TECHNOLOGY

Dreaming Out Loud: Where Might We Be In 20 Years And Why You Might Care

Column: Final Thoughts

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I'm going to step out of my usual Joe Friday constraint of having to stick to "just the facts" and dream out loud while you listen. I figure I'm pretty safe in setting the time horizon at 20 years since you'll have forgotten my predictions by then, and I'll be long since retired and (statistically) dead, anyway. Twenty years is a long time, especially if those 20 years are technology years and thus governed by Moore's Law, i.e. "the number of transistors on an integrated circuit for minimum component cost doubles every two years." That means processing power will increase by THREE orders of magnitude over my arbitrary 20-year horizon. And with it, if history is an indicator, so will storage capacity and bandwidth. And, as we see those fantastic increases, we'll also be governed, I predict, by a lesser known law – LaFollette's First Law of Computing – which states that "user expectation will soon exceed all available capacity."

Yesterday & today

While that may sound unbelievable, a quick backwards glance at 1987 will add perspective. In 1987, we were waiting for the 80286 chip, and the thought of an 8MHz processor had us early speed freaks all atwitter. The 8-inch floppy had only recently given way to the 5¼-inch, and, although its double density format provided 360KB of storage, we were already quickly adopting its successor — the hard-cased

3½-inch floppy with 1440KB! Oh, by the way, we were arguing the merits of moving from 2400 baud to 9600 baud modems. After all, was there really a NEED for all that speed? Fast forward to 2007, and we're all considering Vista (and most will run it on machines with at LEAST 2GB of memory). And we're ALL wired, all the time. My EVDO cell signal transfers data literally THOUSANDS of times faster than 20 years ago, and I mumble because it's too slow and I occasionally find some backwoods location where I don't get a strong enhanced cell signal. My tablet weighs three pounds and has a 100GB hard drive and 2GB of RAM along with WiFi, EVDO and Bluetooth. But that's yesterday and today — the easy part. Where will we be in 2027?

Tomorrow

Applications will be delivered as needed, not "installed," and will appear almost instantaneously as machines will get smarter and smarter about what you MIGHT do next. You'll not "buy" software in the future (actually, you don't "buy" it today, you simply license it, but most of us consider that our act of going through the checkout at Best Buy and paying equates to "buying," so I'm going to play fast and loose with that verb while I can). Tomorrow's software will be rented ... perhaps for a single project. You want to make a nice brochure? Microsoft Publisher 2027 is yours for one project for only $X. Want to do several projects? How about a "use it all you want for a week" plan for only $Y. To illustrate how quickly this might happen, just consider some of Microsoft's recent acquisitions: Groove, FolderShare, Apptimum and Softricity. All are super-enhancers to storing and synchronizing data and to delivering applications over the network. The last one is named for a clever combination of software and electricity — Softricity — highlighting its claim to fame. It delivers applications (software) over the network (think Internet) just like electricity. You flip a switch and it turns on. Period. No installation. No drivers. No configuration. No administrator rights. Just your application when you want it. Citrix has responded with its Project Tarpon, and now the race is on. The future is still a ways off, but I believe wise practitioners can "see it from here" and begin to strategize based upon what appears to be happening. We've (almost) solved the bandwidth problem. High-speed Internet is ubiquitous. In the future, we'll begin to really HARNESS that ubiquity, and delivered applications will be one of the first payoffs.

We'll need a step-up in speed, however. And the technorati is out there working hard to provide it. Projects such as Internet 2, Abilene and National Lambda Rail are working to provision a high-speed network that runs exclusively over fiber-optic lines. It will be the first transcontinental ultra-high speed Ethernet network. It is

designed primarily as a network test system for experimentation with next-generation large-scale networks. These networks use dense wavelength-division multiplexing (DWDM) via OC–192 lines and will provide a 10-gigabit Ethernet signal. That kind of speed is simply amazing. And yes, I do realize that it will seem slow and pitifully inadequate at the fringes of my 20-year time line. Today, however, it means you could download the entire soon-to-be released Harry Potter movie, "Order of the Phoenix," in HD in about 10 seconds. But following that pesky rule I quoted above (user expectation will soon exceed all available capacity), we'll continue to grow our voracious appetites for data. This will be helped along by 24×7 video of everything, everywhere, RFID, and machine-to-machine queries. We'll be having this same discussion in 2027, with much bigger numbers.

For today's practitioner, I think the message is simple: Business processes must follow available technology. Good business practices must also be amenable to change so they take advantage of today's technology while preparing for tomorrow's.

What do your business practices say about your dreams?

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