Open Computing ‘‘Hands-On’’: ‘‘PC-Unix Connection’’ Column: May 94

To Buy or to Build

That is the question when putting together a Unix PC system. Our PC-Unix veteran offers some sage advice for when you face the choice of cost versus convenience

By Tom Yager

I’m not that old. Still, I remember the gory glory days of microcomputing when nearly all the joy was derived from building the thing. Computers were kits, educational toys, and it was years before people started keeping ledgers on them. Those times are long gone, but the thrill of exploration can still be had for the price of a few boxes of components. Maybe you can get your kicks by mail-ordering the motherboard, power supply, and cabinet from different places and spending a weekend building a system the old-fashioned way. Or perhaps you skate the razor’s edge by buying an inexpensive department store PC and beefing it up to run more than just games.

You can live life in the fast lane, or you can play it safe. Some systems come guaranteed to run software from Novell Inc.’s Netware to The Santa Cruz Operation Inc.’s Unix, and others are even prestuffed with peripherals and preloaded with software. Plug and play, but always for a price.

Is there a best way to buy a PC to run a demanding environment like Unix or Microsoft’s Windows NT? The answer could well be different for you than it is for the next reader that pulls Open Computing off the newsstand. Still, being smart means going in with your eyes open. Maybe this column will help clean your glasses.

Divide and Conquer

Veteran buyers---the ones that have Computer Shopper sent to their home and work---will tell you that saving money means buying a little bit from a lot of different companies. Memory can be had from the outfit that specializes in low single in-line memory module (SIMM) prices. Drives come from the big warehouse that stocks everything in the known universe. Keyboards, mice, you name it, somebody’s got the best price for it.

Those entrenched in the divide-and-conquer school usually either build from components or buy bare-bones systems. After a week of getting to know the UPS delivery person real well, you can then set about assembling your bargain.

Do you really save money this way? You might if you’re smart about it. It costs you more to get a set of floppy drive cables shipped than it costs a vendor to put them in your PC. The vendor gets a far better deal than you on most things inside their computers. The most notable exception I’ve found is hard drives. High-volume disk drive warehouses sell to the public at near dealer prices, and I’ve yet to see a vendor-built system with a competitively priced drive.

The other thorny issue related to drives is that packaged systems often feature drives that aren’t what you might choose. The drive might be slow, or it might have reliability problems. Both situations make drives less expensive, so it’s a popular place for vendors to cut corners on systems.

RAM is also a good item to shop around for. Even though vendors get SIMMs by the barrel load, you can almost always beat their prices by calling around. With memory, be very careful to match SIMM types and speeds. And play the market. At the writing of this column, RAM prices were just starting to recover from a huge spike. If prices are high, buy only what you need now, then wait. Prices will always come back down, and you can add memory later.

Keyboards, mice, floppy drives, and other low-ticket items are seldom worth shopping for unless you have a specific brand preference. The savings will be scant, and the chance is that one of these cheap but vital components won’t show, which could delay your system’s debut.

If the scent of savings has you in a trance, snap out of it. The downside to the divide-and-conquer approach is service. When you buy pieces from here and there, you increase the potential that something will go wrong. A packaged system gets tested with all your peripherals installed, so it leaves the factory working. If your home-built system doesn’t work after you put it together, whom do you call? Sometimes it’s easy--you just look for the smoke--but when a problem defies immediate diagnosis, be prepared for finger-pointing.

The very act of building your own system gives vendors license to blame you (and other vendors) for whatever’s wrong. You static-zapped a chip, they might say. You put the power cable into your hard drive upside down. You didn’t seat a circuit board properly.

Cost savings can be somewhat negated by the cost of your time. If your system arrives in umpteen boxes, you have to put it together, configure it, test it, and put it in service. It always takes more time than you set aside. Seldom do the people doing this work add the cost of setup time to the system’s tag. You might experiment with one piecemeal system and learn that it’s cheaper to let the vendor build it for you.

One-Stop Shopping

The other side of the build-or-buy coin is the packaged system. For those of us who don’t even change our own oil, the notion of a ready-to-run system has its appeal. If any part of it goes limp, there’s one number to call. More than that, a knowledgeable Unix (or NT, or OS/2) system shop can give you tuning and configuration advice that a mere box house can’t deliver.

Some full-service system vendors go further than that. Altos Computer Systems (San Jose, Calif.), a division of Acer America Corp., is one manufacturer that offers custom-brand peripherals as part of their system line. By sticking with Altos-brand gear, you’re assured of compatibility with the supported operating system, in this case, SCO Unix. Altos packages its own device drivers for some items and can provide technical support on everything from the SCSI adapter to multiport serial controllers, important if you are setting up a small business.

A preloaded system has the advantage of being tested with the supported operating system you select. Mobius Computer Corp. (Pleasanton, Calif.), for example, will load Sunsoft’s Solaris, Novell’s Unixware, and a few other operating systems onto your system before it ships. Then, unlike most component vendors, and even most system manufacturers, they'll guarantee that the system is compatible with your chosen environment.

The two major drawbacks to packaged systems are price and choice. Packaged systems always cost more because the vendor has to pay someone to install software and peripherals, and because they can charge a premium for the convenience of one-stop shopping. They also can't get away with hiring shoe salespeople for technical support; a vendor that promises to run a certain operating system is also expected to support it. That adds up to overhead, and you get to pay for it. You need to weigh the increased costs against the cost of your own (and your staff's) time. One phone call to a knowledgeable vendor might save hours of fumbling around. You can't trust operating-system vendors' hardware-compatibility guides. But you can trust an established vendor's guarantee of compatibility.

Choice suffers because most system vendors can only afford to stock one or two brands for each type of peripheral. Instead of getting the fastest hard drive, you might have to settle for what the vendor stocks. They might not integrate triple-speed CD-ROM drives, fast SCSI-2 disk adapters, gigabyte tape, or some other hot peripheral you're dying to have. Similarly, a packaged-system vendor may try to push you into older software. Sometimes the vendor makes value-added changes to an operating system, and some vendors need time to certify a new operating-system release on their hardware. Altos typically rides a release or two behind SCO's latest; NCR Corp. is shipping System V Release 4.0, not 4.2. This delay is a drawback if you need something that only the new version can deliver. It can also hinder you when you call the operating-system vendor for support-older releases often get lower priority attention than what's shipping currently.

What's Right?

Part of the purpose of this column is to show you that there's no cut-and-dried answer. There are pros and cons to both building and buying. (See the Table available as HTML 3.0 table or formatted text). If you're not driven to analyze the daylights out of everything (as I am), then you might boil the issue down to a couple of simple notions. If you get a kick out of building your own systems, go for it. You'll know the system better in the end. If you're in a hurry to get your intended application off the ground, go with the packaged solution. Buying a system has always been something of a crap shoot, but with a little thought, you can keep the risks to a minimum.

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