

MAY 2017

VREALIZE SUITE ROI CALCULATOR

Methodology

vmware®

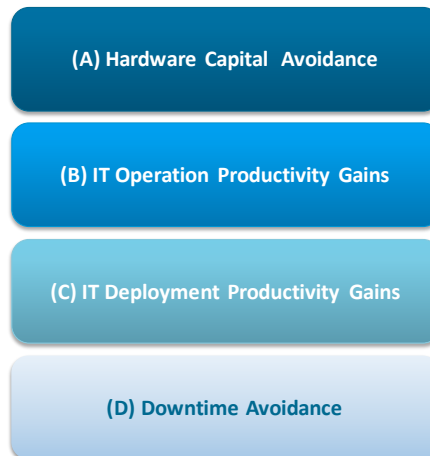
Return on Investment

The vRealize Suite ROI Calculator defines Return on Investment (ROI) as:

$$ROI = \frac{\text{Present Value of Total 5 Year Benefit} - \text{Present Value of Total 5 Year Cost}}{\text{Present Value of Total 5 Year Cost}}$$

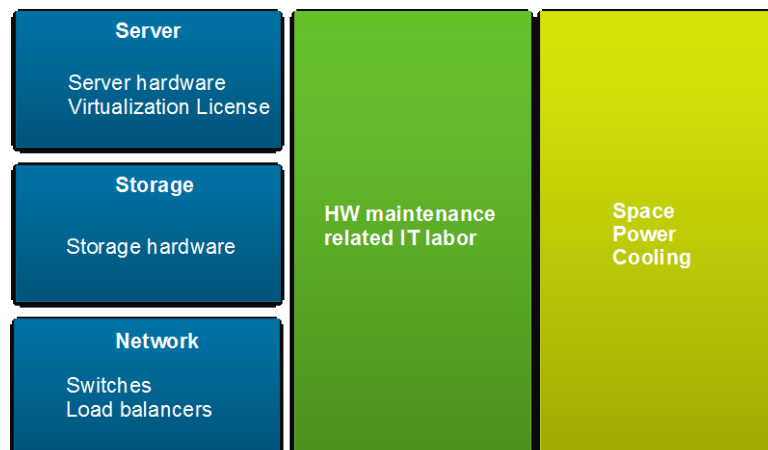
Benefits

The calculator attributes the benefits delivered by vRealize Suite to the following categories:



(A) Hardware Capital Avoidance

The figure below shows the major cost categories associated with hardware capital in virtual infrastructure and private cloud environment:

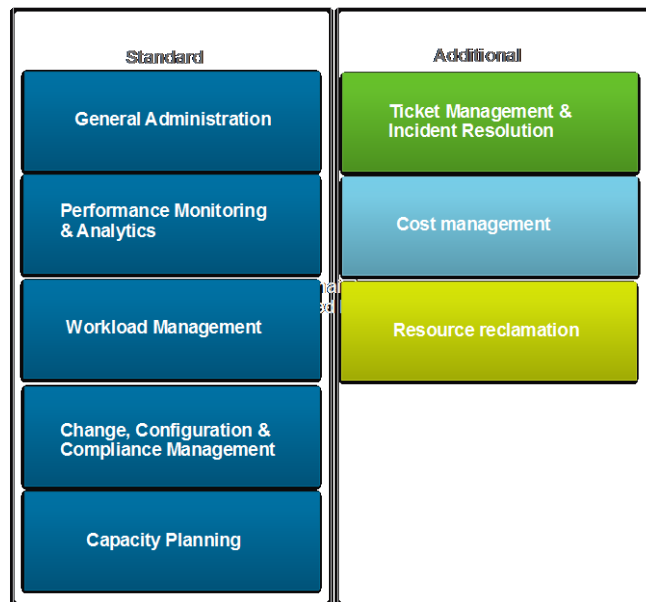


The calculator assumes that you have acquired “just enough” amount of physical and virtual resources to support running current IT services. The organic growth of virtual machines due to rapid business innovations will lead to new hardware related procurements in future. vRealize Suite drives higher server consolidation ratios through identifying and reclaiming inactive, idle, end-of-use or overprovisioned resources, meaning that the same number of physical servers will be able to accommodate more virtual machines. Customers could enjoy the benefit from deferring future hardware investment or reduce the expenditure of the procurement.

- **Server:** Number of servers needed is estimated by total number of VMs required at a given year and the projected server-consolidation ratio. Default reference server cost varies with number of CPUs it has. Virtualization software license (vSphere ENT+) per CPU and associated support and subscription fee are also taken into consideration.
- **Storage:** Size of storage needed is estimated by total number of VMs required at a given year and default reference storage size per VM.
- **Network:** Network traffic is estimated by number of VMs and default reference traffic generated per VM. Number of Leaf switches needed is estimated by number of ports needed per server and number of server required. Number of Spine switches needed is estimated by number of leaf switches required. Number of load balancers needed is estimated by percentage of network traffic requiring load balancing and different load balancing redundancy policies.
- **Power and cooling:** Power and cooling cost is estimated by average electricity consumed per Server and electricity cost per kWh.
- **Rack space:** Space cost is estimated by number of racks for servers and annual cost of space for racks.
- **HW maintenance related IT Labor cost:** IT labor cost is estimated by number of man hours required per server and IT staff fully burdened hourly rate.

(B) IT Operation Productivity Gains

The following diagram shows the major IT management activities defined in the calculator.



“Standard” IT Operations activities includes tasks that IT admins need to deal with on a daily basis, and “Additional” activities include tasks that IT team needs to perform in less frequent occasions or occurred only under certain circumstances. These management activities consume valuable IT staff time and cost. vRealize Suite reduces both the time required to perform the tasks and the number of incidents requiring human intervention.

- Standard IT operation activities: The calculator takes the average number of VMs that an IT admin normally manage as the reference point, and calculates the average time needed to manage each VM. It then distributes this average time spent per VM into several task categories of standard IT operations management. vRealize Suite operational efficiency by automating common IT tasks. The calculator applies the reduction in required time for each task, and calculates the combined saving in IT labor cost.
- Additional IT Operations activities:
 - Ticket management and incident resolution: Number of tickets or incidents occurred annually is estimated as a percentage of total number of VMs in customer’s environment. vRealize Suite reduces both the frequency of incidents occurred and time needed to resolve these incidents, and thus achieves lower IT labor cost.

- Resource reclamation: Man-hours spent on resource reclamation for customers dev/test VMs is estimated by the percentage of VMs used for dev/test purposes and time needed on reclaiming them. vRealize Suite (ADV edition and above) automates the reclamation process that greatly reduces manual work required on resource reclamation.
- Cost management: Man-hours spent on the cost management is estimated by number of VMs and the time spent on tracking and analyzing the cost of each VM. vRealize Suite automates costing analysis, consumption metering, and showback for both private clouds and public clouds (ADV edition and above) that reduces the time required for cost and business management.

(C) IT Deployment Productivity Gains

The calculator defines two main activities related to IT service deployment – infrastructure deployment and application stack deployment. Number of annual service request is estimated as the sum of organic growth of VMs due to new business applications and number of Dev/Test VMs associated. vRealize Suite (ADV and above) reduces the time required to provision and deliver IT services, and also reduces the chance of errors caused by manual work and time spent on rework.

(D) Downtime Avoidance

The calculator considers the following main categories associated with disaster recovery.

- *Unplanned downtime recovery*: The cost of unplanned downtime is estimated by possibility of unplanned downtime happening in customer's system and lost values due to the downtime. Unplanned downtime could result in IT labor costs on recovery and lost revenue. vRealize Suite minimizes the chance of unplanned downtime through workload balancing, which leads to less financial loss to customers.
- *Contention resolution*: Cost of contention resolution is estimated by contention rate, defined as a percentage of total number of VMs, and time spent on resolving each contention. vRealize Suite reduces both the frequency of contention and time needed to resolve the issue, which leads to lower IT labor cost.

The table below summarizes how vRealize Suite delivers the benefits with each edition.

Main Benefit Category	How we Realize the benefits	vRealize Standard Edition	vRealize Advanced Edition	vRealize Enterprise Edition
Hardware Capital Avoidance	Reclaim VMs with out proper business justification	✓	✓	✓
	Reclaim abandoned and inactive VMs	✓	✓	✓
	Reclaim overprovisioned resources	✓	✓	✓
	Auto-reclamation process for end-of-use Dev/Test VMs		✓	✓
IT Operation Productivity Gain	Automate common IT tasks, including policy management, performance monitoring, capacity management, compliance management	✓	✓	✓
	Application, middleware and database monitoring			✓
	Proactive issue detection and resolution	✓	✓	✓
	Private cloud cost management	✓	✓	✓
	Public cloud cost management		✓	✓
	Auto-reclamation process		✓	✓
IT Deployment Productivity Gain	Automated infrastructure services provisioning and delivery		✓	✓
	Automated application services provisioning and delivery			✓
Downtime Avoidance	Workload balancing	✓	✓	✓

Cost

The calculator defines the cost of implementing the vRealize Suite solution as:

$$\begin{aligned}
 & \text{Cost} \\
 & = \text{vRealize Licenses fee} \\
 & + \text{Initial planning and implementaion delivered by Professional services} \\
 & + \text{Training} \\
 & + \text{Annual support and subscription fee}
 \end{aligned}$$

Calculator Key Assumptions

- Finance discount rate: 10%.

Organizations typically use discount rates between 8% and 16%.

- Percentage of virtualized infrastructure: 100%

The calculator assumes that existing physical servers are all virtualized with vSphere solutions and any additional physical server required for capacity expansion needs will be virtualized with VMware vSphere Enterprise Plus edition.

- Average storage size allocated per VM (GB): 40

The average storage size allocated per VM is based on interview findings from VMware storage subject-matter experts.

- Average storage cost per GB (\$): 5

The estimated cost includes the initial purchase price and on-going maintenance cost.

- Average total network traffic per VM (Mbps): 300

The assumption of average total network traffic generated per VM is based on interview findings from VMware networking subject-matter experts.

- Average number of VMs managed per IT admin - Today: 300

The number of VMs managed per admin can vary due to the different type of applications. The calculator uses 300 as the average, based on interview findings from VMware virtualization experts.

- Hours spent on infrastructure provisioning per request – Today (Hrs): 20

Based on VMware research, the actual work effort for provisioning typically takes several hours. However, without an automated process, the overall time could be stretched over days or weeks as result of “waiting time” (overhead) from hand-offs of tasks from multi-team workflows. Although IT admins can “multi-task” while waiting, productivity is impacted by this “on and off” cadence of work. The calculator excludes the waiting time while an IT admin can work on other tasks and uses the average 20 hours, based on interview findings from VMware customers.

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