The Toolbox- August 2006   by David Taylor, C.P.M.
Technological Dependency: How Plugged-In Are We?

I am fortunate and blessed to be married to the love of my life, have graduated three sons from college, and be working for a company I truly enjoy being a part of. I enjoy the benefits of a company sold on the idea that technology keeps you competitive and is a necessary thing. This month's installment: Technological Dependency--Just How Plugged-In Are We?

I thought I was above average in computer experience and savvy. I have been on numerous software implementation teams. But yet--I could not conceive of what a terabyte of Memory was. I have been humbled the past couple years by my current co-workers and their computer knowledge and expertise.

Our company though small, has 17 one-terabyte servers, covering our IT operations, phone system, factory machine cpu back-ups and data storage. Our office staff are allowed to utilize our computers to play music files while we work if we can do so without interfering with our work.

As I contemplate this topic of technological dependency, at this moment I am listening to the "Kim Kommando Radio Show" via streaming "Live" broadcast from WOWO--Ft. Wayne on my laptop, sitting in my home living room, via my new wireless set-up. The tv is off, my wife is knapping in the lazy boy next to me—it is dreary outside and damp/cold. And guess what Kim Kommando is talking about-- installing home networks! This is the first weekend of wireless network use in our home. She just explained what expanders or repeaters are—they level out the dead spots in reception for your wireless connections at home or in the office.

A repeater, from my own experience is an outgrowth of what amateur radio operators pioneered in the early 70's and 80's for mobile to mobile radio communication on the 2-meter amateur band. Today that technology is what is used in Nextel's Direct-Connect "walkie-talkie" feature. That same repeater technology allows for smaller rural area radio stations like WLKI Angola, IN to be operated remotely via repeater station signals to give coverage to local communities that could not support full-time radio staffing.

Our office has a dish satellite that was installed during the first gulf war and normally it is tuned to the weather channel on a tv by the main copier. Today you see satellite dish antennas on the roofs of many firms.

Most of our offices have double-LCD flat screen 19-21" monitors for multi-tasking. Our conference room has a TV monitor with dish satellite feed, vcr and dvd players connected for conference or training needs, and a network wireless laser printer if needed during meetings. Shop personnel utilize 15" Flat screen LCD monitors with large, easy to read ICONS, and touch-screen menus.

For inspection of tube assemblies during machine set-up, we now have three laser inspection machines. The laser machines have dual laser beams to check dimensions and display them instantly on the flat screen monitors. The probe never physically has to touch the part. The laser units reduce the number of set-up piece attempts, so that machine set-ups are now accomplished in minutes. Serious time savings on hundreds of machine set-ups per month have more than paid back the cost of the laser technology.

My office is complemented with a wireless laptop, a flatbed scanner, a bar-code wand scanner, a PDA, and a desktop pc with dual-19 inch monitors. Too much technology? Not really. Not if you use it effectively and productively.

I am responsible for my own correspondence, filing, RFQs and project reports, in addition to our inventory management, supplier development and regular purchasing and supply chain management duties. Sometimes the workload is overwhelming. Yet, those to whom much is given (in high tech equipment), much will be (and is) expected or required, in terms of

improved productivity and analytical capabilities. For the first time in my career, I work for a company where we do a ***reasonable*** job of controlling the data we deal with daily. For years I was a slave to the data and "the system". No longer—it can be changed or improved. I can request changes and actually see and enjoy the changes and improvements – in my current lifetime. I can print and execute reports in seconds, not hours. A complete run of MRP takes about a minute and a half. Quite a switch from the early networking days on mainframes, where you submitted documents for keypunch, then waited for your output the next morning.

In the 80's I owned a Commodore C-64, and later a Radio Shack TRS-80 computer. Today my PDA is both more powerful than either of those early computers.

My brother-in-law can conduct his insurance and finance work via mobile office from anywhere in the world—Europe, China, Florida, the Caribbean or his home in Columbus, Oh. All of his email contacts and addresses are on a file service in California. When he is traveling, all calls to his Columbus office ring (thru call forwarding), to his cell phone and he answers as though he is at his office desk. Unless you ask him, you have no idea where in the world he is that moment. He has all his documents on a mini hard-drive he connects to his laptop.

Now TIME is my biggest enemy! So much to do, but which tasks do you attack first? We talk about ***velocity*** of the business--our orders, our product, our data, and our customers' demands and expectations. Blink your eyes and you lose the opportunity to capture that which you were viewing and intended to respond to.

I sometimes struggle to complete PO updates before the product hits our dock and the invoice is matched to the receiver/packing slip. The other day I placed an order for two drums of chemical with a chemical company in Grand Rapids, for delivery a week later. There was an issue over $$ minimum order late that afternoon. I increased the order to two drums and advised the woman in order entry that I would call back in the morning if I had any additional changes or additions to the order. The very next morning I viewed out my window that chemical company's semi trailer backed up to our dock, with the two drums of product already unloaded. Sure we can use the product, but I WAS NOT EXPECTING to see it the very next day. It used to be-- you could delay making order changes a couple days. Not any more. With electronic transfers, faxed or emailed invoices, documents travel at "the speed of business" as we hear in the ads. I sometimes see an electronically emailed/faxed Credit memo to match with a shipper in less than an hour of it's issuance, sometimes before the item actually gets on the outbound truck. Talk about ***velocity***! Reaction time is short.

As a Supply Chain Manager, one of the biggest challenges is the data I am deluged with daily. I receive numerous emails including spam, like all of you. Many invoices and acknowledgments are sent via email to me, allowing our company to take advantage of cash discounts from our strategic suppliers. I review our daily master schedule changes for major changes in my MRP requirements. As a small company we process a large volume of invoices weekly. In some cases I receive the faxed or emailed acknowledgements even before I fax my PO to them after phoning in an order. Most are returned within 24 hours.

Quotes, prints, photos as .jpg files, numerous documents and correspondence internal and external are being saved and stored electronically and made available where necessary in community/shared folders on our server. The same is occurring in company after company. You do the same in MS Outlook. Instead of saying "get me a copy of that", people now say "email me the file" or "place the document on the common or shared server for everyone's reference".

The burden has gotten heavier on all of us, to constantly review and upgrade filing conventions, techniques and file organization.

Remember when the main problem was 1) whether to file numerically and alphabetically in the file cabinet from front to back or back to front? 2) When you opened a file drawer--were the files arranged laying on their left side or right side? 3) Now with our modular offices of today, you quite possibly have a mixture of desk drawer files on either side of you, standard file cabinets and possibly lateral files, plus thousands of digital computer files related to the hard copies. Each of these provides their own unique ergonomic and organizing problems for daily use.

You can now put 2 to 4 GB of files on a memory stick and you better have a plan on how you can find and retrieve them. I personally have a zippered pouch in my briefcase, with 5 memory sticks in varying capacities from 256MB to 512MB to 1GB –it is like having five separate file cabinets in my pocket. They hold work files, ISM files including these Toolbox articles, personal files, and photo portfolios. That is all part of the new digital age we are in. As I write this, the memory stick in the USB port of my laptop for ISM use, has 77 MB of files in 71 different file folders. There are 445 files on the "stick" right this moment and it is just 2-1/2 inches long. That is the world we now work and live in.

I recently visited a distant cousin who has done a complete family genealogy, starting with the parents of my grandparents. All of the work has been scanned and digitized so that when printed in black & white, it forms a book in a three-ring binder. It is an impressive job.

I have found daily use for an older 1.3 megapixel digital camera that used to belong to my youngest son. I use it for photos of damaged shipments or quality issues on components at work. The memory card pops out of the camera and into a USB card reader attached to my desktop in my office. In minutes I can email photos of the problem to our supplier representatives. The company used to have a Polaroid camera. It is still in our office supply cabinet, but it is obsolete. Our quality manager has a company furnished pocket Canon digital for his quality reporting, rejects or for use in operator training and shop-floor work instructions. It goes with him on all customer quality visits.

Technology drives what we do, when we do it and how and what format we will respond by. How many of us are now digitally multi-tasking in our cars between cd players, MP3/IPods, Satellite Radios, cell phones, radar detectors and GPS units to mention but a few. Many of our cars are equipped with trip computers. The newest radios have remote controls!

Take a look at the number of digital leds and keypads now in your kitchen—clock radio, microwave, stove/oven, dish-washer and now even my wife's new coffee pot. You might have a new smart generation refrigerator with a digital timer and touch keypad on the front door. For yard and garden you have available motion detectors, timers and wireless remote controlled switches. Your sidewalk or garden may be lined with solar powered low voltage lighting. Your garage door opener operates on a wireless transmitter and receiver system and you can now purchase affordable home appliance and home wiring consoles that are wireless and will turn on and off virtually any appliance in the home you desire, at the touch of a keypad. Your pet may even have an owner ID microchip implanted under the skin of its' neck done by your vet.

My neighbor is working on a stone retaining wall. It appeared he was using an orange B&D electronic laser level the other day to get it right! My middle son is a fishing enthusiast and was given a used electronic fish finder by a friend going into the military. My wife and I were in PotteryBarn recently and picked up their catalog. One of the items is a remote control caddy for your living or recreation room table. You can also get them at Meijers. It holds the various tv, radio, vcr, dvd and fan remotes you accumulate. This afternoon at my oldest son's, we spotted a small remote caddy on his coffee table. (His wireless laptop was on the sofa beside him). We can't seem to live without all these gadgets. We now have to keep bubble packs of batteries in our drawers, not for our smoke detectors or flashlights, but for the electronic remotes or toys we have.

You might even be one of the owners of a "Roomba?" the electronic automated floor vacuum and have it sweeping your living room at this moment.

I find myself having to review electronic files periodically, to assure the data is retrievable when we need it and logically available to find. Just do a scan disk on your pc and watch the file counter. The same factors that used to guide how part numbers were assigned by an organization to its products, now apply equally to the data which we store for archival and reference purposes. File cabinets are still being used but to a lesser degree. The home office quite often includes the pc, a flat-bed copier/scanner/printer, a fax machine, a shredder, a PDA, card readers, USB hubs, possibly a wireless network and some form of music listening equipment whether computer, CD, radio or IPOD. You most likely have a small tv in the mix or tv tuner software on your pc. Some of these items go back and forth between home office and work daily.

This week I caved-in to pressure from my youngest son. He was urging me to install his wireless network router in our home and get wired-in while he is living at home again, getting started in his new job. Fellow board member Boyd, offered some suggestions a few nights ago. Well, I must say we are now plugged in. The router is in the basement attached to our broadband modem, which we previously used for cable tv before we went with Dish Network. My home desktop PC as of yesterday has a USB wireless adapter. My son's laptop and mine from work, both had wireless PCMCIA cards already installed, and now both work on the home network as of this writing. It took my son to push me a little to join the revolution. Oh yes, in the process I purchased the first wireless adapter card for the desktop and it was dead on arrival—a bad board. Had to return it for credit and by then decided the USB style for the same price was a better value. That one worked the first time!

I guess I cannot escape the digital tech stuff—I am immersed in it at work. As a former amateur "ham" radio operator, I have always tinkered with and been intrigued with electronic items or "toys" as my wife would say.   The computer and digital office is as logical and a necessary part of my daily routine as could be expected. Many people use wireless phone headsets now, so they can move about the office, and with their cell-phones thru Bluetooth technology. I haven't jumped on that one yet. One friend shared that he was talking on the phone with a woman customer order contact and the next thing he knew he was in the bathroom (the echo in his ear made him wonder if his wireless mic was broadcasting what he was doing)—it was very funny to hear him tell it, but also scary-- how he found the increased mobility with the headset had become so routine, that he was doing some functions without giving a thought to when or to whom he was speaking! He found it an embarrassing but telling moment in our technological era.   Think about it—are you "Plugged In" or "wired" --without drugs or caffeine?

What part will electronics play in this year's Christmas lists? With the Halloween and Christmas holidays just around the corner, think of the possibilities-- motion operated and animated ghouls, goblins and dancing Santas. Billy Bass was just the beginning—have you seen the singing Buck in K-mart from the hunters promotions?   How many of you have your eyes on HD or Plasma TVs for the Holidays, for the Super Bowl or the just started college/Pro football season? I rest my case. Just where do we go from here? It's anyone's guess, but we already have a deep dependency on digital technology.   dt