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# Virtual Infrastructure Yields Real TCO and ROI Advantages

## New Study Quantifies How VMware Improved TCO and ROI for 3 Companies' IT Landscapes

There is no question that virtualization technology can help you cut costs out of your IT infrastructure. For SAP customers, using the VMware vSphere virtualization platform for SAP solutions enables you to do more with less:

- You can run multiple operating systems and applications on the same hardware, avoiding the need to purchase new systems.
- You can cut your space and power requirements.
- With SAP's extensive support for its applications running on the VMware virtualization platform, you can virtualize across development, testing, quality assurance, and production environments.

Sounds great, but I know what you're thinking: What will it cost me to achieve these benefits? To answer this question, you need to calculate the virtualization solution's total cost of ownership (TCO) and return on investment (ROI).

### VMware's Approach to Calculating TCO and ROI

Any CFO can tell you that TCO and ROI are notoriously difficult to quantify – particularly when it comes to technology infrastructure. With so many intangibles, indirect costs, and “soft-dollar” considerations, the result can be inexact or even downright dubious. What's needed is a rigorous, detailed, objective approach to calculating the TCO and ROI of virtualization technology – a methodology that can be applied by companies of all types and sizes, in any industry sector, for any number of concurrent SAP users.

That is exactly what VMware has devised. The new white paper “TCO and ROI Analysis of SAP Landscapes Using VMware Technology” includes an exhaustive list of what companies should consider and include in their TCO and ROI calculations – and it details the actual results of three real-world companies that used the VMware virtualization platform to virtualize their SAP landscapes.<sup>1</sup> With VMware

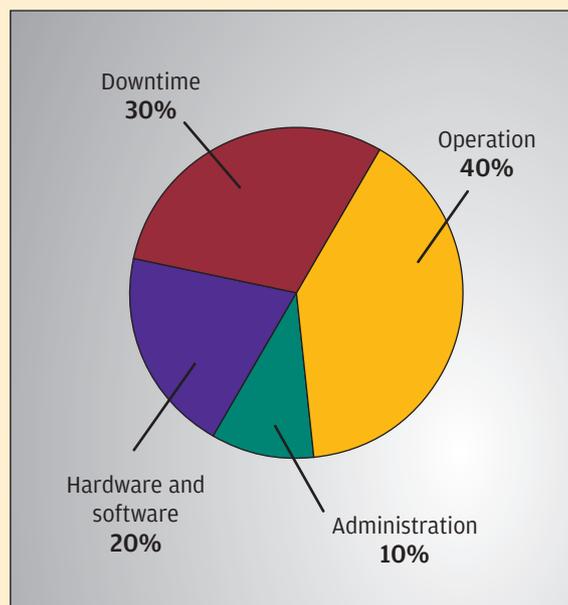
technology, these companies cut the TCO of their IT infrastructure by a range of 49% to 83% over three years.

What follows is a brief summary of the methodology and its hard-dollar results, focusing primarily on TCO.

### One Methodology Meets Diverse Requirements

No two SAP customers are alike in the size, scope, and objectives of their SAP deployments – and many companies have built further dependencies and customer-specific customizations into their systems. This diversity means that opportunities for cutting costs and improving productivity through VMware vSphere are likewise diverse. It also means that calculating TCO and ROI requires consideration of a range of variables, such as business risk and high availability.

The methodology detailed in the VMware white paper divides costs into four major categories and assesses their contribution to TCO, as shown in **Figure 1**.



**FIGURE 1** ▲ The four major cost categories and their contribution to TCO

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<sup>1</sup> To view this white paper in its entirety, visit [www.vmware.com/files/pdf/partners/sap/SAP\\_TCOROI\\_Customers\\_Final.pdf](http://www.vmware.com/files/pdf/partners/sap/SAP_TCOROI_Customers_Final.pdf).

FIGURE 2 ► Customers' documented TCO savings over three years using VMware technology in SAP scenarios

Customer	Concurrent SAP users	Total costs without VMware	Total costs with VMware	TCO savings
<b>Customer 1 (automotive)</b> Mainframe → x86	400	US\$1,991,283	US\$372,321	81%
<b>Customer 2 (pharmaceutical)</b> UNIX → x86	200	US\$772,131	US\$131,628	83%
<b>Customer 3 (government)</b> x86 physical → x86 virtual	100	US\$252,765	US\$128,546	49%

These categories break down as follows:

- **Downtime (30%):** Includes planned and unplanned downtime that affects users
- **Operation (40%):** Includes SAP maintenance, support, deployment, scheduled maintenance, process and planning, upgrades, and energy consumption considerations
- **Administration (10%):** Includes asset management, firmware upgrades, procurement, and training (for information service workers and end users)
- **Hardware and software (20%):** Includes additional management software and supplies

Beyond these four classifications, costs are split into two general categories: **direct (budgeted) costs**, which include the capital, fees, and labor costs that the IT department and information services groups spend on delivering IT services; and **indirect (unbudgeted) costs**, which measure IT's efficiency in delivering expected services to end users.

### Dramatic Improvement in TCO

The reference customers cited in the study represent three different industry sectors with varying migration scenarios and a range of concurrent SAP users:

- **Customer 1 (automotive)** migrated from a mainframe to x86 systems, serving 400 concurrent SAP users.
- **Customer 2 (pharmaceutical)** migrated from a UNIX cluster and Oracle database to x86 hardware, serving 200 concurrent SAP users.
- **Customer 3 (government)** migrated from x86 physical servers into virtual servers with VMware Converter, serving 100 concurrent SAP users.

These customers virtualized their entire SAP infrastructures, harnessing the unique capabilities of the VMware virtualization platform to support their infrastructure across a diverse range of operating systems and databases in tested production. The TCO and ROI calculations were performed before and after the landscape virtualization (details can be found in the white paper), with each project finalized to the customer's satisfaction.

Figure 2 highlights the TCO savings each customer achieved as a result of using the VMware virtualization platform, with a break-even point between one and six months for all three customers. These savings can be further broken down by customer into more specific areas of cost savings, such as:

- **Hardware and hardware maintenance costs:** Customers 1 and 2 significantly reduced hardware and hardware maintenance costs because they were able to replace expensive mainframe and UNIX systems with x86 and VMware virtualization technology.
- **Cluster costs:** Customers 2 and 3 cut cluster costs, including the cost of cluster software and maintenance.
- **External consultant expenses:** Customer 3 dramatically reduced external consultant expenses because further projects, such as technology refresh, became much easier to perform internally once solutions were virtualized and encapsulated in virtual machines.

### Learn More

A rigorous, objective calculation of TCO and ROI for virtualization is not always a simple undertaking – but it is well worth the effort when you learn how much your company has saved as a result of virtualization. Visit [www.vmware.com/sap](http://www.vmware.com/sap) to read the complete white paper cited in this article and to learn more about the benefits of VMware's virtualization products and services. ■

Turn the promise and potential of virtualization into tangible, hard-dollar advantages for your business.