Nick's Hardware Picks

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Reprinted from *The Clergy Journal*

As a team of consultants that work on church and ministry networks nationwide, we have wrestled through many hardware issues. Having worked on so many hundreds of ministry networks, we've seen firsthand which hardware improves system reliability and which hardware hurts it. In this article I'll share with you the hardware we currently spec for our clients— specs that help ministries build the Kingdom.

Locally Built *vs* Name Brand

Our clients have found that locally built hardware has a higher failure rate. Though sometimes less expensive to purchase, the cost in lost productivity and in increased support can easily— and usually does— outweigh any possible advantages. Add to that the cost of church staff to support those systems, and it only gets worse.

Locally built systems are usually built with the best of intentions. In fact, the builder may have meticulously searched out the best in each component category to assemble in a box. But few local builders have research and development budgets to ensure that each component works well together.

The Right Name Brands

Not all name brands are created equal. As the saying goes, some are a little more equal than others.

Some name brands haven't any more research and development in them than locally built systems. Thus some name brands are little more than locally built systems with national distribution.

Desktop Computers

For the ninth year in a row, Dell has won our preferred desktop hardware provider status. Most of our clients are buying Dell Optiplex desktop computers; Optiplex is Dell's enterprise (optimized for corporate networks) line of desktop computers. These reliable systems come in a number of configurations. Our basic church desktop spec is an Optiplex 760 (2.66Ghz Intel Dual Core processor, 2Gb RAM, 80Gb hard drive, 10/100/1000 NIC, 17" flat panel monitor, keyboard, and optical mouse) running Windows XP Pro SP3.

A note about Windows: Windows Vista has not been adopted by mainstream corporations, and for good reason. We are testing the beta of its successor, Windows 7, and it shows great promise. We hope it will be as solid in final release.

Dell includes a 3-year, next-day on-site warranty, taking our clients out of the hardware support business (which saves them a lot of money). This desktop spec is under $850 (Spring, 2009).

Notebook Computers

Dell had some problems a few years ago with its notebook line, and we switched to another solution. Dell has since resolved their issues, and has won our endorsement again for notebooks.

Our current minimum spec is the Dell Latitude E6400 (2.53 Intel Dual Core processor, 2Gb RAM, 160gb hard drive, 14.1" WXGA monitor, NIC, WiFi, Bluetooth, WebCam, backlit keyboard, WinXP Pro SP3, DVD, Spare A/C Adapter, 3-Year Next-Day On-Site Warranty including Accident Coverage) for about $1660 (Spring, 2009).

For those wanting something a little smaller and lighter, we spec the Dell Latitude E4200 (1.4 Intel Dual Core processor, 2Gb RAM, 64gb solid state hard drive, 12.1" WXGA monitor, NIC, WiFi, Bluetooth, backlit keyboard, WinXP Pro SP3, DVD, Spare A/C Adapter, 3-Year Next-Day On-Site Warranty including Accident Coverage) for about $1760 (Spring, 2009).

Network Servers

Servers come in many shapes and sizes. Because ministry teams rely so heavily on these systems (the most important part of the network), they need to be engineered with *The Right Stuff*.

We usually recommend Dell's PowerEdge T610 (2.0Ghz Intel Xeon Quad Core processor, 8Gb RAM, 3 146Gb SAS 15k hard drives in a RAID 5 configuration, DVD, LTO2 tape drive, and 2 power supplies) for about $3500 (Spring, 2009). Depending on client needs, we sometimes increase hard drive and backup capacities and add more processors and RAM.

We usually put into a network server as much hard drive capacity as we think will be needed for the next two years. As technology continues to improve, more can easily be added later, and probably for considerably less than it would cost today.

We also like to go large on RAM. RAM is inexpensive, and the more you have, the better your network will perform.

SANs

SANs (Storage Area Networks) are large external hard drive arrays. They are optimal for those with large hard drive capacity needs (4Tb or more), though they are not inexpensive. Our favorite SANs are made by EqualLogic, which was recently bought by Dell.

Firewalls

Every network must be protected from intruders and malware. Our favorite appliances to keep your system safe are:
- *Protection from SPAM:* Barracuda Networks' SPAM Firewalls are king when you're looking to keep your team focused on mission. They eliminate SPAM very well, and that keeps most malware from getting into your system. We inexpensively host SPAM filtering for churches and ministries, and thus see statistics on a large scale. More than 94% of all email is SPAM!
- *Protection from intruders*: There are computer programs and people trying to exploit your networks' vulnerabilities. The best appliances to protect your system are from SonicWALL.

Printers

It's conclusive: the most reliable high-quality printers are made by Hewlett-Packard (HP). They're reasonably priced, fast, and any computer or application can print to them. With HP LaserJet printers (we recommend staying away from DeskJet printers due to high ink costs and slow speed) printing is easy. Our favorite model is the HP LaserJet 4700 DN. Capable of fast high-quality color, it's networkable and can print on both sides. Some available options for the 4700 include multiple drawers for different paper needs like plain, legal, letterhead, etc, and a stapler.

Network Switches

When building a network, the best you can hope for is that the process is trouble free.

Foundational elements such as cable and switches must be dependable. Our team has worked with just about every brand of switch available. Those we believe offer the best balance of reliability, features, and price are the Dell Power Connect 2724 and 2748. These 24 and 48 port switches combine high performance, management, and reliability with a very reasonable cost.

Uninterruptible Power Supplies (UPSs)
Network servers should be protected by uninterruptible power supplies to keep them up during short power outages. These unsung heroes of the computing world keep our data from being scrambled like an omelet. We prefer the American Power Conversion series of Smart UPSs. A smart UPS is one that communicates with the server and can be programmed to shut the server down when necessary; then bring it back up again when power is restored. Our favorite models are the 750 and 1500.

Where to Buy
Through a special arrangement with Dell, you can purchase hardware at a discount by calling their representative who is focused on helping those who are referred to Dell by our firm, MBS. Because Dell reps change, I recommend going to our website (www.mbsinc.com), selecting the Links option, and then choosing the hardware category. We keep the Dell link there updated so that you'll know who to call and how to reach them— just make certain you tell them you're calling at MBS' recommendation (we don't receive any proceeds for referring to them).

However, if you're considering getting an EqualLogic SAN, your best bet is to call Jason Powell with VR6 Systems (jason.powell@vr6systems.com, 574/532-3352) before ever talking with Dell about it. Jason and his team will save you thousands, but they can only do so if you cal them first.

CCB (Consistent Computer Bargains) can save you the most money on HP printers, Barracuda SPAM Firewalls, and SonicWALLs if you're a not-for-profit church or ministry. They can be reached at 800/342-4222.

What About Macs?
I prefer the MacBook Pro notebooks to their standard notebooks because of the extra engineering that goes into them. Apple has a House of Worship market team that can save you money, and they're great. Contact Chris Miller (chris.miller@apple.com, 916/399-7404) for details.

Well, there you have it. These are tried and tested solutions that work in ministries of all sizes: from single-computer churches up to the largest ministry networks in the country. Our networks have earned a reputation for very high reliability— based in part on the right hardware.

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