Disrupting the market of SMB servers

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Ignacio Correas (icorreas@ebox-technologies.com)

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Abstract: Small and medium businesses comprise the vast majority of businesses worldwide but most IT vendors focus on other segments of the market, like large organizations or mass consumers. The core IT product in an SMB is the server, centralizing the management of users, security, access to the Internet, infrastructure, resources, groupware and communications. The leader in the market of SMB servers is Microsoft with Windows Small Business Server. With some 80% of the market share and a network of over 20,000 SMB resellers, Microsoft is firmly established as the dominant vendor and can act as a monopolist in the market. Linux on the other hand, offers a technology that is both technically superior and inexpensive, which are very important factors in economically challenging contexts such as the current one, when SMBs need badly to reduce their costs and increase productivity. Can Linux disrupt the market of SMB servers and gain a foothold as a viable alternative? This paper will analyze the market of SMB servers and will discuss the right strategy that should be put in place to effectively disrupt the market, showing the example of eBox Platform, a Linux server for SMBs.

SMBs and IT

According to the European SME observatory\(^1\), in Europe there are over 19 million SMBs, consisting of 99.8% of European businesses, and generating over 60% European GDP. However, during times of economic downturn such as nowadays, they are usually the most vulnerable segment and, thus, the one in most need of cutting costs and increasing productivity.

It is commonly accepted that one of the areas that can help the most in cost cutting and productivity boosting in SMBs is the deployment of Information and Communication Technologies (ICT). This perception coincides with the data gathered by the Spanish National Institute of Statistics (INE)\(^2\), according to which just during last year the number of SMBs with a Local Area Network (LAN) has grown around 5%. Other data are even more impressive, such as the percentage of SMBs with employees connected to the corporate ICT systems through external networks (last year growth of 7.5% in medium businesses - between 50 and 249 employees - and 15% in small businesses - between 10 and 49 employees), the percentage of SMBs with Intranet (last year growth of 18% and 36% respectively) or the percentage of SMBs with Extranet (last year growth of 52% and 76% respectively).

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On the other hand, SMBs are used to operate with low budgets and a limited workforce. Once again, INE's data agree with this perception, according to which during year 2009 less than half of medium businesses had specific IT employees. In small businesses this percentage was as low as 20%, which shows the limited availability of resources and their high dependence with easy, efficient and inexpensive services provided by external IT providers.

It is important to compare the huge potential and particular needs in SMBs, described previously, with the low interest typically shown by technology vendors towards developing solutions targeting specifically the SMB market. Generally speaking, corporate solutions available in the market have been developed thinking in larger corporations\(^1\), which require important investments in time and resources and require high levels of technical expertise.

### The market of SMB servers

Within the vast area of ICT in SMBs, this paper focuses in the infrastructure, security and communication layer. In this layer, the main product is the SMB server, centralizing the management of users, security, access to the Internet, infrastructure, resources, groupware and communications of the company.

The main player in this market is Microsoft, with its Windows Small Business Server (SBS), controlling around 80% of the market share\(^2\). This product has been in the market for 8 years and it has evolved to become an over-provisioned product, providing more functionality than needed and overwhelming end users with a plethora of features\(^3\). The model of commercialization is based in license sales, increasing their price some 80% from $599 in their previous version (2003) to the current $1.089 in their most recent version (2008), with a minimal functional gain (prices are for a basic license for a 5-user network)\(^4\). It is quite clear that Microsoft is using its monopolistic positioning to increase margins, to abandon the less profitable customers and to get established in the higher SMB layers of the market.

All these aspects are generating negative reactions from some of its customers and partners, who have started to look for a Linux-based open source alternative that can compete with Windows SBS and that can offer a credible support and guarantee\(^5\). In fact, it would be reasonable to see an important increase in the adoption of Linux and open source among SMBs, the same way shown with previously described data, looking for a more efficient use of their scarce resources. However, data show quite a different reality: during year 2009, less than 19% of medium businesses had any Linux server, and this amount was less than 7% in small businesses. Although Linux adoption figures are rising (22% and 11.5% respectively), they are clearly an insufficient evolution taking into account the current economic context, the important rise of other ICT adoption data and the huge cost savings that can be achieved with Linux and open source. How can it be explained?

\(^2\) download.microsoft.com/download/7/c/5/7c5bd924-eb6b-4117-b418-48e8b33a2147/YankeeSBS.pdf
\(^3\) www.ntc-global.net/information_links/MicrosoftSBSreviewPCMag.pdf
\(^5\) http://talkback.zdnet.com/5208-12558-0.html?forumID=1&threadID=47570&messageID=886442
Linux and open source systems for network management (Samba, OpenLDAP, Postfix, Squid, Snort, OpenVPN, eGroupware, Spamassassin, ClamAV, etc) have a huge advantage in terms of pricing compared to Windows SBS (in fact, they are free). Moreover, they have evolved technically matching or even surpassing closed source technologies in some markets (for instance, around 90% of supercomputers in the world work on Linux). In spite of these advantages, open source systems have barely entered the market of SMB servers. The reason is simple: for a server solution to enter the SMBs, it needs all its components to be tightly integrated and be easy to administrate. SMBs do not have resources nor time to deploy complex high-performance solutions, so highly integrated products such as Microsoft's SBS cover pretty well SMBs’ technological needs. Moreover, IT providers for SMBs need also solutions that require short times for deployment and maintenance to remain competitive, and traditional Linux server distributions do not fulfill these requirements.

The main questions arising at this moment are: how can Linux be adapted to solve the realities of SMBs and their IT providers? And once this is done, is it even possible for Linux to challenge Windows SBS dominance of the market and gain a foothold among the SMBs?

**Disrupting markets**

Before trying to answer these difficult questions, it is important to review the theory of market disruption. There is quite a large number of references covering the subject, but in this paper we will quickly review the most popular one: Clayton Christensen's The Innovators Dilemma.

The whole idea of market disruption is based on performance oversupply, a concept that describes the fact that technology supply tends to evolve faster than technology demand, as described in the following graph:

![Picture 1: Performance oversupply](image)

This means that the performance of products quickly satisfy the demand of the
lower layers of the market, and as they evolve and become more sophisticated, they meet the demand of higher layers in the market.

When at least two products reach the performance demanded by a layer of the market, the base of competition shifts to a different performance parameter, which can help new entrants compete with established incumbents under a different competition basis. The exact competition basis depends on each market, but generically they shift from functionality to reliability, then to convenience, and finally to price. Also, as long as the first competition basis does not satisfy a layer of the market, that layer does not shift to the next competition basis, as described in the following graph:

![Shift in competition basis](image)

*Picture 2: Shift in competition basis*

This market behavior allows for two main strategies:

1. A technology vendor can ascend the trajectory of technology evolution into ever-higher tiers of the market, ultimately abandoning lower-tier customers when simpler, more convenient, or less costly disruptive approaches emerge.

2. An alternative is to march in lock-step with the needs of customers in a given tier of the market, catching successive waves of change in the basis of competition.

The first strategy is the most commonly followed by well-established vendors, because companies depend on customers and investors for survival, and a strategy consisting on delivering solutions for higher-end customers, with better margins and levels of income, will almost always be favored. However, this strategy leaves the lower-end of the market available for new entrants, who can size this group of customers with new disruptive technologies.

It is important to define the difference between sustaining and disruptive technologies. Sustaining technologies bring incremental improvements of product performance in the established basis of competition. Disruptive technologies, on the other hand, are new concepts of value that bring to a market a very different value proposition than had been available previously.
and change the basis of the competition. According to Christensen:

*Generally, disruptive technologies underperform established products in mainstream markets. But they have other features that a few fringe (and generally new) customers value. Products based on disruptive technologies are typically cheaper, simpler, smaller, and, frequently, more convenient to use.*

It is important to notice that new entrants with disruptive technologies usually have lower cost structures, being able to profitably address lower parts of the market. Moreover, often the new value proposition brought by disruptive technologies opens new markets and are able to untap a whole new group of customers that can now be effectively addressed with the new products and new entrants' cost structures.

**Analysis of Microsoft's strategy**

Microsoft addresses the SMB server market with its Windows Small Business Server (SBS), which, according to Wikipedia, it is

*an integrated server suite designed for running network infrastructure (both intranet management and Internet access) of small and medium enterprises having no more than 75 workstations or users... It includes Microsoft Exchange Server mail server, Internet Information Services (IIS) web server, Windows Sharepoint Services for collaboration, Routing and Remote Access Service (RRAS), Windows Server Update Services for update management across the network, and a fax server.*

It is a very successful product among SMBs, mainly because its high level of integration and usability and its affordable pricing. Microsoft differentiates this product and avoids any competition with its upstream server products thanks to a series of limitations in SBS configuration, such as in domain management, Active Directory configuration and maximum number of users in the network.

In order to visualize what kind of strategy Microsoft is pursuing with its SBS product, among the two possibilities described previously, the best source of information are the changes implemented between SBS version 2003 and version 2008. Apart from software updates and some minor usability, integration and functional improvements, the main differences are:

- Premium version now includes a second server (Windows Server 2008) with SQL Server 2008 (instead of the less powerful SQL Server 2005 Workgroup Edition integrated previously in SBS 2003 premium version)
- Internet Security and Acceleration Server (ISA) not included anymore in premium version, but must be purchased with a separate license and installed in a separate server
- SBS integrates now Microsoft cloud services, delivered directly from the vendor
- Server license is 80% higher, $1089 for a standard version, instead of $599
• CALs are 20% less expensive, from $100 to $77 in standard version

These changes imply a major shift in its focus, because:

• In order to have all the basic functionality in an SMB network, a minimum of two servers are required, one for SBS (Office & Infrastructure) and another for ISA (Gateway & Security), which is a rather advanced configuration for businesses under 20 employees who would be happy with an all-in-one server

• The total licensing costs for any medium company is lower with the new 2008 version than with 2003; however, it is way more expensive for a typical 20-user company

• Cloud services reduce the margins of IT providers focused on small businesses and are only profitable to resell for VARs targeting medium businesses

The conclusion is clear: Microsoft is following the strategy labeled as 1, focusing its SBS product into the higher levels within the SMB market, abandoning customers at the lower levels.

Linux has now the opportunity to capture those abandoned customers with an offering that offers good enough functionality for small businesses and with a value offering that can compete and win SBS offering under a new basis of competition centered in reliability. And that is exactly the goal of eBox Platform.

**eBox Platform: Linux Small Business Server**

eBox Platform is a Linux server particularly conceived for SMBs. Based on Ubuntu, it integrates the most standard open source programs used for network management (Samba, OpenLDAP, Postfix, Squid, Bind, Snort, OpenVPN, eGroupware, Spamassasin, ClamAV, Asterisk, Apache, RADIUS, Jabber, etc), gathering thus all the functionality needed for the management of a small-to-medium size networks, including the roles of Gateway, Security, Network Infrastructure, Office and Resource Sharing and Corporate Communications.

It is designed with simplicity and usability in mind, creating an intuitive and straightforward including only those functionalities being used frequently in SMB environments.

Moreover, all eBox functionalities, made up of systems initially independent, are tightly integrated, automating most of the tasks and saving time in the management of networks. Considering that around 42% of security issues and 80% of service failures in a business are due to human errors\(^1\) in their configuration and administration, the result is not only a simpler solution but also more secure and reliable, fulfilling thus all the functional requirements to work as a small business server.

The following table summarizes the functionality included in eBox Platform:

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\(^1\) http://enise.inteco.es/images/stories/Ponencias/T25/marcos%20polanco.pdf
eBox Platform is open source software since 2005, with an active and growing user community of around 3,000 members. It is an Ubuntu package since Hardy Heron and its installation base is estimated in some 40,000 around the world, mainly in SMB environments, but also in education centers, hospitals, public administrations or even at a lab at NASA.

**Higher reliability**

The technology included in eBox Platform is completed with a cloud-based subscription offering that helps keeping eBox servers updated, secured and available. First, subscriptions guarantee that software updates have been previously reviewed and tested before being applied to production environments. Secondly, subscriptions provide security alerts and frequent reports on the performance and use of the network, to help small businesses to manage their network infrastructure. Thirdly, subscriptions can include the access to the Control Center, a SaaS platform that allows for the centralized management and monitoring of distributed eBox servers, helping thus outsourcing the network to managed service providers, with more efficient and reliable support processes. Finally, subscriptions are completed with other add-ons, such as disaster recovery, security updates, technical support and certified training.

Compared with Windows Small Business Server and other Microsoft server products (Internet Security and Acceleration Server and Office Communication Server), eBox offers a lower sophistication in functionality, particularly in advanced options in user management or security policy definition, which are important features for large organizations, but less important for medium ones and almost completely undemanded in small environments.

On the other hand, the development, distribution and commercialization of eBox needs a much lower cost structure, thanks to integrating open source standard components and enjoying the continuous contributions and promotion from its own community, and can address thus the lower end of the market in a profitable manner, who otherwise might not be able to access Microsoft’s technology.

The option of integrating and automating all the functionality in one single product, allowing for the easy combination and configuration of modules, being
open source and downloadable for free and providing the services on-line through a subscription offering is definitely a simpler, cheaper and more convenient way of managing a small business network.

It seems clear now that eBox Platform is a disruptive technology in the SMB server market, as it fulfills the functional requirements and looks like a simpler, cheaper and more convenient solution that can be marketed under a lower cost structure than the main incumbent. However, as explained before, once a disruptive technology matches the incumbent's functionality at the lower end of the market, the basis of competition shifts to reliability. So, the question is rather can eBox compete with Windows SBS in reliability?

The answer is yes, as the subscription model offered by eBox and the services included in it stresses all the value proposition in helping keeping eBox servers updated, secured and available. This is a very helpful feature for the SMBs but it is even more for their IT providers. With a technology that helps them keep their customers infrastructure up without much effort they can become more competitive and expand their customer base to levels that could not afford their services otherwise.

But reliability has other important dimension, apart from the technology itself, and it is service availability. This is a real challenge for a product competing with Windows SBS, as Microsoft has a channel of over 20,000 SMB providers worldwide. The solution put in place with eBox consists on making all the offering available on-line (product, subscription, support and training) and starting developing a partnership program, composed of small IT providers (the ones targeting small business), with important discounts in each service and the process and commercial support to help them grown and improve their service delivery.

**Conclusion**

This paper has discussed the disruption in the SMB server market with a Linux-based solution, eBox Platform, but it is perfectly adaptable to other open source solutions.

Open source is a model with a huge disruptive potential, as it provides with a well-proven technology base, the processes and support to develop first-class products with few resources and the ability to distribute the product inexpensively. However, these advantages are not enough to gain a foothold in the market and displace closed source incumbents. First of all, market, competitor's strategies and customers need to be well-understood. And secondly, the product and offering need to be adapted targeting the low-end customers. That is probably the only way how Linux and open source can ever get mainstream.