



SOPHOS

Total cost of ownership:
a comparison of anti-virus software



1. INTRODUCTION

A recent Spire Security Research white paper, *The hidden costs of virus protection**, discussed the objectives of an efficient anti-virus solution, the elements of cost when evaluating total cost of ownership and additional variables. This comparison report takes a closer look at the elements of total cost of ownership (TCO) and highlights some specific areas where comparisons between anti-virus vendors can be made.

2. DIRECT COSTS

The cost of the software license and support

Licensing varies within the anti-virus industry with subscription licensing and perpetual licensing being the two basic models. This can make direct price comparison between vendors difficult, especially if the evaluation period is only over one or two years. To complicate matters further, there are a variety of support levels offered by vendors, all at different cost, which can greatly increase the overall license price. When evaluating competing solutions, care must be taken to factor all these variables into the equation.

Figure 1 compares the initial cost of a number of competing vendors' 4-year/5000-seat licenses with premium support. Sophos clearly represents the lowest 4-year cost in this example.

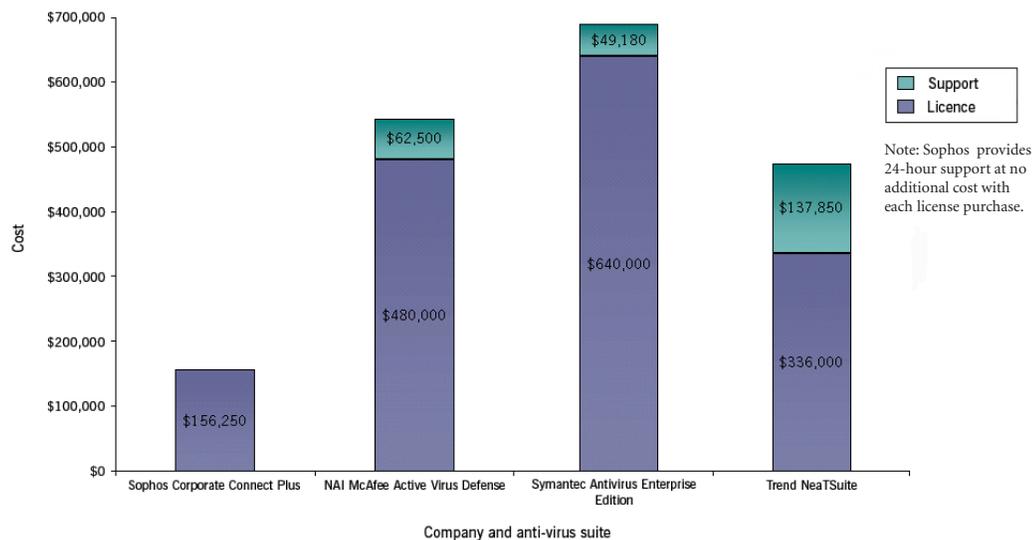


Figure 1: 4-year/5000-seat VAR cost + 10% markup

Excellent support has been identified by a number of analysts including Gartner, IDC, Frost & Sullivan, and Butler as a major differentiator in the anti-virus market. Sophos includes 24-hour support in all its licenses. The support prices listed in **Figure 1** indicate the highest levels of support available from Symantec, Trend Micro, and Network Associates. This ensures that a direct comparison with Sophos can be made as these vendors also offer limited levels of support at reduced cost.

Training costs

Training may be necessary for IT staff to allow them to administer their chosen software properly. The main anti-virus vendors offer training programs for system administrators. The cost is dependent on the level required and the product suite being used. Costs vary from approximately \$500 to \$1000 per day and are an important consideration in the overall TCO.

Installation and deployment of the software

Installation and deployment of the chosen software can be labor-intensive. However, good support, documentation and centralized installation and configuration minimize the manhours necessary to tackle this. Nevertheless, the issue of how resource-intensive the chosen software is remains. The more resource-intensive the software, the more storage space is needed to install the software and the more manhours are used to install and subsequently deploy the software throughout the network (see Appendix I).

Figure 2 breaks down the storage requirements necessary for the installation of anti-virus software by desktop, fileserver and management console size.

	Sophos	Network Associates	Symantec	Trend Micro
Anti-virus product	Sophos Anti-Virus	VirusScan Enterprise 7.0	Symantec Anti-Virus 8.0	NeaTSuite
Desktop installation size	12MB	25MB	45MB	30MB
Fileserver installation size (NT/2000)	10-20MB	22MB	140MB	60MB
Management console size	13MB (Enterprise Manager and SAVAdmin)	200-300MB (ePolicy Orchestrator)	155MB (Symantec System Center)	150MB (Control Manager) 100MB (OfficeScan management)
Total (taking the greatest figures)	45MB	347MB	340MB	240MB

Figure 2: Desktop, fileserver and management console size on installation

The figures shown above indicate that the Sophos installation size is significantly smaller than competitive offerings, but how does this equate in financial terms? Taking an average cost of storage space for the client* and fileserver**, **Figure 3** highlights the savings that can be achieved in this area.

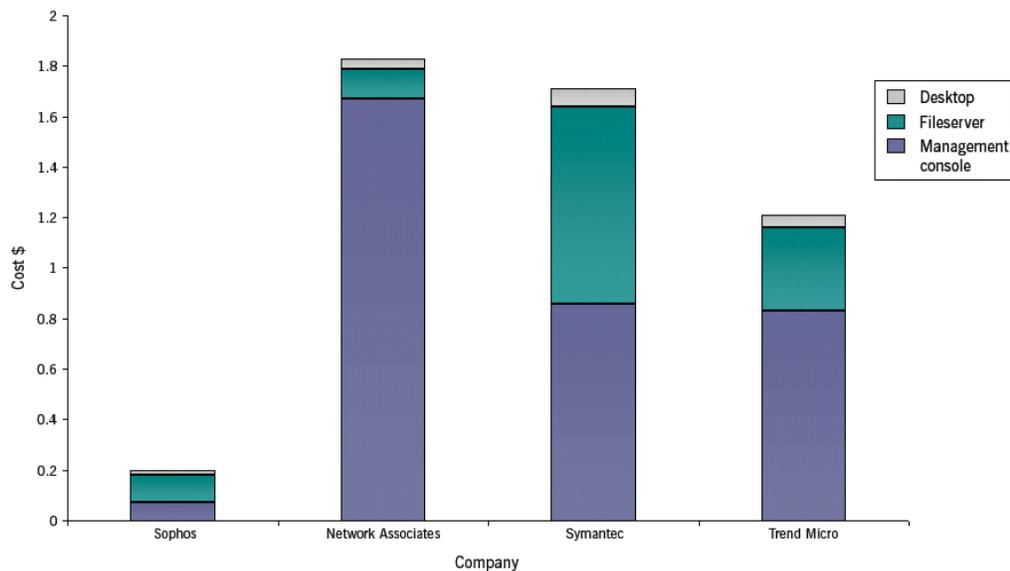


Figure 3: Total cost per installation

* Average cost for storage space for clients: \$1.50/GB or \$0.0015/MB (figures from www.pricewatch.com)

** Average cost for storage space for fileservers: \$5.55/GB or \$0.00555/MB (figures from www.pricewatch.com)

Although the difference in cost per single installation is relatively small, the savings that can be made are larger when the number of users is increased. If we take the example company user in **Figure 1**, over a network of 5000 seats the savings when choosing Sophos can be up to \$8000.

An additional cost item, related to installation and deployment, that may be substantial is the need to upgrade desktop and server systems due to the lack of support from some anti-virus vendors. Older operating systems, such as Windows 95/98, NetWare, and even OpenVMS, are still used in many networks. If a vendor lacks support for these systems, it would require upgrades to not only the operating system software, but also possibly the hardware (memory and CPU).

For the example company with 5000 seats, assuming that 30% of the desktops are running an older operating system that is not supported by the anti-virus vendor, the costs are substantial. It would require operating system upgrades to 1500 desktops, and at a conservative cost estimate of only \$50 per desktop, that would amount to over \$75,000. The time commitment from the IT personnel to perform the upgrades would also need to be added to this value to get a true measure of the total installation cost. With an extensive support of numerous desktop and server operating systems (see Section 5, Heterogeneous environment), Sophos enables organizations to avoid these upgrade issues and costs.

3. PREVENTION COSTS

Prevention costs are outlined in the Spire Security Research paper, and relate to the activities involved in keeping your chosen anti-virus software up to date with the latest virus identity files and deploying them throughout the network.

Responsiveness

With support teams and virus labs located around the world, Sophos can respond quickly to the latest virus threat. Identifying the threat is only the first stage. The updates then have to be created and made available to customers.

The updates then have to be downloaded and deployed throughout a network as quickly as possible to ensure systems are fully protected. Sophos Anti-Virus performs incremental updating, downloading only files which have changed since the previous version. In addition, Sophos virus identity files, usually 1-2KB, are quick and easy to download and have minimal impact on bandwidth when deployed over the network.

Keeping software updated and, therefore, systems protected, is an important consideration, especially if the anti-virus software requires a network administrator to perform the updates, which can vary depending on the footprint of the software and/or signature file.

Figure 4 compares the number of virus identity files released by the different anti-virus vendors and the total approximate update size for the period April-June 2003.

NB It is important to remember that all these vendors have a number of different update methods. The methods used as examples below are ones most commonly used by system administrators.

	Sophos (IDEs)	Network Associates (DAT)	Symantec (LiveUpdate)	Trend Micro (Incremental)
April 2003	11	6	5	11
May 2003	23	7	8	13
June 2003	36	6	11	13
3 month total	70	19	24	37
Smallest update size	2KB	100KB	50KB	200KB
Total size of all virus updates released April-June 2003	140KB	1.9MB	1.2MB	2.37MB

Figure 4: Number of virus data files released

The smaller the update size, the less impact it will have on end-user productivity and security compliance.

Similarly, the scanning speed of an anti-virus solution has the potential for end users to be frustrated by the impact scanning has on their desktops. Sophos Anti-Virus incorporates patented InterCheck technology, which has been developed to optimize on-access virus detection in networked environments. It uses a combination of virus scanning and checksumming to minimise the number of times each file needs to be virus checked, without compromising security. This eliminates the deficiencies of many anti-virus solutions that impact on performance, compromise on detection or, more often, both.

Figure 5 highlights how Sophos Anti-Virus consistently outperforms other anti-virus software in scanning speed performance.

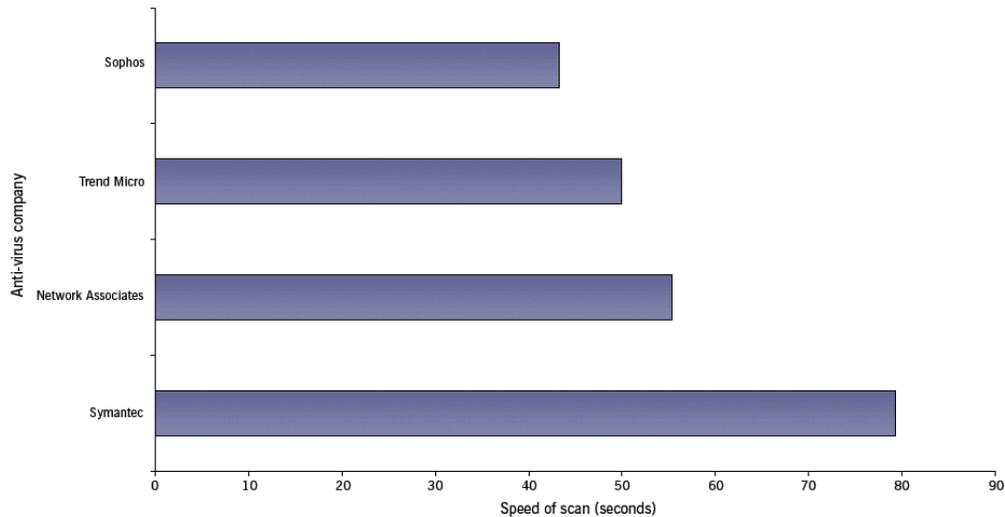


Figure 5: Average speed of hard disk scan. Data taken from the last five tests conducted by *Virus Bulletin* magazine* in which all the named companies participated (November 2001 to June 2003).

To understand the relationship of performance to cost, it is important to realize that anti-virus applications are one of the top consumers of desktop system resources. Using an anti-virus product with poor desktop performance can impact other business applications and usually leads to complaints from end-users, with demands for faster systems. IT departments are then compelled either to increase hardware resources (memory), or to replace desktops altogether with higher performance systems. This can result in substantial costs, especially for large organizations. With Sophos, these types of hardware and desktop upgrades can often be avoided, thereby reducing the total cost of ownership.

4. INCIDENT COSTS

The slow creation and publishing of updates and/or long delays in deploying updates to clients increases the likelihood of a company having to consider adding incident costs to the TCO of its chosen anti-virus solution.

Incident costs are the direct costs of cleaning affected systems and recovering data. Decreases in, or loss of, productivity and the recovery of the system can be measured in the manhours of IT administrators to both source and fix the problem, as well as the lost hours of work that an end-user endures while their computer is inactive.

In addition, the loss to the company's reputation and credibility can have a major impact on future revenue.

5. OTHER ELEMENTS OF TCO

Network bandwidth

Large signature files can clog network pipelines and influence the frequency with which administrators distribute them. Remote users are particularly vulnerable to these kind of delays.

The cost of updating remote users is dependent on both the size of the update and the speed of the download. Unlike competing products, Sophos's Remote Update can be configured to restrict the amount of bandwidth used, limiting the impact on other applications and making efficient use of valuable bandwidth. Coupled with Sophos's exceptionally small update size, this can be a significant differentiator.

Heterogeneous environment

It is not uncommon for organizations to incorporate a variety of platforms on their network and it is therefore important to establish if an anti-virus solution works with them without the need for expensive upgrades. Even if an anti-virus solution works with them, slow performance may influence end users to demand upgrades because of the need for better performance.

Sophos supports an extensive list of platforms including those for which other vendors may have discontinued support. **Figure 6** lists the support offered for these platforms.

Platforms protected by Sophos Anti-Virus	
Desktops/laptops	Servers
Windows NT/2000/XP	Windows NT/2000/2003
Windows 95/98/Me	NetWare
OS/2	OS/2
Macintosh	Macintosh
Linux	Unix/Linux
DOS/Windows 3.1x	OpenVMS

Platforms supported by MailMonitor
Exchange (Windows 2000/2003)
Notes/Domino (Windows NT/2000)
SMTP (Windows NT/2000, Linux, Solaris)

Figure 6: Platforms supported by Sophos

6. CONCLUSION

It is clear that careful evaluation of an anti-virus solution does not just stop with the direct licensing and support costs. How efficient an anti-virus company is in identifying a virus threat, creating and distributing a solution, and ensuring a software architecture that minimizes system overheads are all important factors in the TCO.

Evaluators should therefore ensure that they have considered all cost aspects of an anti-virus solution, including the manhours necessary to install, deploy and maintain the software and the effects the chosen software may have end-user productivity.

Appendix I attempts to collate the factors mentioned both in this paper and in the Spire Security paper to enable evaluators of anti-virus software to make an informed decision.

APPENDIX I

Elements of total cost of ownership	Cost components	Calculation	Cost
	Subscription Maintenance	\$ x number of years n/a	
	Perpetual Maintenance	\$ one-off \$ x number of years	
Support	Fully inclusive Support upgrade	n/a \$ x number of years	
Training		\$ x number of administrators	
Installation of software	Desktop	Installation size (MB) x cost of storage space (\$/MB)	
	Fileserver	Installation size (MB) x cost of storage space (\$/MB)	
	Management console	Installation size (MB) x cost of storage space (\$/MB)	
Deployment of software	Centralized	Manhours x salary per hour (\$/hr)	
	Non-centralized	Fileservers x manhours x salary per hour (\$/hr)	
Updating of software	Time taken to create and provide updates	Number of updates x manhours x salary per hour (\$/hr)	
	Time taken to deploy updates throughout the network	Number of updates x manhours x salary per hour	
Incident costs	Cleaning affected systems and recovery of data	Administrative manhours x salary per hour (\$/hr)	
	Lost productivity	System downtime (hrs) x end user salary (\$/hr) + system downtime (hrs) x administrator salary (\$/hr)	
	Company reputation	Potential lost revenue	
Additional variables	Upgrading hardware		
	Availability and promptness of support		

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