

Choosing Platforms – A LAMP unto My Feet



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Last month I began a new series on “Launching Online” – capturing the decisions faced and lessons learned in launching a new online ministry/business, Hschooler.net.

Last month we talked about the decisions we faced in choosing how to host the service. But before we could finalize our hosting setup, we needed to make some important decisions about our development platform – what operating system, database, and primary programming language we would use in launching our service. We needed to make sure that the hosting provider we chose supports this platform and that we signed up for the right package.

Choosing Your Religion

I was tempted to title this article “choosing your religion,” but decided that would be too misleading. Obviously, those of us reading Christian Computing aren’t in the process of choosing our religion. In fact, I never was, it was God who chose me (Ephesians 1:3-6 ESV).

So, why would I title an article to Christian technologists “choosing your religion?” Because we all know that some technology topics become so called “[religious wars](#)” and operating systems/platforms is one of those topics. That being said, I’m not out to “convert” anyone, but I hope and pray the following discussion is helpful for you.

When it comes to operating systems, the “combatants” in the religious wars have changed over time, but the nature of the battles hasn’t.

When I first started my career, some of my first major projects were on VAX (Virtual Address eXtension) computers made by Digital Equipment Corporation (DEC) running the VMS (Virtual Memory System) operating system. VMS was a very graceful, reliable operating system for mid-range and mini-computer systems. We used VAX/VMS systems both at the defense contractor that I worked for in college as well as to run mission critical telecom systems as I entered the full-time workforce. Since DEC had vertically integrated their business, optimizing the hardware, operating system, and core software to work together, the end result was a high-performance, dependable solution.

In those days, [the religious wars](#) were between those that favored the vertically integrated VAX/VMS platform and those that favored the more “open” Unix platform. Unix had been invented at Bell Labs, but was widely licensed to run on systems from a large number of manufacturers including Hewlett Packard, Apollo Computers, Sun Microsystems, and many others. Because Bell Labs had widely shared the source code for the operating system, many contributors around the world helped improve the software and different variants emerged with different strengths. The result was a richer, more varied platform, but one lacking the simplicity and grace of VMS.

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As you have undoubtedly guessed, Unix won that religious war. In time, DEC, as well as IBM and even Microsoft (sort of) joined the Unix nation. However, it wasn't long before [civil war](#) broke out. Bell Labs' parent, AT&T, saw the opportunity to commercialize Unix, which meant they had to regain control. They chose to partner with Sun Microsystems, a company that had been birthed from strong contributions to the Unix operating system. The other manufacturers decided they'd better get organized to counteract this threat and formed the Open Software Foundation (OSF) in 1988. This consortium released the OSF/1 version of Unix to compete with the AT&T/Sun version of Unix. AT&T formed Unix International (UI) and Unix Software Labs (USL) to position against the OSF. I recall the battles being pretty fiercely fought between the two camps as they battled for the hearts, minds, and wallets of IT decision makers.

However, by the mid-1990s, it was clear that their real "enemy" wasn't the other Unix camp. Their real "enemy" was [Microsoft](#). Bill Gates' company had already won the desktop before Unix could seriously mount a challenge, and now was moving strongly into the Unix stronghold of the data center. Between 1993 and 1996 all the disparate Unix armies joined together into a merged Unix camp called The Open Group.

Today, the [religious battles](#) are largely fought between proponents of Microsoft products and those that embrace open source solutions. I'll address open source in more depth in a future column. However, the general model can be understood in terms similar to the battle between VMS and Unix. VMS was a vertically integrated environment controlled by a single company. Similarly, Microsoft offers Windows Server 2008 (the core operating system, descended from Windows NT), Windows Internet Information Services (IIS) (the web server software), Microsoft SQL Server (the database server), and a rich array of developer tools through the Microsoft Developers Network (e.g. ASP.NET). Open source, on the other hand, is wide open. There are lots of choices and lots of variants, developed by a fairly loose-knit collection of contributors.

Microsoft vs. LAMP

Over the past 15 years, the open source community has largely focused on a collection of independent components that have become the basis for most non-Microsoft web implementations. Known as [LAMP](#), this platform is comprised of Linux (a freely developed variant of Unix – as the operating system), Apache (for the web server), MySQL (for the database), and PHP (or some choose Perl or Python for the software development language).

I first used LAMP as my platform when I launched Seek First Networks, LLC in 2000 and was struck by the simplicity and ease of using the tools. The fact that all of the software is literally free is another strong contributor to my favoring LAMP. Microsoft, of course, operates to maximize shareholder returns meaning they charge a fair price for each of the equivalent components in their solution. Those component prices can add up, and as your business grows, so does the price tag.

I also greatly appreciate the vast wealth of other (free) open source projects that have been developed to work on the LAMP platform, so as we consider additional capabilities for Hschooler.net, we can often find a great starting point in an existing open source project that we can easily modify to meet our needs.

Before leaving the topic, I must note that we did consider some alternative variants to the full LAMP stack and we may return to some of them in time. Our first consideration was to move to Ruby on Rails (RoR) instead of PHP for the application framework. RoR is great for developing flexible and user friendly web environments. In the end, our greater comfort with PHP and the wealth of existing open source projects in the PHP realm led us away from RoR. We also looked at nginx instead of Apache for the web server. Given our concerns about scalability, nginx is very attractive and we may return to it. However, we struggled to get software that was designed for apache to quickly run on nginx, so we set it aside for our initial launch. We did not seriously consider alternatives to Linux or MySQL, although there are some concerns today with the future of MySQL now that the company that created MySQL is owned by Oracle. My sense is that swapping out MySQL for a different open source database package will not be a huge issue if we are faced with it in the future.

And so we chose Linux (we specifically chose the "Lenny" release of the Debian variant of Linux), Apache, MySQL, and PHP as our core development platform for Hschooler.net. A different platform may be the best choice for your ministry based on your experience, preferences, existing resources, and software needs.

Russ McGuire is an executive for a Fortune 100 company and the founder/co-founder of three technology start-ups. His latest entrepreneurial venture is Hschooler.net (<http://hschooler.net>), a social network for Christian families (especially homeschoolers) which is being built and run by three homeschooled students under Russ' direction.