

Why You Should Consider Deploying Software Appliances

An Osterman Research White Paper

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Why Should You Read This White Paper?

TRENDS IN THE IT INDUSTRY

There are a number of important trends occurring in the IT industry as organizations of all sizes look to reduce costs, improve employee productivity and gain competitive advantage from the large and growing set of infrastructure elements they have deployed and plan to deploy over the next few years. The need to reduce costs is made even more important by the financial pressures that many organizations will face through at least 2009. Key among these trends are:

- The pace of software innovation, particularly with regard to security, is proceeding faster than the financial lifecycle of the infrastructure that organizations will deploy.
- The industry shift to multi-core processors is significantly increasing the level of computing performance available, but at decreasing costs on both an absolute level and on a price-per-performance basis.
- Organizations are increasingly interested in non-proprietary hardware options.
- Organizations traditionally desire flexibility in their IT infrastructure.

ENTER THE SOFTWARE APPLIANCE

As a result, organizations are increasingly interested in the use of software appliances that can be used as “bare metal” platforms on which they deploy their own operating environment and application software.

As a bare-metal platform, a software appliance offers a number of advantages, including:

A software appliance offers a number of advantages, including greater flexibility of deployment options, potentially lower cost and improved compatibility.

- Greater flexibility of deployment options
- Lower cost of hardware
- Increasing the rate at which hardware is refreshed
- Reducing the complexity of, as well as streamlining, procurement and maintenance contracts
- Standardizing the IT infrastructure
- Improved volume discount leverage

In essence, the software appliance couples the flexibility of the software paradigm with the operational merits associated with a turnkey hardware appliance.

This white paper, sponsored by Trend Micro, discusses the many advantages of using software appliances in any IT infrastructure. It also offers some information on Trend Micro's gateway security offerings that are designed to run as software appliances, or as virtual appliances: InterScan Messaging Security Virtual Appliance and InterScan Web Security Virtual Appliance.

Software Appliances vs. Traditional Appliances

The majority of security capabilities to protect organizations against malware, spam, Web-based threats and other security problems will continue to be dominated by on-premise systems. That said, Osterman Research has found growing interest in the use of hosted and managed services to provide basic and more advanced security capabilities, as well as in hybrid capabilities that combine "in-the-cloud" services with on-premise capabilities to secure corporate networks and messaging systems.

As organizations seek to deploy on-premise security capabilities, they have the option of purchasing software that can be installed on their own servers, or they can opt for a proprietary appliance-based model. "Traditional" hardware appliances offer the advantage of a pre-packaged combination of application software, operating system and hardware that have all been selected and configured by the vendor and offered as an appliance. Many of these appliances contain proprietary components, and are warranted only if the case remains sealed, or hardware is returned to the vendor. Organizations that want to capitalize on new developments in processing power, memory and hard disk technologies are typically not able to do so without an upgrade to a more capable appliance, assuming one is available. Organizations can be locked into long hardware refresh cycles and increased capital expenditures because proprietary appliances cannot typically be re-purposed.

However, organizations have another appliance option available to them: software appliances. A software appliance combines standard, off-the-shelf hardware with a hardened, tuned operating system and security software. The benefits of standardizing on hardware using this alternative appliance approach are several.

LOWER CAPITAL EXPENDITURES

The use of standardized server platforms in defining a software appliance configuration offers the advantage of lower costs relative to the traditional model of proprietary hardware appliances. The hardware in many current appliance offerings carries with it a cost premium compared to the same hardware if it were purchased separately from the appliance solution. This makes sense, since the appliance vendor essentially manufactures custom servers on a much smaller scale than the larger independent hardware manufacturers. They must match specific hardware with their software solution and operating system and perform the other work necessary to optimize the hardware for that software solution. This is often required, since any incremental performance optimization

is needed to offset the demands of the application. In many cases, today's high-performance multi-core processors have superseded this.

Using industry-standard hardware further lowers costs because significant competition between vendors exists and this will continually drive prices lower, as we have witnessed in hardware platforms of all types over the past several years. Further, purchasing standardized hardware allows an organization to obtain volume discounts because they are purchasing hardware that can be used not only for their security solutions, but also for messaging servers, Web servers, other application servers and other uses.

Using industry-standard hardware can also offer an organization:

- A good opportunity to secure optimal support contracts because of their standardization on a single platform.
- The opportunity to have spare servers on hand at lower cost than would be possible with proprietary hardware appliances, since a spare server can be used for any of the servers that an organization might operate.
- Capacity can be expanded using standard components. For example, if there is a sudden spike in spam volumes, a new appliance can be deployed in a very short period of time using one of the spare servers that an organization might have on hand.

Because the use of software appliances can reduce the overall operational costs and IT time investments required to manage a security infrastructure, IT staff time can be freed and redeployed.

LOWER OPERATIONAL COSTS

The use of standardized hardware can also reduce an organization's operational costs in several ways:

- When upgrades or expansion are required for the on-premise infrastructure, pre-spec'd, pre-sourced components can simply be pulled off the shelf to rapidly execute these upgrades or new capabilities instead of specifying new appliances or servers.
- Support is easier, since only a single platform needs to be supported instead of multiple appliances from (potentially) multiple vendors.
- Change management practices can be optimized because of the use of a limited number of hardware elements.
- Using standardized hardware from a single vendor provides an organization with a single point of contact for problem resolution, technical support, etc.

In short, the use of software appliances built from industry-standard hardware can result in significantly reduced operational costs compared to hardware appliances. This is because of a reduction in managing multiple vendors, multiple contracts and multiple configurations that help to minimize complexity and increase IT flexibility.

OTHER BENEFITS

In addition to the reduced capital and operational expenditures provided by the use of software appliances, other benefits of this approach include:

- The ability to add new features and capabilities without a “rip-and-replace” of the existing appliance infrastructure. This reduces the overall cost of an on-premise infrastructure.
- Because the use of software appliances can reduce the overall operational costs and IT time investments required to manage a security infrastructure, IT staff time can be freed and redeployed to projects that offer greater value to an organization. For example, if the use of software appliances can free one-half of an IT staff member’s time, this is 20 hours per week that can be applied to other initiatives that could offer higher value to an organization.
- The use of software appliances can allow IT staff to respond more quickly to needed changes in the infrastructure, such as when new capabilities must be redeployed quickly.

WHAT IS DRIVING THE ADOPTION OF SOFTWARE APPLIANCES?

One of the chief benefits of the software appliance model is that it can reduce the overall costs of managing an IT infrastructure in three ways:

1. By reducing the IT investments required to spec, deploy, configure and maintain different infrastructure elements;
2. By lowering the overall cost of software and hardware; and by reducing IT time investments in managing the infrastructure, and
3. By deploying standardized software appliances that can be used for a variety of applications within the data center, costs can be reduced still further while increasing the operational flexibility of the infrastructure.

On a more macro level, however, IT departments need to become more efficient, particularly in an era of slower economic growth. Because demands for improved security, coupled with other initiatives ranging from archiving to data leak protection, are stretching IT departments thin, IT must become as proactive and efficient as possible in order to meet the growing set of demands placed upon it. In short, demands for various security and other capabilities are outpacing both IT staff levels and IT budgets – software appliances are one approach to helping IT organizations cope with these pressures.

Quick Review of a 3,000-Seat Organization

Software appliances can offer substantial benefits to IT organizations, as shown in the following examples.

BASIC ASSUMPTIONS

The following examples represent the differences between a conventional, traditional-appliance environment and one that uses software appliances. The examples in the following tables illustrate the savings that could be realized from the use of software appliances as a replacement for traditional appliances. It is important to note that we have compared top-tier offerings and have used list prices for this analysis.

**Selected Messaging and Web Security Appliance
Prices to Support 3,000 Users**

Vendor	Gateway Security	Hardware Cost (Total)	Software Cost per User	Total Cost	Three-Year Cost per User
Blue Coat Proxy SG810/ ProxyAV810	Web	\$53,518	Year 1: \$13.47 Year 2: \$6.75 Year 3: \$6.75	\$134,428	\$44.81
Cisco IronPort C350	Messaging	\$24,950	Year 1: \$18.35 Year 2: \$18.35 Year 3: \$18.35	\$190,100	\$63.37
McAfee 3400	Messaging	\$20,054	Year 1: \$10.61 Year 2: \$10.61 Year 3: \$10.61	\$115,544	\$38.51
Symantec Mail Security 8360	Messaging	\$4,995	Year 1: \$14.10 Year 2: \$14.10 Year 3: \$14.10	\$131,895	\$43.97
MEAN ACROSS FOUR SYSTEMS		\$25,879	\$13.01/year	\$142,992	\$47.67

**Trend Micro Messaging Security Software
Appliance Costs to Support 3,000 Users**

	Three-Year Cost
Hardware, with extended warranty/maintenance contract Dell PowerEdge 1950 (quad-core Intel Xeon processor, 4Gb RAM, two 160Gb hard drives)	\$2,750
Three-year cost for Trend Micro InterScan Messaging Security Virtual Appliance- Advanced (License and Maintenance)	\$76,224
TOTAL COST	\$78,974
THREE-YEAR COST PER SEAT	\$26.32

Trend Micro Web Security Software Appliance Costs to Support 3,000 Users

	Three-Year Cost
Hardware, with extended warranty/maintenance contract Dell PowerEdge 1950 (quad-core Intel Xeon processor, 4Gb RAM, two 80Gb hard drives)	\$2,700
Three-year cost for Trend Micro InterScan Web Security Virtual Appliance- Advanced (License and Maintenance)	\$69,024
TOTAL COST	\$71,724
THREE-YEAR COST PER SEAT	\$23.91

SAMPLE COST ANALYSIS

Comparing the three-year costs of the Trend Micro software appliance solutions to the average of the four competing appliance offerings shown above, the software appliance will be 47% less expensive than the traditional hardware appliance model. While the direct costs of the software appliance model are typically lower than traditional appliance solutions, the software appliance model can provide additional savings, such as volume discount purchases and streamlined maintenance, as discussed above.

SUMMARY OF COSTS

Using the assumptions shown above, software appliances will save an organization a substantial amount compared to traditional appliances, although cost savings will vary based on a number of factors, including the number of appliances in the environment, the number of vendors whose appliances are deployed in the data center, and so forth.

About Trend Micro

Trend Micro Incorporated, a global leader in Internet content security, focuses on securing the exchange of digital information for businesses and consumers. A pioneer and industry vanguard, Trend Micro is advancing integrated threat management technology to protect operational continuity, personal information, and property from malware, spam, data leaks, and the newest Web threats. Its flexible solutions, available in multiple form factors, are supported 24/7 by threat intelligence experts around the globe.

Trend Micro's software virtual appliances, InterScan Web Security Virtual Appliance 3.1 and InterScan Messaging Security Virtual Appliance 7.0, support both VMware ESX virtual machine environments (virtual appliances), as well as "bare metal" installations for non-virtualized environments (software appliances).

CERTIFIED BY TREND MICRO PROGRAM

A key feature of Trend Micro's software appliances is the Certified by Trend Micro program. This program ensures that certified software appliances have been properly integrated with Trend Micro software, tested for compatibility and validated to Trend Micro's performance standards.

The advantage of the Certified by Trend Micro certification process is that it ensures customers that their software appliance will run seamlessly with Trend Micro security solutions, that configuration of the systems will be kept to a minimum, and that the cost of deployment is as low as possible. It also ensures that hardware solutions have been completely vetted and meet Trend Micro's standards for compatibility and performance.



Summary

Most messaging, Web, network and other security capabilities will continue to be deployed using on-premise hardware and software, notwithstanding significant growth in both the hosted and hybrid delivery models. An increasing proportion of on-premise deployments will be appliances because the self-contained nature of these devices makes them easy to deploy, configure and manage.

However, an industry-standard software appliance can improve the cost and functionality of the appliance form factor by allowing organizations more flexibility in configuration and deployment, and they can reduce the overall cost of the security infrastructure.

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