WHITE PAPER

The Market for Software Appliances: An Opportunity Poised for Growth

Sponsored by: Novell

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IDC OPINION

In the midst of an uncertain economy, end users are increasingly looking for simplicity in their IT solutions. The goal of streamlining operations will lead customers to more cost-effective solutions that can be readily "plugged into" their existing environments.

Software as a service (SaaS) and cloud computing streamline operations yet force customers to have a constant connection online and keep their data outside the firewall. Connectivity and security issues are natural inhibitors to these deployment options. Software appliances (SWAs) are well suited to address these concerns because they can ease deployment challenges while maintaining software and data on premises. Additionally, software appliances are attractive to end users because of the following factors:

☑ Easy acquisition. The preintegrated nature of software appliances and the flexible deployment options, including virtual, mean that evaluations are simple and quick. Both demo and production code can typically be downloaded and tested or installed within minutes.

☑ Integration. Because a software appliance is a prepackaged, preconfigured application, end-user organizations do not have to worry about installing and configuring multiple pieces of the software stack.

☑ Maintenance. Software appliances solve support matrix challenges for end users by providing a single stream of patches that applies to the base operating system, the application, and middleware components, if middleware components are included in the software appliance.

☑ IDC primary research and forecasts show that end users are already adopting software appliances, and the market is ripe for growth. IDC surveys have shown that market penetration has more than doubled in the past two years.

☑ IDC forecasts the software appliance market to grow to $1.18 billion by 2012. The economic downturn has not diminished consumption, and in some cases, it has actually accelerated interest in software appliances.

The flexibility of SWAs is a value proposition not only for end users but also for independent software vendors (ISVs) seeking to simplify their support matrix and go-to-market plans. ISVs can create a single platform to be deployed physically, virtually, or in the cloud. This reduces overall investments, allows users choice, and provides a bridge to cloud computing.

METHODOLOGY

IDC's industry analysts have been measuring and forecasting IT markets for more than 30 years. IDC's software industry analysts have been delivering analysis and prognostications for packaged software markets for more than 25 years. The unit shipment and revenue data presented in this document is the result of IDC research that considers publicly available financial and shipment data, interviews conducted by IDC with software vendors, and competitive information crosschecked through IDC demand-side studies.

IN THIS WHITE PAPER

This IDC white paper provides projections and survey results for the emerging software appliance marketplace. Software appliances are a melding of operating systems and applications or application functionality into a composite package that can be deployed, patched, and managed as a single entity. The emergence of this software packaging model opens up new and exciting sales opportunities thanks to its flexible deployment options and fast time to value.

SITUATION OVERVIEW

The confluence of several new technology developments, together with the broad availability of virtual machine and hypervisor technologies, is making it possible for software appliances to move from a concept to a reality in the market.

Simply stated, a software appliance is a confluence of software products that integrate operating system and layered software into an easily managed composite package that can be deployed aboard industry-standard client or server hardware, either on a virtual machine or directly on the hardware.

The use of dedicated-purpose information technology appliances is not a new or a revolutionary idea in the computer industry. This industry has long had tightly integrated, limited-function hardware devices that exhibit some or many of the same attributes that today's newest instantiation of functional devices and software appliances offers to users.

One of the most broadly accepted hardware appliances in the computer industry is the storage appliance. Solutions such as network-attached storage and even storage area networks have long been built using modular components. These modular components often incorporate dedicated storage hardware together with a general-purpose CPU, memory, and other components that, once integrated, effectively become a single-purpose server, running a single dedicated application that is highly optimized for high-performance storage serving in a networked environment.

The decoupling of the hardware from the software, while preserving the low-touch, easy-to-maintain, plug-and-play features that hardware appliances offer, presents exciting new deployment opportunities for ISVs.

To further understand this market, IDC has surveyed a mix of small, medium-sized, and large United States–based companies annually for the past two years, with participants required to hold a role in specifying, recommending, or purchasing software for client or server systems within their respective organizations.

The 302 participants who responded to IDC's 2008 survey and the 310 participants who responded to IDC's 2007 survey typically carried director- or manager-level titles in the IS/IT departments and were responsible for either their entire business unit or for the organization on a worldwide basis. There was no specific quota associated with company size, industry vertical, or other qualifiers.

Traditional Software Is Too Complicated

To understand why current trends such as SaaS and managed services are hot commodities today, IDC looked at the problems traditional software is creating for users. As shown in Figure 1, end users feel that they spend the most money on acquiring, integrating, and maintaining their traditional software, in that order. But their perception is that they spend the most time on integrating, installation, acquiring, and maintaining traditional software, in that order. This can help explain why end users stay with their existing software for long periods of time — not because it is necessarily the best solution but because the biggest hurdle to changing software solutions for them is actually acquiring new software. Software appliances ease acquisition by making testing and installation simple and fast.

FIGURE 1

Traditional Software Perception: Time and Money

B9. Considering the full life span of a typical business application that your organization might use, on which of the following activities do you typically spend the most money?

B10. Considering the full life span of a typical business application that your organization might use, which activities would consume the greatest investment in terms of effort or hours applied on the part of your internal or contract IT staff?
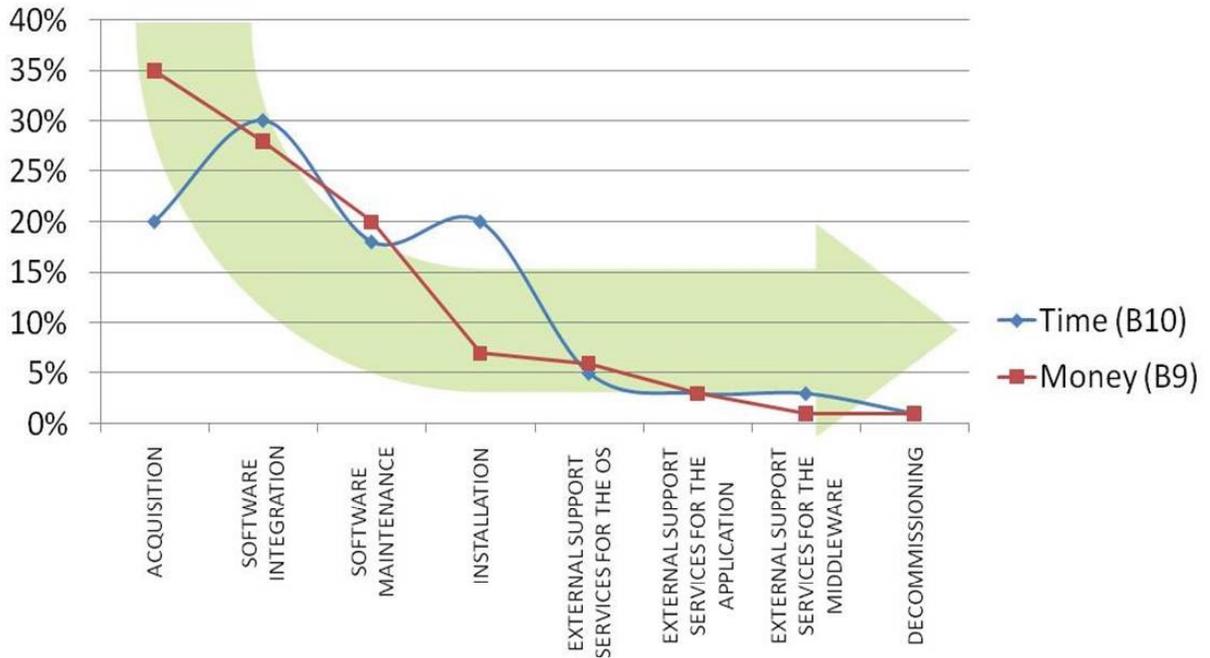

n = 298

Source: IDC, 2009

Users Are Deploying Software Appliances Today

Figure 2 shows year-over-year trends for software appliance deployments. In just one year, the number of users who are testing/evaluating/using software appliances has more than doubled from 12% to 25%. Almost nearly as important, the number of users who are not familiar with or have not heard of the term software appliances has decreased from 19% to 11%. The market is still emerging, but these trends clearly show that end users are receptive to this new form factor and are looking for alternatives to their traditional software installations.

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FIGURE 2

Familiarity with Software Appliances

Q. *How would you rank your experience with software and/or virtual appliances?*
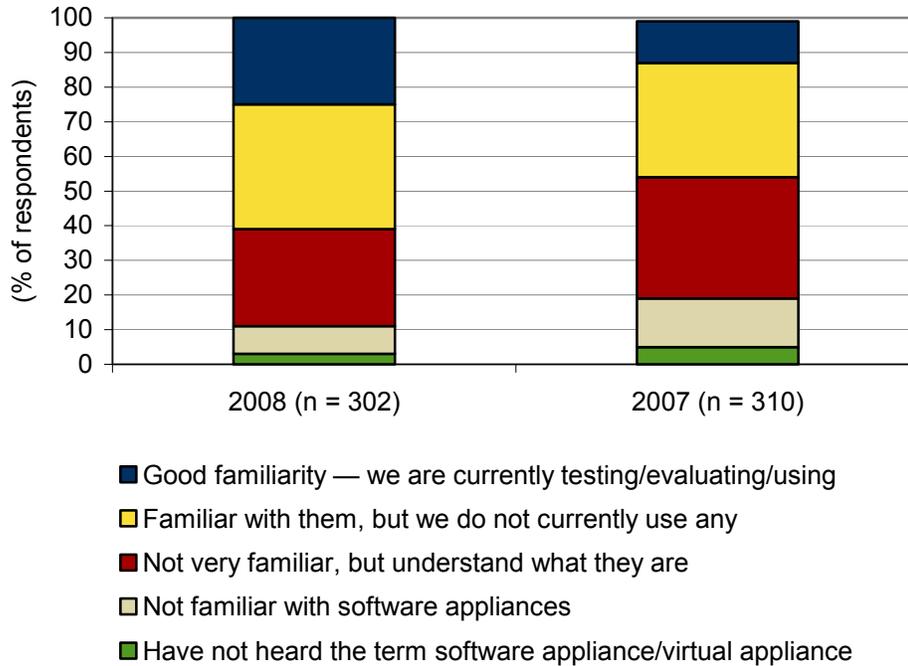
Source: IDC's Software Appliance End-User Surveys, 2007 and 2008

FUTURE OUTLOOK

Software appliances continue to generate interest and gain momentum in the industry, riding on the coattails of the exploding hypervisor business and IT simplification. From a new license shipment, subscription, and nonpaid deployment perspective, IDC expects IT and Web infrastructure workloads to continue to account for the majority of deployments of software appliances. This is not surprising, given the historic affinity between Linux and infrastructure workloads, since infrastructure remains the most widely deployed workload aboard Linux server operating environments regardless of whether it is a software appliance or a traditional server form factor.

The revenue story for software appliances is quite different from the story for new license shipments, subscriptions, and nonpaid deployments because of the revenue distortion caused by low-volume, high-priced software appliances, such as business processing and collaborative workloads. Revenue associated with these higher-value workloads creates a vastly different set of market dynamics than the more competitive, slim-profit markets for infrastructure appliances.

Table 1 shows IDC's overall software appliance forecast by shipments and revenue.

| TABLE 1					
Worldwide Software Appliance New License Shipments and Revenue, 2008–2012					
	2008	2009	2010	2011	2012
New licenses (000)	125	223	347	552	805
Revenue ($M)	69.5	156.3	360.9	716.6	1,186.4

Source: IDC, 2009

Figure 3 presents a view of 241 organizations included in IDC's 2008 survey; participants were asked what SWA workloads would be of most interest to them if they are considering or may in the future consider using software appliances (companies that were not considering were not included in this table).

The results closely mirror IDC's expectations for new license shipment growth. IT infrastructure remains one of the most popular workloads in terms of overall volume, but application development is a strong solution area, while business processing was cited by nearly one-third of the survey participants. It is important to note that while database workloads show up near the bottom of the figure, IDC expects many software appliances to include a database. Hence database appliances could have a tremendous opportunity as a base appliance for other ISVs to build their appliances on.

Future Workload Interest for Software Appliances
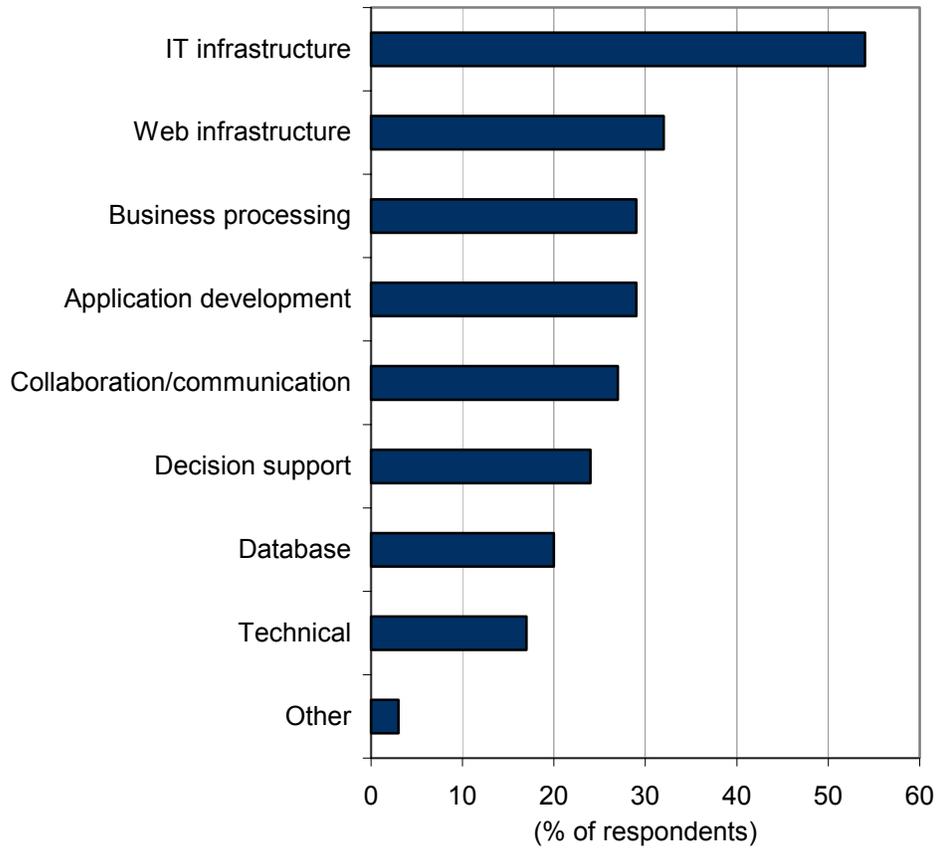
n = 241

Note: Multiple responses were allowed.

Source: IDC's Software Appliance End-User Survey, 2008

New Opportunities

By their composite nature, software appliances present interesting and new opportunities for ISVs. Many ISVs are attacking SaaS and cloud opportunities either through hosting partners or rearchitecting their software for multitenancy. Software appliances can provide a better option in these market segments both for the customers and for the ISV community.

Software appliances allow an ISV to create a single platform to deploy on premises or in a hosted environment. For many ISVs, creating a software appliance will be cheaper than rearchitecting it for multitenancy. It also allows customers choice; it allows them to choose where they would like to deploy the application. Additionally, it becomes a better on-ramp to the cloud, as customers can gradually move over at their own pace.

Further, software appliances are easy to install and uninstall, making them great marketing tools. The zero footprint left behind as a virtual machine installation makes it easier for end users to test software, giving the ISV a competitive advantage over its competition.

Novell's End-to-End Appliance Solution

The SUSE Appliance Program from Novell offers a comprehensive approach to help ISVs simplify appliance creation, reduce development and support costs, and enter new markets. The SUSE Appliance Program consists of three main components:

- ☑ Technology

- ☑ Support

- ☑ Go to market

Novell is offering an end-to-end business and technology solution for its ISV partners to shorten sales cycles and extend their existing applications into the cloud. For more information, see *How ISVs Can Take the Lead with Software Appliances* (IDC 803, July 2009).

CHALLENGES/OPPORTUNITIES

The first and most urgent message for ISVs, operating system vendors, and end users alike is to understand the long-term disruptive potential of this new form factor. In general, software appliances should bring the promise of simplified application stacks, application isolation, and utility computing to fruition, but only if all of these agents work together to create a solid foundation.

However, it is also important to realize how software appliances fit into the greater picture of IT simplification and consolidation enabled by virtualization and cloud computing. The deployment flexibility that SWAs offer — physical, virtual, in the cloud — is a key attribute that makes them such a compelling form factor. However, IDC believes that for most workloads, hardware-based deployments are just a stopgap until the virtualization overhead is reduced to nearly zero. The advantages that the virtualization layer and the associated management tools can provide will far outweigh any remaining overhead delays associated with the virtualization layer.

Cloud computing, specifically clouds that are enabled by a virtualization layer, will provide new go-to-market opportunities, and software appliances will help simplify this transition. Cloud computing, in conjunction with software appliances, will also create new business models that will allow companies to sell a single product on premises, on demand, or in a hybrid deployment model — something that some early SWA innovators have already proven. While both of these technologies remain relatively immature, it is necessary to start understanding the new dynamics that will start to emerge to sell software and hardware to end users.

CONCLUSION

End users are looking to simplify and consolidate their IT infrastructures, especially in these tough economic times with reduced or strained budgets. ISVs are looking for new opportunities and new marketing models and expanding their total available markets, while channel partners and service providers are looking to increase activities with higher margins and decrease activities with lower margins. Software appliances have the potential to provide all three constituencies with a solution to their needs.

At a time of economic uncertainty, there is emphasis on cost cutting in IT. Software appliances can help address this challenge as well, particularly for midmarket companies. Enterprises also are coming under increased pressure to compete with automation, analytics, and technology, to retain or increase competitive advantage in a difficult market. Yet, IT budgets are not growing to support investments needed to support competitive growth.

Competitors looking to survive and potentially thrive in these changing economic times must look at emerging technology that can help them continue to be competitive and successful — at an affordable cost.

DEFINITIONS

Software Appliances

This competitive market examines a new software delivery form factor called software appliances. IDC defines software appliances as software products that integrate operating system and layered software into an easily managed composite package that can be deployed aboard industry-standard client or server hardware, either on a virtual machine or directly on the hardware. A software appliance is capable of being installed directly on hardware, but in the vast majority of the cases, it will be delivered inside a virtual machine on a hypervisor layer. Almost any functional software market could be deployed as a software appliance, including, but not limited to, collaborative, content management, security, storage management, and system software.

The following attributes further define a software appliance:

☑ Industry-standard operating systems

☑ Composite packaging

☑ Built for a dedicated purpose

☑ Integrated life-cycle management

☑ Abstraction from underlying hardware (i.e., on a hypervisor)

☑ Available without hardware

☑ Runs on industry-standard hardware

Many vendors are preinstalling their applications on a general-purpose operating system inside a virtual machine and calling it a software appliance. Because this solution is not built for a dedicated purpose and because the end user can modify the package for any general-purpose workload, this is not a software appliance under IDC's definition. Many of these so-called software appliances on VMware's Virtual Appliance Marketplace and Microsoft's VHD Test Drive Program would fall into this category, and thus IDC does not include these applications in this taxonomy.

Virtual Appliances

Some vendors in the industry use the term "virtual appliances" to describe what IDC defines as software appliances. From a functional standpoint, the terms can be used interchangeably. However, from a technical view, IDC delineates between the two terms as follows: IDC defines a virtual appliance as being built with a specialized operating system designed to run only aboard a hypervisor. A virtual appliance is unable to be installed directly aboard industry-standard x86 hardware without a virtualization layer. Many of the early virtual appliances will be converted hardware appliances, where the vendor uses specialized hardware and a nonstandard or highly customized operating system. For the purposes of this taxonomy, virtual appliances are a subset of software appliances.

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