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The oddity of a commodity

Introduction

In issue 24 of this Newsletter dated Autumn '98, we posed the question: Have PCs become "good enough"? The answer arrived at was, "almost" and suggested that PCs would thus gradually have a longer useful life than the 3-4 years replacement cycle prevalent at that time, since technical advances were becoming less compelling. We see today that PC technical advances are nearly irrelevant; the PC has truly become a commodity and as such, PC products are primarily distinguished by price, warranty and serviceability rather than by the specific outstanding technical features and speeds that used to be the main determinant between brands 6 years ago. As a result, we have seen Dell become the world's largest PC supplier with sales of over $40 billion based on their direct and just in time business model; they can profitably undercut their competitors' prices and their direct model facilitates, for their customers, purchasing and getting support. Dell sells a fully featured modern PC today for under $500 US, less than half of what such a PC cost from Dell just 6 years ago. IBM, who created the PC and who continued to try to differentiate their products through unique technology, has mostly fallen by the PC wayside. But, that has traditionally been the way of the product commoditization process.

Here we are in 2004 and with perfect hindsight, we can see that the PC is certainly a commodity today. Granted that Apple has developed a profitable niche market based on the Mac operating system and stylish PCs, and we must also recognize that Wal-Mart now sell a Linux based PC with monitor for $199US. These niche variations too are characteristics of a commoditized product. People (mostly) don't buy PCs based on performance anymore. As noted in the '98 article, this transition occurs when the technical performance improvements are no longer noticeable and valued by most of the users. If you can't detect the extra speed when using e-mail, word processors, spread sheets and Browsers, then users have no motivation to replace PCs and will not see additional speed as a differentiating benefit that they will pay more for. So, buyers choose from first or second tier suppliers based primarily on price, process and support predictability. So we see that the commodity product business (where volume and price are king) is very different from the high tech product business, where innovation and enhanced technology are prized.

Software as a commodity?

That said, it is becoming apparent that this commoditization process is not going to end with PCs. In fact, the rapidly growing "Open Source" trend is caused by comparable commoditization of software. Sure, there are cultural issues, 3rd world affordability issues and "anti Microsoft" issues involved, but, the basic driver for open software is that much of the software, certainly the system software (operating systems, web servers, e-mail products, browsers, data base packages, etc.) has reached the "good enough" point in that the additional features made available in the next releases are not valued enough by most customers to justify upgrading and in fact, are often not enough to justify the cost of support (given Microsoft's current pre-paid 3

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year upgrade/ replacement support offering). That inertia based product stability is what commoditizes software too. Let's look at what has been happening in this arena in recent years.

What is open source software?

Open Source Software is not as recent a phenomenon as some (like Microsoft) would like to make out. It dates back to the early days of UNIX circa 1980 or so when Berkley University was allowed by AT&T to develop their own "free" version of UNIX. From that base, it attracted many "super programmers" who viewed such work as a chance to do exotic code to be incorporated into an increasingly widely used (certainly in academic circles) operating system with professional recognition as the main reward (also typically academic and the actual birthplace of the Internet). However, many of the utility programs so developed were highly valued and could be ported to work on many other operating systems and demand grew to do that. It was from that perspective that the GNU philosophy and "free" software license came about in 1984 from the Free Software Foundation, the sponsor of GNU (when PCs did not even have hard disk drives yet!). GNU stands for "GNU is not Unix"! Open software is software in which the source is provided and the license allows the user to modify it, improve it, use it and distribute it in almost any way imagined with the primary restriction that the "free" or "open source" code has to be identified and recognized within the subsequent offering. Over the years, most UNIX releases contained a lot of GNU licensed software, and GNU programs also ran on PCs and on many variations of the proprietary operating systems that prevailed until the late 90s.

The original text editor that Versadex used in the early 90s, called EMACS, was in fact a GNU licensed Open Source product, as was TCL (the Terminal Control Language that our desktop and subsequent desktop text editor were developed in). Apache was one of the first web server products available and today represents about 55% of the web server market, making it the most successful piece of Open Source software ever, the "killer application" for Open Source. It was developed under UNIX originally but now is available for Windows server, Linux and many other platforms. And of course, Linux is the most notorious and widely recognized depiction of "free" or "Open Source" software these days. It is the operating system that appears ready to replace all other non-Microsoft operating systems (as per IBM, SUN, HP, etc.) and it even threatens or competes with the Microsoft server products. Google runs on Linux servers using the Apache web server to handle millions of searches per day. Similarly, various "free" Linux-based E-mail server products are widely used by industry and government as their e-mail servers of choice.

It is interesting that Open Source software is supported by web sites and forums devoted to support of the product, with help voluntarily available from developers of the product, expert consultants and many other users. Some distributors of "free" software do offer optional committed support for a separate support fee. Since most proprietary software is now also supported by the web, the difference between Open Source "free" support and proprietary "paid for" support is often difficult to detect. Today, major corporations like Sabre Holdings (air line reservations), SAP (dominant Financial system supplier) and IBM use and recommend Open Source products as their system software platform of choice. So, Open Source is here to stay and has a lot of horizon left. Let's look at that from the viewpoint of the commoditization process described earlier relative to PCs.

Software industry in transition

A student of the system software business will have noticed that it is getting harder and harder for monopoly suppliers (like Microsoft or ORACLE) to find compelling enhancements to add to their base operating and DBMS systems (for instance) that are valued enough to make customers upgrade or switch from some older or other operating or DBMS system. That is in fact why Microsoft and other system software suppliers have introduced multi-year pre-paid support packages bundled with upgrades, to entice (force?) their customer base to keep upgrading, even when not evidently in the customers interest to do so! We notice similar situations occurring with data base management products too. This is a strong signal that these types of system software products are becoming commodities too, subject to the aforementioned characteristics and constraints of a commoditized product. It suggests that since new features are not sufficiently highly valued, then product discrimination will be driven primarily by price and /or on-going operating cost and that puts difficult pressures on the product suppliers, to migrate their business model from the high value added and fast moving, fast evolving high-tech model to the lean and mean price sensitive and longevity sensitive commodity product model. Given the Microsoft 90%+ monopoly on desktops, they are still some way from being threatened there; but their server products are something else again. Linux is certainly perceived (by Microsoft) as a commodity competitor to their server products today.

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In the data base product market, significant enhancements have been difficult to identify in new releases for a couple of years now. As Microsoft's SQL Server DBMS product catches up feature-wise with the veteran DB products (and they are almost there now, I'm told), we are seeing considerable pricing pressure, since the actual DBMS market is becoming saturated and no longer expanding rapidly; Microsoft's growth will come mostly from cannibalizing the large competitors (ORACLE, DB2/Informix) and the obsolete DB products (Sybase, DEC, Ingres, and legacy products Adabas, M204, etc.). Pricing will be the dominant factor in DBMS market share re-distribution (also a characteristic of commoditization) as will standardized support (for reduced operating costs). As this commoditization process of DMBS products develops, we are seeing two of the Open Source "free-ware" products beginning to take noticeable market share: these are My-SQL for the simpler web-based applications and PostGres for the more fully featured DBMS product replacements. Both products are increasingly being used by major corporations for major front line web-based systems. While both still fall short of the more established products in features and capability today, both are catching up quickly too; (remember, the established products are now mature "near-motionless targets", not evolving much anymore).

Major corporations are not just using Open Source products for the financial license savings; often, it is the ability to adapt the products to their specific needs (since they have the source code) and the fact that Open Source products (like Linux, Apache, My-SQL, etc.) have proven to be more robust and virus resistant that other proprietary competitive products that motivated their selection. Open Source products are certainly "mainstream" today and have solid market share growth approaching 50% per year. Their accepted success is no longer in dispute; it is now merely a matter of time.

The next software area to be impacted

Things begin to get very interesting when one looks at the next software "layer", the horizontal applications (in that they apply to every industry and institution) such as word-processing, spreadsheet and "MS-office equivalent" application software that represents Microsoft's most profitable "bread and butter". Here again, we have a virtual monopoly in place, and one that also has difficulty in continuing to enhance the product sufficiently to motivate customers to upgrade to new releases (and there are over 100,000,000 such customers.) That makes MS-Office also a slow moving target for Open Source and a couple of initial Open Source "free" competitive products have been released, initially by SUN Microsystems called Star Office and then by the Open Source Foundation called "Open Office" (same product, actually). Several other groups have released Open Source products competitive with MS Office too. These "free" products can be downloaded from various web sites and demonstrate file exchange and user training compatibility with Microsoft Office; certainly, they can co-exist and be alternately used, even on the same desktop. Many of us at Versaterm do that today. The Word processor is similar to and comparable to Word in Office 2000 (missing certain XP features) although the Spread Sheet and presentation tool are not as competitive with EXCEL and PowerPoint. However, the standard Open tools can publish PDFs directly and are in fact more "open" in that sense. They run under Windows desktop, and under Linux variations as well as on Browser terminals connected to a SUN server. This product category will place increasing pressure on Microsoft, since most users don't use even a fraction of the features available in WORD or EXCEL, let alone the enhancements in XP and the next releases. However, given the millions of people impacted, this potential transition will of necessity be slow.

Increasingly too we see companies offering Open Source replacements for SharePoint, and for a wide variety of advanced office technology server products (file servers, print servers, firewalls, routers, etc.). However, it is important that we understand the pressures and motivations that create the opportunity for Open Source software products. Remember the PC; it takes a market measured in many millions of owners/buyers and a product maturity level at which most of those users cannot appreciate or find a use for much of their existing capability, let alone for the new features in new releases, to trigger the transition to "commodity" values and to create the opportunity for Open Source products. When that happens, the commodity shift factors will arise, lower cost alternatives will surface and buyers will discriminate based on price, life cycle cost (including re-training and new product support costs) and acquisition simplicity rather than on "hot" new features and added power.

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The “value challenge” facing intangibles like software

Microsoft today faces yet another challenge from Linux and Open Source software, particularly in Asia, Eastern Europe and much of the third world. China for instance can produce a fully featured PC for well under $200 but cannot afford and is not prepared to pay a comparable amount for Microsoft license fees and support fees for the tens of millions of PCs they need as they “catch up” with the industrialized world. In conjunction with Korea, Japan and several other Asian countries, they are developing an Asian version of Open Office that runs on a similarly adapted version of desktop Linux to produce a desktop PC environment with NO license fees or copyright violation exposure. We see similar thrusts in some other governments of countries, cities, etc. where money is tight and they must find an affordable way to operate their businesses or agencies in a modern way. The potential for tens or even hundreds of millions of actual users of Open Source products will rapidly raise the visibility and the recognition of the competitive potential of “free” Open Software.

What does this mean to Versaterm?

Most of you know that the Versadex products have been available and proven on Linux based platforms for some time now; using Lifekeeper non-stop software. Linux has demonstrated the same robustness and reliability as Mainstream UNIX platforms have in the past (and at substantially lower cost). Starting with our 7.0 releases, all Versadex products will incorporate and use the Apache web server for file exchange, document “shuffling” and eventually, for web services. We are exploring the use of My-SQL and PostGres as potential alternatives to Informix and even ORACLE, especially for our smaller customers and we are evaluating the Open Office word processor as an alternative to our current text editor.

In every case, Open Software is attractive, not just for the cost or lack thereof, but also because we have the source and can control the code from our application (letting us assure reliability and deliver effective support) and we can avoid the dreaded “release paralysis” that so often raises its ugly head when we use several proprietary third party products from different suppliers. Release paralysis occurs when we can’t move to a new release of product “x” because it is not compatible with the existing release of product “y”, so we get frozen in time as a result. Many systems and agencies regularly find themselves in the “release paralysis” state. Open Source allows us to “fix” such incompatibilities ourselves and “motor on”.

Prediction

As an old veteran of the Informatics industry, I have seen most trends and directions come and go and come back again (e.g. outsourcing, decentralization, etc.). But, my gut instinct says that when we look back at these years from the perspective of, say, 2010, we’ll conclude that the phenomenon of Open Source software was the most significant technology feature of the decade.

By Ron Meyer, CEO, Versaterm Inc.

The best public safety software…
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