

# TCO White Paper



EXPERTS ON DEMAND

## – “Know What You Need” – Benchmarking SMB Server Platforms

A White Paper by  
Experton Group AG  
Munich, Germany

Conducted on behalf of

Collax GmbH  
Munich, Germany

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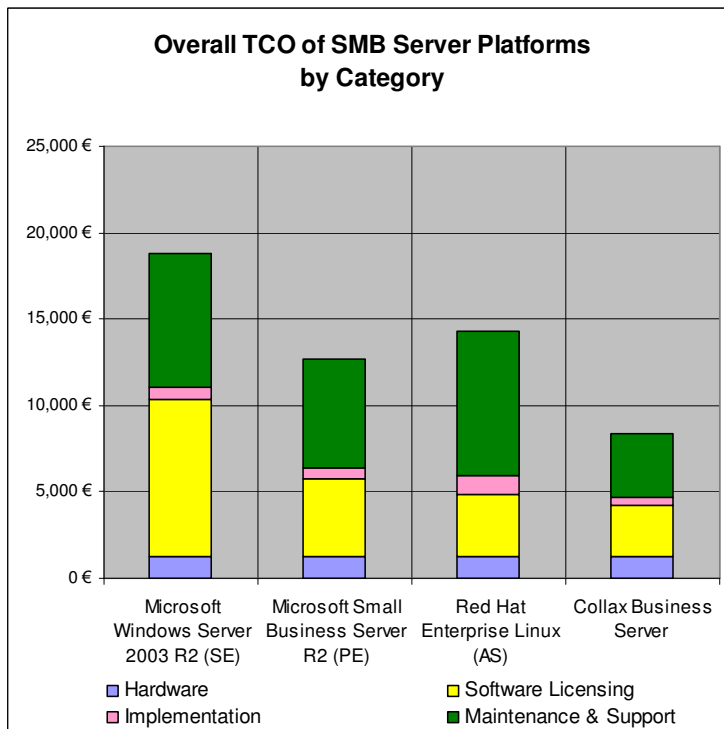
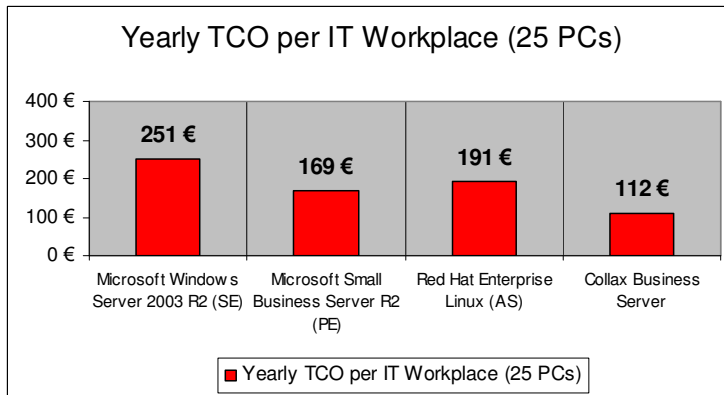
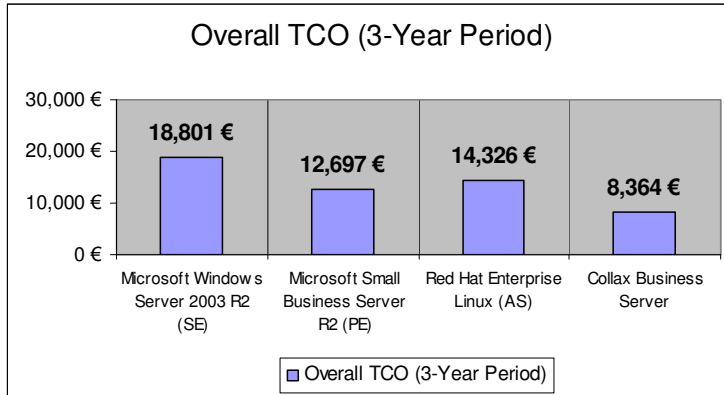
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## 0. Executive Summary

- A majority of SMB companies in Europe still operate outdated server infrastructures which lead to mediocre productivity levels within the companies.
- Over the next few years, Experton Group expects a strong demand for solid, easy-to-manage server infrastructures (file, print, e-mail, database, application and security) in the SMB market.
- Independently from the underlying operating systems, SMBs' selection criteria for server infrastructure investments include a clear and transparent licensing model, easy-to-manage server administration procedures and maintenance routines that do not require IT expert skills. Due to tight budgets, overall TCO are mostly more important than a broad portfolio of product features.
- To help SMB decision-makers to evaluate different server infrastructure alternatives, Experton Group has benchmarked four products from the Microsoft domain (Windows Server 2003 and Small Business Server) and the open-source domain (Red Hat Enterprise Linux & Collax Business Server) by strategic and TCO metrics.
- In the given business case of a professional service company deploying 25 PCs via a multi-functional infrastructure server, the SMB-oriented server packages from Collax and Microsoft promise the most advantageous TCO.
- By contrast, Microsoft Windows Server 2003 seems not to be the favoured choice for straightforward infrastructure workloads in small-scale environments like the given 25-desktop case. It better serves larger-scale IT infrastructures (>50 desktops) run by seasoned IT staff who can benefit from the product's rich feature set of administrative options.
- Microsoft has made a smart move by bundling some of its core server components into a value-added SMB-oriented infrastructure package. The Microsoft Small Business Server (SBS) provides all required server functionalities for the given scenario, including database and groupware features. It also has a competitive edge when it comes to the integration of other Microsoft-based components.
- On the other hand, the Microsoft SBS requires advanced Windows administration skills for proper maintenance. The most important drawbacks, however, are the related hardware and CAL restrictions and hard-to-understand license terms.
- With its clear focus on the SMB market, Collax has packaged an infrastructure server that is nearly perfectly suited to address the requirements of SMB customers (and the given business case of 25 desktops).
- Although the Collax Business Server (CBS) cannot compete with Microsoft's almighty feature set or Red Hat's scalability, it covers all essential requirements for an easy-to-install and easy-to-maintain multi-functional server.
- In addition, the web-based Collax administration console leads to significant operational cost savings and enables IT service partners to support their Collax customers remotely, which reduces on-site maintenance costs dramatically.
- Although Collax has not reached a channel penetration like Microsoft or Red Hat yet, the company is connected to a solid and growing network of resellers, IT service partners and ISVs and backed by reputable investors who ensure the company's financial stability.

- ➔ Red Hat users will undoubtedly profit from the low server subscription fees, the very transparent license terms as well as from the included web/phone support services.
- ➔ However, the Red Hat Enterprise Linux (ES Standard Edition) is still packaged like an enterprise-class server platform that requires professional administration skills and domain-specific knowledge in the Linux/open-source space, which drives up maintenance costs over the life cycle.
- ➔ In terms of overall TCO, Collax clearly leads the competition with only € 8,400 over the 3-year period, followed by Microsoft SBS (€ 12,700), Red Hat ES (€ 14,300) and Microsoft Windows 2003 (€ 18,800).
- ➔ Measured by yearly spending per desktop, the TCO ranking looks as follows: Collax (€ 110), Microsoft SBS (€ 170), Red Hat ES (€ 190) and Microsoft Windows 2003 (€ 250).

## 1. Key Findings



## 2. Introduction

Small and mid-sized businesses (SMB) still face several IT investment challenges. Typically, most infrastructure components and solutions have not been designed to fit their specific requirements. Vendor companies took a long time to provide SMB-oriented server platforms. This is especially true for Linux and open-source software (OSS), where the need for technical skills and the lack of mid-sized business solutions kept numerous SMBs from leveraging the potential benefits of those platforms and solutions.

This situation is now undergoing dramatic changes. New vendors are offering SMB-focused Linux-based server platforms, enabling SMBs to deploy Linux and OSS in an easy and secure way – without the need to engage open-source specialists. In this white paper, Experton Group evaluates the opportunities and benefits of four main server platform alternatives from an SMB perspective. As opposed to other TCO analyses that compare server platforms on an enterprise level, Experton Group focuses on the specific requirements of mid-sized companies that want to deploy Linux and OSS. For this reason, this white paper benchmarks a) *traditional proprietary server platforms* versus b) *established Linux distributions* and c) *SMB-centric Linux-based server platforms*.

### Microsoft Windows Server 2003 R2



Standard Edition

### Microsoft Small Business Server R2



Premium Edition

### Red Hat Enterprise Linux ES



Standard Edition

### Collax Business Server



(25 user license)

Collax GmbH, Germany, has commissioned Experton Group to deliver customized research and insights to help SMBs to plan and execute their IT infrastructure spendings in an efficient way. This TCO white paper outlines how SMBs can learn to “*know what they need*” and therefore increase the business value of their IT infrastructure investments. Experton Group provides an overview of all initial and follow-on costs associated with the four different server platforms to help SMBs to streamline their investment decisions.

## Methodology

The results and insights presented in this white paper are based on a broad spectrum of research and data sources that include the following:

- Experton Group ICT Spending Benchmark Reports;
- In-depth interviews with small and mid-sized companies;
- Interviews with ISV partners;
- Vendor-specific data (regarding license fees, support schedules and training programs etc.).

Experton Group has pursued a user-centric and life-cycle-oriented TCO research approach. After analyzing and outlining the central challenges and selection criteria of SMB companies, all initial and follow-on costs throughout the IT life cycle were measured and calculated for a typical SMB business case representing a professional service company with 25 PCs managed by 1 multi-functional server over a 3-year period (see appendix B for assumptions

of this business case). The key cost dimensions within the TCO comparison include the following items:

- *Licensing*
- *Implementation*
- *Maintenance*

The TCO analysis does not include intangible measures such as staff productivity or motivational factors.

The typical SMB IT infrastructure requirements encompass the following:

- Network management
- Web server
- Security / firewall
- File & print
- User management
- Mail server
- Groupware / collaboration
- Database server

### **3. Project Planning and Decision-Making**

#### **The Linux and Open Source Market from an SMB Perspective**

Linux and OSS have made their way out of the niche and represent a viable part of today's IT market with overall annual spendings of more than 30 billion \$ for hardware, software and related services. Over the years, Linux and OSS have also evolved to become a realistic alternative for SMBs to refresh their IT environments and to catch up with the big corporations and organizations that benefit from these innovative and cost-efficient technologies for several years.

Constricted by insufficient Linux/OSS skills and a limited number of mid-sized business applications, SMBs still lack behind big corporations in their adoption of Linux and Open-source. With Microsoft defending its dominant position in this market segment fiercely and Red Hat and Novell focusing on enterprise solutions, SMBs were faced with limited strategic options in the field of server platform investments. New offerings from Collax GmbH and other vendors might release a majority of SMBs from their strategic confinement by providing low-cost and easy-to-manage server platforms customized for the requirements of small and mid-sized businesses.

SMB decision-makers should be aware of the following market trends, which result in a variety of Linux-/OSS-based solutions specifically addressing the SMB market:

- Growing number of SMB-sized business applications running on Linux;
- Availability of professional support for packaged Linux-/OSS-based software;
- Plethora of Linux-certified hardware, especially low-budget IA-86 servers;
- Trend towards easy-to-manage solutions that do not require deep technological skills.

## **Selection Process**

When it comes to IT investment decisions SMBs differ significantly from big corporations. While large enterprises can easily allocate substantial resources to evaluating and planning activities, SMB decision-makers have to stay focused on their core business and face much shorter decision time frames and much tighter IT budgets.

Although it makes sense for SMBs to rely on the advice of external IT service partners, selecting one's core IT infrastructure always remains a critical decision. Experton Group suggests that SMB decision-makers should get personally involved in the IT infrastructure investment decision and try to analyze and comprehend the opportunities and risks associated with the various alternatives. This white paper shall help SMB decision-makers and their IT service partners to gain further insights on the costs and benefits of the current SMB server platform alternatives.

## **Evaluation and Selection Criteria**

The key objectives for SMB decision-makers and their respective IT service partners for IT infrastructure investment decisions are to:

- Secure a high level of productivity among employees by offering reliable and easy-to-manage infrastructure services;
- Reduce complexity and integration costs;
- Shift IT spendings from maintenance towards flexible and extendable IT infrastructure frameworks.

The following criteria should be used to analyze and evaluate potential solutions:

1. Transparency and structure of license and support terms & prices;
2. Manageability;
3. Maintenance and support requirements;
4. Features and performance characteristics;
5. Overall total cost of ownership (TCO).

## **4. Software Licensing**

For TCO comparisons between open-source and proprietary software, software and licensing costs are a critical issue. Although all of the 4 solutions compared for this business case are professionally packaged and supported software packages, there are major differences regarding licensing structure, transparency and included components & services.

As the software market leader who serves all types of companies with a broad portfolio of solutions, Microsoft's licensing program is the most complex. Although Microsoft has made some serious efforts to streamline its licensing program and to offer specific SMB product packages (e.g., Microsoft Small Business Server), it remains a challenge for non-experts to fully capture the licensing terms. Within the TCO comparison, Experton Group has selected Microsoft Windows Server 2003 Standard Edition (MS 2003) and Microsoft Small Business Server Premium Edition (MS SBS) to illustrate the different licensing options.

In general, Microsoft licensing includes the pure software license, divided into server license and Client Access License (CALs) fees, which are required either for users or devices

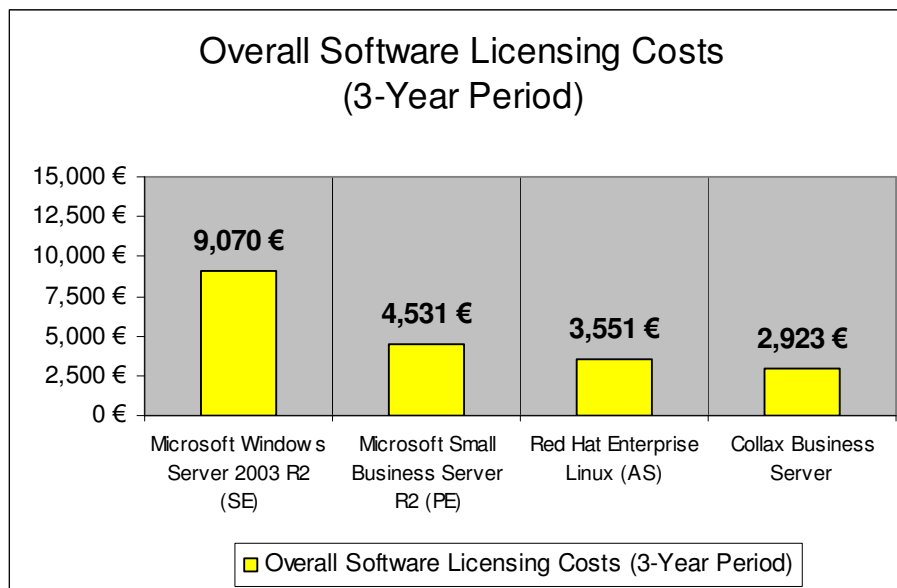
(userCAL versus deviceCAL). The complexity of Microsoft's licensing terms is even more increased by:

- Further licensing options that determine future upgrade initiatives to new versions of the product (*Open New License and Open New License with Software Assurance versus retail packages*);
- A significant spread in actual market prices<sup>1</sup> between local channel partners as well as online stores;
- The differing feature sets within the various server editions (*2003 vs. SBS or Standard versus Premium Edition*).

Red Hat Inc. offers a relatively simple software licensing program called a “service subscription” model. It includes the server software, product upgrades and a basic support service via web and phone. Within this model, there are no restrictions for CALs, which makes it appealing for growth-stage companies with a dynamically growing user base. However, SMBs should be aware that the subscription is not a one-time retail package price, but a fee to be paid on a yearly basis, summing up over the life cycle.

Collax GmbH also offers an easy-to-understand licensing program for its SMB Linux server platform. The license program offers a standard edition of its server solution, which can be licensed by groups of users (CALs) and time period (1, 3, 5 years), this reduces complexity. Further offerings include SMB-friendly appliance packages, which have the potential to further reduce licensing and installation costs.

The four competing products come with very distinctive feature sets. To assemble the required set of functions of a fully fledged SMB infrastructure server, extra software acquisition costs have to be added to the various server platforms. While the licensing costs of the pure server platforms do not differ that much, the overall software acquisition costs do, as shown in the following figure.



The overall software licensing costs include all server licensing fees plus additional CALs for the assumed 25 desktop business case over a 3-year life cycle and also the license costs for additional groupware and database server modules. The gap between Microsoft Windows 2003 and the competing solutions is mostly caused by supplemental MS SQL database

<sup>1</sup> While this TCO analysis is based on the lowest available prices for Microsoft products, prices for Red Hat Inc. and Collax GmbH products refer to official vendor pricing lists.

server licenses. Unfortunately, the major advantage of the Microsoft Small Business Server as a complete SMB infrastructure server package including groupware and database server modules is restricted to a 75-user environment. With substantial costs for additional CALs, MS SBS loses much of its advantages in expanding IT environments with more than 75 PCs.

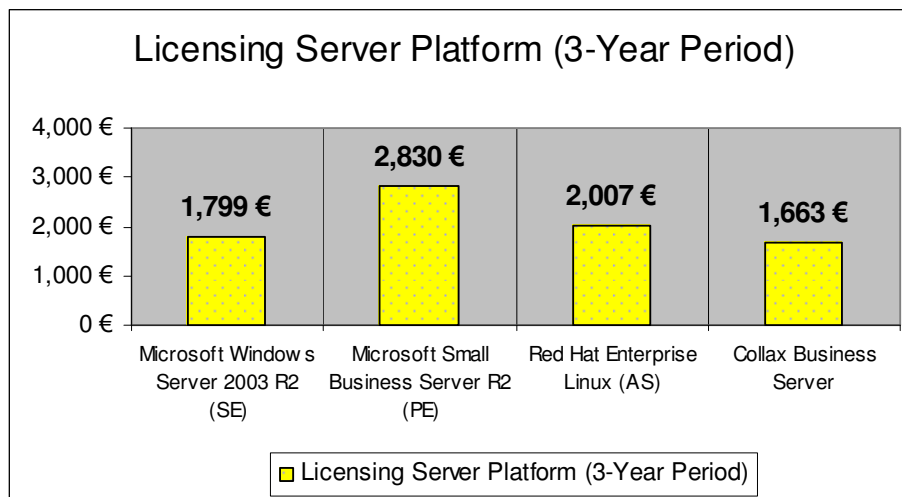
In contrast, Red Hat and Collax clearly benefit from their open-source approach, which allows the integration of license-free components such as the MySQL database server. Another important factor is the availability of additional CALs at reasonable pricing levels. In the Red Hat case, only the server license fee is charged, with no CAL restrictions at all (see above).

All in all, Collax offers the lowest software licensing costs over the 3-year period with about € 2,900, followed by Red Hat with € 3,500. The Microsoft software licensing costs for MS SBS sum up to € 4,500 and even double to reach € 9,000 for the traditional Windows 2003 server set<sup>2</sup>.

## Licensing of Server Platforms

While with € 2,800, Microsoft SBS shows the highest server-related license fees, this price includes parts of the database and groupware components that have to be added to the overall software acquisition costs. Microsoft 2003 Windows Server accounts for about € 1,800 in licensing fees. Both Microsoft-related figures include the costs associated with future product upgrades and migrations.

The yearly subscription fee of € 670 for the Red Hat server adds up to € 2,000 over the 3-year period, and nearly € 1,700 have to be paid for the Collax server as a one-time license fee, including server and 25 user licenses within a 3-year life cycle.



## Groupware and Database Server Licenses

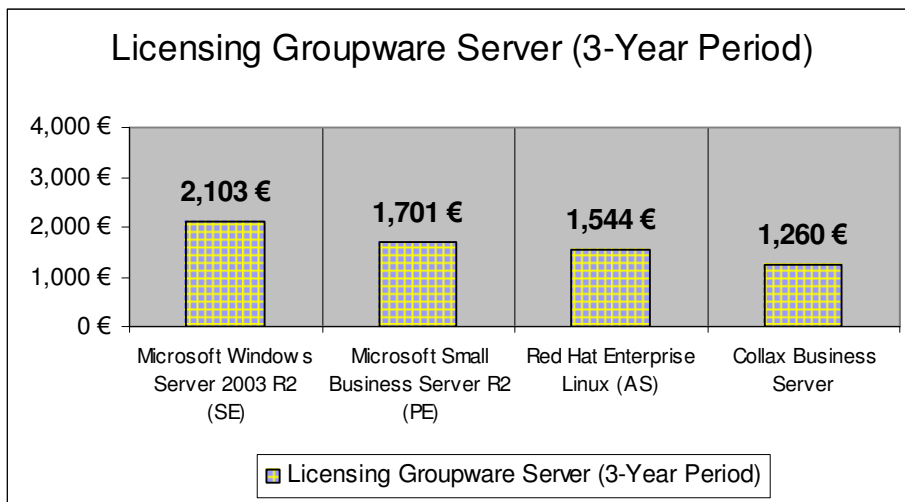
Within the Microsoft SBS bundle, only additional CALs have to be purchased separately, since the MS Exchange 2003 Server module is already part of the package. The premium edition also includes an MS SQL Server 2005 Workgroup Edition to run basic database workloads in small-scale environments.

<sup>2</sup> Please note that Experton Group has based this calculation on the lowest Microsoft prices available on the market and not on weighted price averages. Price offerings for Microsoft server licenses from local IT service partners or resellers might differ from the given prices.

By contrast, Microsoft Windows 2003 Server requires a full license of MS Exchange 2003 on the server and CAL side and does not include the database functionality of the MS SQL 2005 Server, which has to be licensed separately, leading to additional software licensing costs of € 7,200 (€ 2,100 for MS Exchange 2003 plus € 5,100 for MS SQL 2005 Standard Edition).

The supplemental software licensing costs in the Red Hat case are restricted to additional groupware licenses<sup>3</sup> (€ 1,500); the MySQL database server is included in the distribution package.

Collax offers its own-label product Collax Open-Xchange Server. This groupware server can either be licensed separately as a dedicated server or as an extension within the Collax Business Server. Under consideration of the underlying TCO scenario with its focus on a multi-functional infrastructure server for SMBs, the option to implement groupware functionality through the extension results in a further cost reduction of nearly € 400 (Collax Open-Xchange dedicated server € 899 versus the server extension for Collax CBS € 510).



### Feature Set versus Pricing

From a licensing and pricing perspective, the open-source products from Collax and Red Hat appear to be clear winners. Collax is in a leading position with a solid, SMB-customized infrastructure server, which is well able to perform all required tasks, from network management to groupware, for less than € 3,000 over 3 years. Red Hat and Collax also offer a convincing and trustworthy licensing model, which is transparent and easy to understand. In addition, their products are connected to an ongoing update process that does not require migrations, as is the case with Microsoft.

On the other hand, both Microsoft packages can easily score in the feature set comparison. MS Windows 2003 Server as well as its SMB derivative MS SBS offer complete patch management solutions for the server and client side. In addition, the Microsoft products come with Active Directory Services, Outlook Web Agent and automated administrative reporting. Despite its rich feature set, MS SBS faces several restrictions. Its scalability is limited to 75 users and a single server and 2 CPUs per company. These restrictions may cause problems for companies with a decentralized IT infrastructure that has to serve numerous small-scale environments, for instance, various sites or branch offices.

<sup>3</sup> Experton Group has based its calculation for the Red Hat related groupware licensing costs on the subscription of a Scalix Small Business Edition which scales up to 50 users including a 3-year service & support package. See <http://www.scalix.com/>

## 5. Implementation

When it comes to the implementation process, the Microsoft products mostly have an advantage over the competing products, because SMBs or their respective IT service partners are more or less familiar with the system and its manageability components. On the other hand, the Collax server set-up routine is completely automated. The initial installation can be completed in less than one hour due to the small footprint of the software that comes on one installation CD, whereas the competing solutions need several CDs or a DVD.

For the initial set-up of the Collax as well as the Red Hat system, no specific Linux or open-source knowledge is needed... until the company-specific configuration begins. The configuration of the Red Hat system requires some solid Linux and open-source know-how to select and adjust the different server functionalities that come along with the distribution. With Collax, on the other hand, the configuration efforts are minimized by means of an SMB-specific pre-selection of open-source-based server functionalities and tools. During the configuration process, the Collax system reveals its unique strength for SMB-users – it provides a very simple and easy-to-use administration cockpit based on a web browser. This administration cockpit offers two significant advantages. On the one hand, it enables a completely remote implementation process without any server-based administration tools. IT service partners could install and configure the server easily for their customers without any travel costs associated with on-site project work. On the other hand, the administration cockpit manages and controls all Collax server components (including the groupware server) under the same GUI, which reduces training efforts and speeds up future maintenance activities (see chapter 5). The Collax configuration process also follows a logically structured routine that guides the user with a configuration wizard.

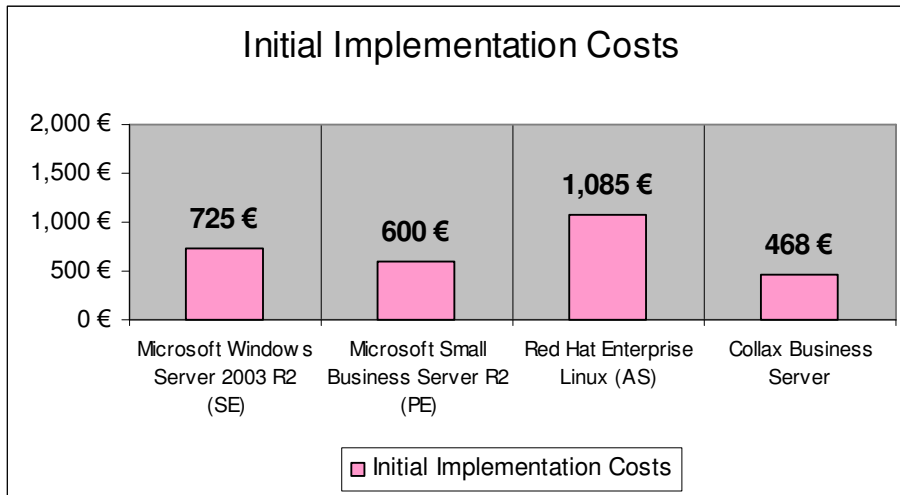
Most users are somewhat familiar with the Microsoft product family, but getting either MS Windows 2003 or MS SBS started requires a solid Windows server know-how. Compared to the Windows 2003 Server scenario, where 3 main server components<sup>4</sup> have to be installed and configured, the MS SBS implementation routine is much easier. Although Microsoft also uses installation wizards and guides, the product's rich set of features increases the complexity and prolongs the implementation process. As opposed to Collax, all configuration wizards are run on the server side, which means that the basic network functionalities have to be set up before a terminal server session can be used as bridge to complete some administrative tasks remotely.

With respect to the integration and migration efforts, Microsoft products show some serious advantages, although upgrading from an older to a fresh Microsoft version can also be a challenging task. In most cases, migrating existing third-party software from an old Microsoft system to a new one will be somewhat easier than switching to Linux. However, most ISVs offering Linux-based or open-source-based software provide specific migration support, which reduces this obstacle to OSS implementations. For the integration of existing Microsoft-based desktop and printer environments, Active Directory could also be of advantage.

*Due to its small footprint and simple set-up routines, the Collax system offers the lowest implementation costs – however, these costs have no great effect on the overall TCO.*

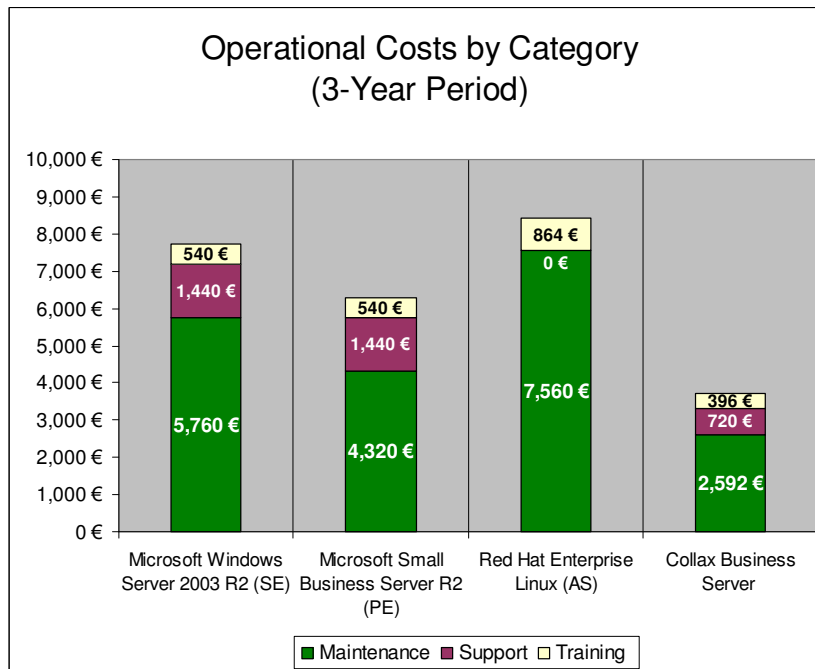
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<sup>4</sup> Windows Server 2003, Exchange Server 2003, SQL Server 2005



## 6. Operations

As expected, the operational costs over the 3-year life cycle clearly exceed the software licensing costs and account for about 50% of the overall TCO<sup>5</sup>. Maintenance is the biggest operational expense factor (70%), followed by support costs<sup>6</sup> (20%) and training costs (10%).



<sup>5</sup> These numbers are in line with other empirical findings in the SMB space, where companies usually do not spend more than half of their IT budget on internal and external IT services, while large enterprises mostly top the 70% mark.

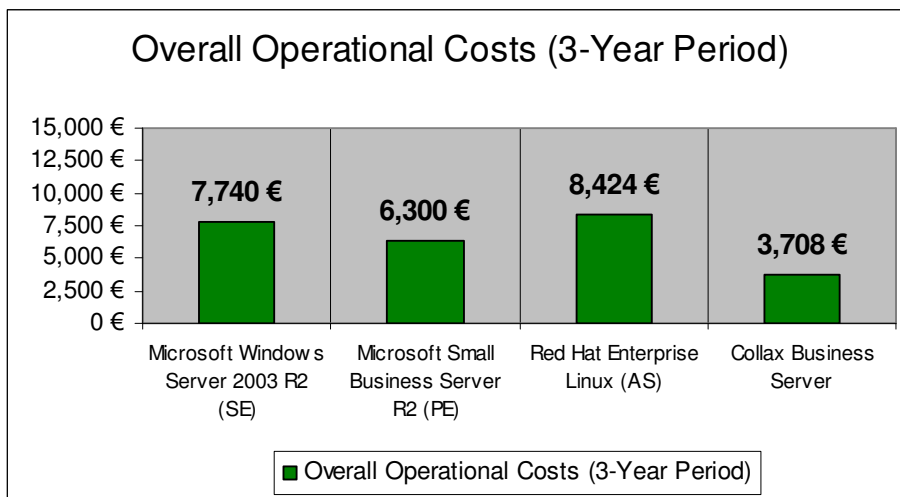
<sup>6</sup> The given support cost figures do not refer to the vendors' support offerings. Support costs were calculated by Experton Group based on the hours spent per month, multiplied with fees for local IT service partners and measured by current market prices (Europe).

In the underlying business case of 25 desktops, the deployment of MS Windows 2003 Server would lead to approximately € 2,500 of operational costs per year for maintenance, support and training. These figures are based on the assumption that a minimum of 4 hours of maintenance and 1 hour of support per month is needed to ensure smooth and secure systems operations. Maintenance mostly comprises patch and update management as well as general administrative tasks such as user and network management. Although MS Windows 2003 Server benefits from the integrated patch management solution for the server and desktop side as well as from Active Directory, it must be taken into account that 3 core server components (Windows, Exchange, SQL) have to be maintained. Given the fact that each server component requires solid administration skills and has to be managed separately under different administration GUIs, the real maintenance requirements could easily increase, depending on the qualification of the administrator or IT service partner. Every company should therefore also budget a certain amount of training and education. Experton Group estimates that training costs for the Microsoft environments amount to about € 500 (this includes 2 full days of on-site training, excluding non-productive time).

Compared to its bigger brother, MS SBS shows slightly reduced operational costs (approx. € 2,100 per year), driven by the integrative approach of the server package, which bundles the different server functionalities under one administrative roof. Support is calculated with 1 hour per month provided by a local IT service partner. Training efforts equal those related to the Windows 2003 Server (see above). The broad range of features of the SBS package also increases manageability efforts and boosts operational costs.

Despite their transparent and competitive licensing terms, Red Hat loses ground when it comes to operational costs. Although the Red Hat subscription model comprises a standard web and phone support package, the system requires domain-specific expertise and more time for maintenance than the competing products, increasing operational costs to € 2,800 per year, including a minimum of 1 training day per year.

As is the case for the implementation process, the web-based administration cockpit of the Collax system can help to reduce the operational costs significantly (€ 1,250 per year). Administrators do not have to get familiar with different management GUIs – they can use the same GUI for all tasks, from patch management to user administration. The web-based management console also drives down maintenance and support costs related to external IT service partners, who can deliver their entire maintenance and support services remotely, saving travel costs and time. Combined with the limited feature set and the focus on core infrastructure functionalities needed in small scale companies, Experton Group estimates that an average of 2.5 hours of monthly maintenance and support is needed.



## 7. Additional Factors

In addition to traditional TCO metrics such as hardware and software acquisition costs, implementation and operational costs, there are some strategic issues to be considered for SMBs planning to invest in a new infrastructure server environment.

### Security

All the evaluated products from Microsoft, Red Hat and Collax offer solid security features to ensure the secure deployment of the basic infrastructure server workloads for SMBs. When it comes to more sophisticated security requirements, the Linux-based systems from Red Hat and Collax have a clear advantage over the benchmarked Microsoft products, which should be combined with a Microsoft ISA 2006 Server to provide a similar level of security and robustness.

### ISV Support

On the other hand, Microsoft is the unchallenged leader regarding ISV support and number of available business solutions and tools. Microsoft ISV partners can easily be located and accessed and most business solutions for the SMB space run on the current Microsoft systems. However, global Linux distributors like Red Hat, Novell and Collax have made significant progress in establishing a global ISV partner community for their platforms. Within the last 5 years, numerous ISVs have ported their solutions to Linux and provide professional support<sup>7</sup>. Collax, in particular, wants to expand its basis of mid-market-oriented ISVs by launching a new Collax SDK and a solution development program for ISV partners and developers. Already today, customers can choose from a variety of SMB-focused solutions certified for the Collax platform. In some cases, deploying ISV solutions on the Collax platform offer the advantage that the administration efforts for infrastructure and business application workloads are both handled by the web-based management console. Examples for SMB-specific ISV solutions running on Collax include the following:

- db-central CONTENT-MANAGEMENT (db-central GmbH)<sup>8</sup>
- MESONIC Business Software (IT service partner: Esch & Pickel GmbH)<sup>9</sup>
- HMD Software (KlaiNET Networks)<sup>10</sup>

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<sup>7</sup> The Nomina database comprises more than 2,700 solutions that run on Linux.

<sup>8</sup> db-central provides more than 100 LAMP-based content management, eCommerce and eLearning tools which can easily be integrated with and maintained on the Collax CBS (both products are completely web-based); <http://db-central.com/>

<sup>9</sup> Esch & Pickel implement the SMB-oriented MESONIC ERP solution; <http://www.ep-koblenz.de/>

<sup>10</sup> KlaiNet Networks provide sector-specific solutions for tax counselors based on HMD software running on Collax CBS; <http://www.klainet.info/>

## Vendor Rating and Positioning

Microsoft and Red Hat could be rated as triple-A vendors; both companies are equipped with significant resources, a broad partner network and a relatively stable product and technology roadmap, which ensures a good investment protection for users' investments in those platforms. On the other hand, Microsoft and Red Hat have no primary focus on the mid-market and have to serve very diverse target groups. Microsoft, for instance, addresses all customer segments, from consumers to large-scale businesses; Red Hat is pretty much focused on large enterprises deploying Linux in the data center. By contrast, Collax is specialized in serving SMB customers with Linux-based server infrastructures. Collax was financed by the leading venture investors Intel Capital, Wellington Partners and Atlas Ventures, which ensures the company's financial stability. In addition, Collax has a base of 8,400 software installations and more than 3,500 downloads per quarter. Collax products benefit from a 10-year development background and are marketed and supported by more than 700 partners in Europe and the US.

## 8. Conclusion

This white paper has been targeted at evaluating 4 different infrastructure server platforms that should fit an SMB environment with 25 desktops managed by a dedicated multi-functional server. After analyzing the alternative solutions offered by Microsoft, Red Hat and Collax based on TCO metrics and strategic criteria (chapter 6), Experton Group would like to add the following comments and recommendations:

### **Microsoft Windows 2003 Server R2 (Standard Edition):**

As the market-leading server OS, MS Windows 2003 Server offers a wide range of solid infrastructure server functionalities and smooth integration capabilities to leverage other Microsoft products. Under the given criteria and from an SMB-specific perspective, the MS Windows 2003 is not the product of choice for straightforward infrastructure workloads in a small-scale environment. The need to additionally license and maintain a separate Exchange and SQL server drives up TCO and forces SMBs to provide the required administration skills. In this analysis, the overall TCO amounts to € 18,000 over the 3-year period, which equals € 250 of TCO per desktop per year. However, if an environment needs to scale up from 25 to 50 or 100 users, the Windows 2003 Server is back in the game and offers competitive TCO values.

### **Microsoft Windows Small Business Server R2 (Premium Edition):**

Microsoft has made a smart move by bundling some of its core server components into a value-added SMB-oriented infrastructure package. MS SBS covers all required server functionalities for the given scenario, including database and groupware features. In addition, MS SBS benefits from enhanced manageability (Active Directory, integrated patch management) features. On the other hand, the MS SBS still requires some advanced Windows administration skills to ensure proper maintenance. However, the most important disadvantages are the hardware and CAL restrictions, together with hard-to-understand license terms. For non-experts it is nearly impossible to fully capture the various Microsoft license options. While basic prices for the server license are in a fair range, the additionally required CALs drive up overall TCO, which amount to € 12,000 (€ 170 per desktop per year)

in the given business case. Nevertheless, MS SBS is a good choice for small-scale businesses of a stable size. Companies with a dynamic and expanding IT environment should better choose the traditional Windows Server or alternatives like Red Hat or Collax, which are not restricted in terms of users (up 75 in the MS SBS case) and servers (1 server per company and only 2 CPUs).

### **Red Hat Enterprise Linux (ES – Standard Edition):**





Although Red Hat offers a server edition that has the potential to satisfy SMB requirements, this is not the case. Users will undoubtedly profit from the low server subscription fees with their very transparent license terms as well as from the included web/phone support services. However, the product is still packaged like an enterprise-class server platform and requires some professional administration skills and some domain-specific knowledge in the Linux/open source space. While it offers clear benefits and relatively low overall TCO for experienced users, the majority of SMBs does not employ dedicated IT staff who are open-source literate. Experton Group has based its assumptions for the TCO calculation on an average SMB that depends on external knowledge and/or needs more time on average to maintain a new, open-source-based server environment. The calculated overall TCO for Red Hat therefore amount to € 14,000, which is approx. € 190 per desktop per year. Due to its unrestricted license terms regarding the number of served clients, Red Hat is definitely a prime choice in dynamically expanding environments with more than 100 users.

### **Collax Business Server (25 user licenses):**

From the beginning, Collax had a clear focus on the SMB market and has packaged an infrastructure server that is nearly perfectly suited to address the requirements of SMB customers. The Collax Business Server does not compete with Microsoft's almighty feature set or Red Hat's scalability; rather, it covers all essential requirements for an easy-to-install and easy-to-maintain multi-functional server. Even unskilled users are able to install and run a Linux-based server without domain-specific knowledge. In addition, the web-based administration console leads to significantly lower operational costs and enables IT service partners to support their Collax customers remotely, thus cutting on-site maintenance costs to zero. Although Collax has not reached a channel penetration like Microsoft or Red Hat yet, the company is connected to a solid and growing network of resellers, IT service partners and ISVs and backed by reputable investors who ensure the company's financial stability. Together with the first-ranking TCO values (overall TCO of € 8,000, which equals 110 € per desktop per year), Collax is Experton Group's favourite for the given business case and should be considered as a viable alternative for SMBs that are in the process of selecting a new infrastructure server platform.

Appendix A: Modelling Assumptions & Data

Assumptions		<b>EXPERTON</b> GROUP
<i>Business Case</i>		
<b>Company:</b>	<b>SMB</b>	
<b>Industry:</b>	<b>Professional Services</b>	
<b>Employees</b>	<b>30</b>	
<b>IT Workplaces</b>	<b>25</b>	
<b>Total Servers</b>	<b>1</b>	
<i>Multifunctional Server</i>	<i>1</i>	
<b>Scenario</b>		
<u>Set-up and management of multi-functional infrastructure server deploying following functionalities:</u>		
	<i>network management</i> <i>webserver</i> <i>firewall</i> <i>file&amp;print</i> <i>user management</i> <i>mail server</i> <i>groupware / collaboration</i> <i>database server</i>	
<u>Hardware deployed:</u>		
	<i>Fujitsu Siemens PRIMERGY TX150 S5</i> <i>Intel® XEON® Prozessor 3050</i> <i>(2.13 GHz (Dual Core), 1,066 MHz FSB, 2 MB SLC)</i> <i>Price (excl. VAT): € 1,266.00</i>	

SMB Server Platform TCO Benchmark		<b>EXPERTON</b> GROUP			
		Windows 2003 R2	SBS R2	Red Hat (ES)	Collax CBS
<b>Initial Costs</b>	Hardware	 1,266.00	 1,266.00	 1,266.00	 1,266.00
	License	1,799.44	2,829.70	2,007.00	1,662.50
<b>Implementation</b>	Installation	175.00	150.00	245.00	110.00
	Integration	250.00	200.00	420.00	192.50
	Configuration	300.00	250.00	420.00	165.00
<b>Operations</b>	Maintenance	5,760.00	4,320.00	7,560.00	2,592.00
	Support	1,440.00	1,440.00	0.00	720.00
	Additional support	0.00	0.00	0.00	0.00
	Training	540.00	540.00	864.00	396.00
<b>Groupware License</b>	Server License	402.52	0.00	1,544.00	510.00
	CAL	1,700.84	1,700.84	0.00	750.00
<b>Database License</b>	Server License	5,167.23	0.00	0.00	0.00
<b>Overall TCO (3-Year Period)</b>		<b>18,801.03</b>	<b>12,696.54</b>	<b>14,326.00</b>	<b>8,364.00</b>
<b>Overall TCO per IT Workplace (25 PCs)</b>		<b>250.68</b>	<b>169.29</b>	<b>191.01</b>	<b>111.52</b>