumb Drives: About the size of a thumb, hence the name. Many people have become familiar with USB since the advent of those handy-dandy gadgets, also called flash drives or memory sticks (not to be confused with the internal RAM memory). Thumb drives are an inexpensive, convenient, speedy way to back up limited amounts of data.

They also have a bonus most beneficial on laptop and notebook computers with lower amounts of RAM memory. With Windows 7 ReadyBoost feature, a Thumb Drive with empty available space, not taken up with data, is capable of contributing to the available RAM (Random Access Memory, i.e. the computers temporary memory needed for running applications) often making it possible to play video files smoothly and perform other memory hungry tasks.

Cloud Computing: This is actually something that many people do every day when they use Gmail, Hotmail, Yahoo, a company owned email, or even an e-mail client program such as Outlook, Evolution, Mozilla Thunderbird or Entourage.

Cloud computing refers to the on-demand provision of computational resources (data, software) via a computer network, rather than from a local computer. Users or clients can submit a task, such as word processing, to the service provider, without actually possessing the software or hardware. The consumer's computer may contain very little software or data (perhaps a minimal operating system and web browser only), serving as little more than a display terminal connected to the Internet. Since the cloud is the underlying delivery mechanism, cloud based applications and services may support any type of software application or service in use today.

While many people take advantage of cloud computing that comes without cost, some require a fee. At some point, all or most software may be available this way. The question will be whether or not what is offered at a monthly or yearly fee will be more or less economical than programs that one buys a license for to install on a computer in the office, as this sort of business is generally conducted for the present.

Technology on a mission

As a home consumer, it is helpful to have an understanding of the products advertisers barrage us with. But in our business life it is essential that we are able to make informed decisions concerning the high-tech tools that help us fulfill our mission.

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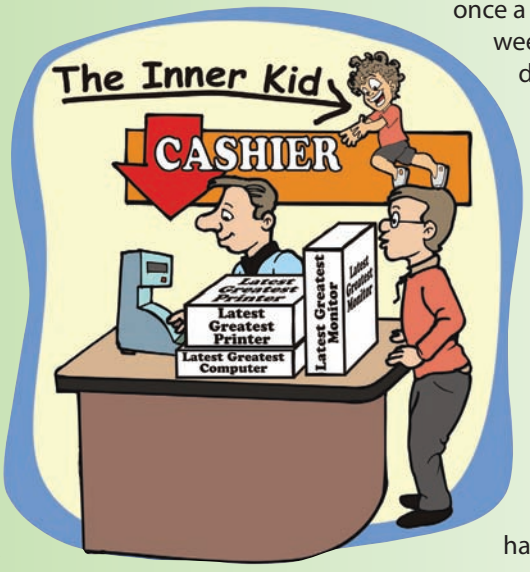
A better understanding may cut down on the "shiny new toy" allure that sometimes causes the "inner kid" to make our decisions for us. Meanwhile, be equally aware of that natural adult impulse to resist change even when improvement is needed.

The best way to approach the question of what technology should be integrated into the workplace is to consider the job at hand, then analyze what new gadgets, software, etc., might improve efficiency and cut down on expense while still providing the quality of service to the customer. Instead of starting with a shopping list of new gadgets just because of the hype that accompanies them, consider what needs the district or city has and look at what technologies might meet those needs.

Advice and experience – consider the source

It's not a bad idea to seek out peers that have made technological leaps and find out if they had a smooth landing, learning from their mistakes as well as their successes. By the same token, beware of buying into everything one individual or even one agency has to say about a product or a company. If they provide a glowing review, is it because they have no other experience to compare to so they don't know what they might be missing out on? If they give a bad review, is it really the product that is inadequate or a lack of ability or focus on their part to properly implement it? Shop around for opinions and experiences as much as for the products and companies that support them. If there is a person who provides advice and counsel, consider the source before taking their word as gospel. If that person turns out to be consistently knowledgeable and helpful, and clearly has the city's or water district's best interest at heart, include them in any brainstorming about possible additions or conversions.



Be technologically wise, consider the size

Even though one water district may have many things in common with another and many municipalities may have many similarities with others, there is no single set of answers that meets everyone's needs. A large system with many customers, and therefore, likely, more employees, is apt to have multiple computers on a network. On the other hand, a small town or district may have only one person working on a stand-alone computer out of a small office or even from home.

Not only does a smaller water system require less hard drive space for data storage than a larger town or district, their data may change infrequently enough that backups might be performed only once a week or even less. A larger town or district that is continually entering payments and other information might back up every day or even more than once a day. This difference directly affects the choice of backup devices and/or services. The small system may get by with no more than a once a month CDR and perhaps a weekly backup onto a USB thumb drive. Meanwhile, the larger system, with a network, may opt for a NAS drive with a RAID configuration and a USB DAS drive, to boot, as well as their monthly CDR or DVDR.

Dealing with distance

Not all decisions relate solely to size. As an example, how spread out a water district might be may help to determine whether or not converting to automated meter reading from hand reading will pay off. Many

districts solve the issue of water reading expense by operating as self-read districts, entrusting their customers with the work of reporting their own meter readings along with the appropriate payment. While there is software available with this practice in mind, many programs do not address the need for easy tracking of payments and usage. A search for software with that in mind should be launched.

Adjusting for attitude

Most rural water systems were originally self-read by customers. Too often self-read systems suffer from incorrect readings being submitted by the customers. This is due to several factors including societal attitude often referred to as "entitlement". This distorts actual water usage and water loss calculations. Incorrect readings certainly can have a negative impact on revenues. Customers not reading their meters on a self-read system frequently results in huge bills because a break in the domestic system was not detected. Today's new automated meter reading technology provides accurate readings and improved water loss accountability. Many systems have adapted this technology.

Applying automation to special needs

Technologies can also be applied to individual employees with special needs. For instance, the rarely used voice activation ability might be just the thing to enable a clerk with arthritis or wrist problems to continue performing the duties of the job. Bar-coding of bills and the ability to swipe the payment stub past a barcode reader can also give those overworked wrists a rest and possibly even be used to avoid any medical problems in the first place.

Physical disabilities don't necessarily have to stand between people and the work they chose to do. Sometimes it is just a case of picking the right hardware and software and making the user aware of the special capabilities their software may have to cater to their needs. Windows, for example, offers a number of aids listed under accessibility options.

High tech options for customer service

Many utility systems are giving their customers payment options like "Automatic Bill Payment" officially known as ACH or "Automatic Clearing House". Others offer Internet bill payment. Many offices seek to make communication with their customers more efficient and less costly with the use of the Internet for everything from billing, to late notices, to boil orders. As not all customers are computer savvy, naturally these high-tech means of communication or payment can only be offered for those customers that might prefer them, while continuing to maintain the old-fashioned means for others.

Purchase with purpose

While there is an endless stream of new products and new technologies appearing on the horizon everyday, not all of them have anything to offer regarding the work of water utilities. Investing in technology for the sake of technology is expensive and counter productive. The purpose of purchasing any tool, whether it's a technology that's been around as long as the backhoe or the newest, hottest, shiniest computer gizmo or sophisticated software, should always be to improve the water department in some way. That poses the question, "What will best serve our needs?"

There is no use waiting around for computer technology to reach a pentacle and level out to invest in the ideal system; none of us will live that long! But, as long as the technology a city or RWD invests in is 'ideal' for that entity for now, and a few years into the future, the decision makers can rest assured that they have done right by their patrons. The key is information, understandable information that is, not a pile of geekie-sounding jargon and computer buzzwords. Keep the reins on that "inner kid". There is no need to buy something just because it sounds "cool", but if that "cool" thing also fills a need or solves a problem and does it in a reasonably economical and usable fashion, go for it!

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