# HP Virtualization Performance Viewer

For the Linux operating system

Software Version: 1.00

## Sizing Guide

Document Release Date: February 2013

Software Release Date: December 2012

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## Acknowledgements

This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (http://www.openssl.org/)

This product includes cryptographic software written by Eric Young (eay@cryptsoft.com)

This product includes software written by Tim Hudson (tjh@cryptsoft.com)

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# Contents

# Chapter 1

# Introduction

HP Virtualization Performance Viewer (vPV) is a web-based monitoring tool for virtual environments. For more information on vPV, visit the vPV home page at **http://www.hp.com/go/vpv**.

This document provides information on the performance tests performed on vPV and the results obtained. It also provides the sizing recommendations for optimal performance of the product.

# Test Environment

The following table lists the environment in which vPV is tested to derive the performance sizing results.

## Environment 1

| Item | Value |
|---|---|
| Total Instances[1] | 2000 (VMware and Microsoft SCVMM) |
| CPU | 2 vCPU |
| Memory | 4 GB |
| vPV Installation Type | Virtual appliance |
| Platform | CentOS 6.2 |
| Disk Size | 20 GB |

## Environment 2

| Item | Value |
|---|---|
| Total Instances[1] | 4000 (VMware and Microsoft SCVMM) |
| CPU | 4 vCPU |
| Memory[2] | 8 GB |
| vPV Installation Type | Virtual appliance |
| Platform | CentOS 6.2 |
| Disk Size | 20 GB |

[1] Instances is the count of VMs and hosts being monitored in vPV from your vCenter and SCVMM. VMs and hosts in both the powered on and off states are considered.
[2] Maximum Heap Size for Tomcat = 4 GB

# Test Scenario

The performance testing for vPV was done in various scenarios, varying the number of instances being monitored and the amount of resources allocated to vPV.

This section describes the test scenarios conducted using vPV and the results obtained.

Test Scenario 1

Test Scenario 2

# Test Scenario 1

vCenters and SCVMM data sources, having a total of 2000 instances, are added to vPV. For more information on the data sources and versions used, see "Data Source Versions" below. The vPV and vCenter servers are in the same subnet.

On an average, 1000 VMs were always up and running throughout the test duration. It can be noted that the results derived do not vary much due to the VMs that are down.

vPV was used to monitor and derive the results for the scenario.

The CPU utilization percentage, memory utilization percentage, and disk space utilization are observed for the test duration.

**Data Source Versions**

The data sources added to vPV to run the tests were VMware vCenter Servers and Microsoft System Center Virtual Machine Manager (SCVMM). The versions of the data sources added are listed in the following table.

| Data Source | Versions | Instances |
|---|---|---|
| VMware vCenter Servers | 4.1<br>5.0<br>5.1 | 1750 |
| Microsoft SCVMM | 2012 | 250 |

The test results were calculated for:

- 30 days at an hourly interval
- One day at a 5 minute interval

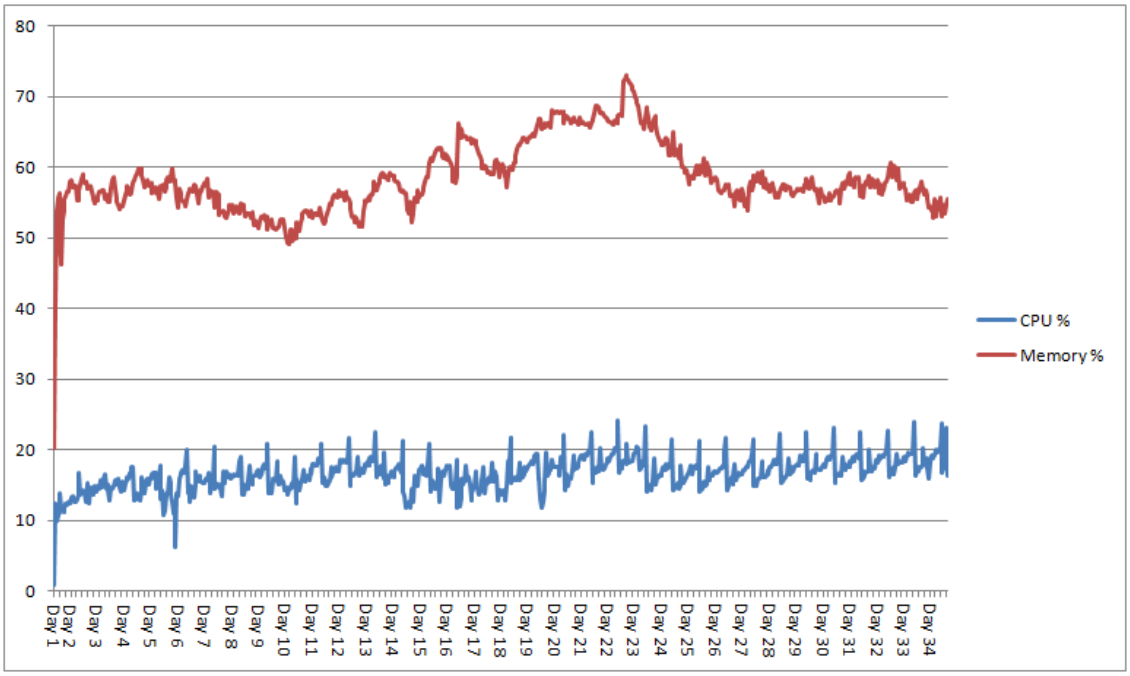
# Results

Following section details the test results for the preceding scenario.

## CPU and Memory Utilization Percentage

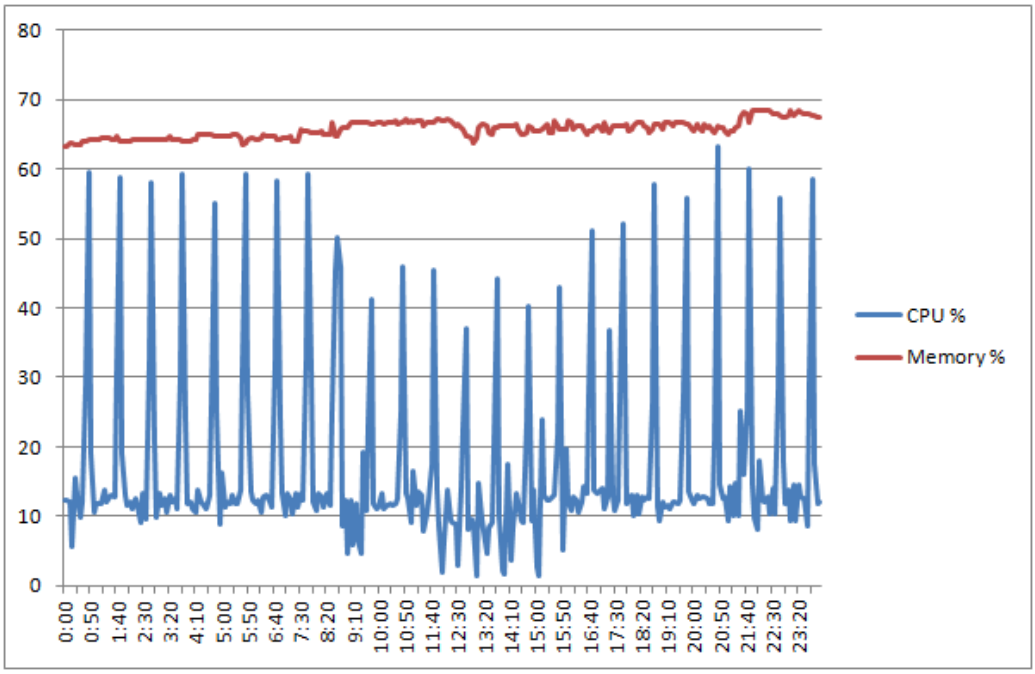
### For 30 Days

The following graph shows the CPU and memory utilization percentage for the test scenario over a duration of 30 days.




### For 24 Hours

The following graph shows the CPU and memory utilization percentage for the test scenario over a duration of 24 hours. This graph shows the utilization data in more granularity.

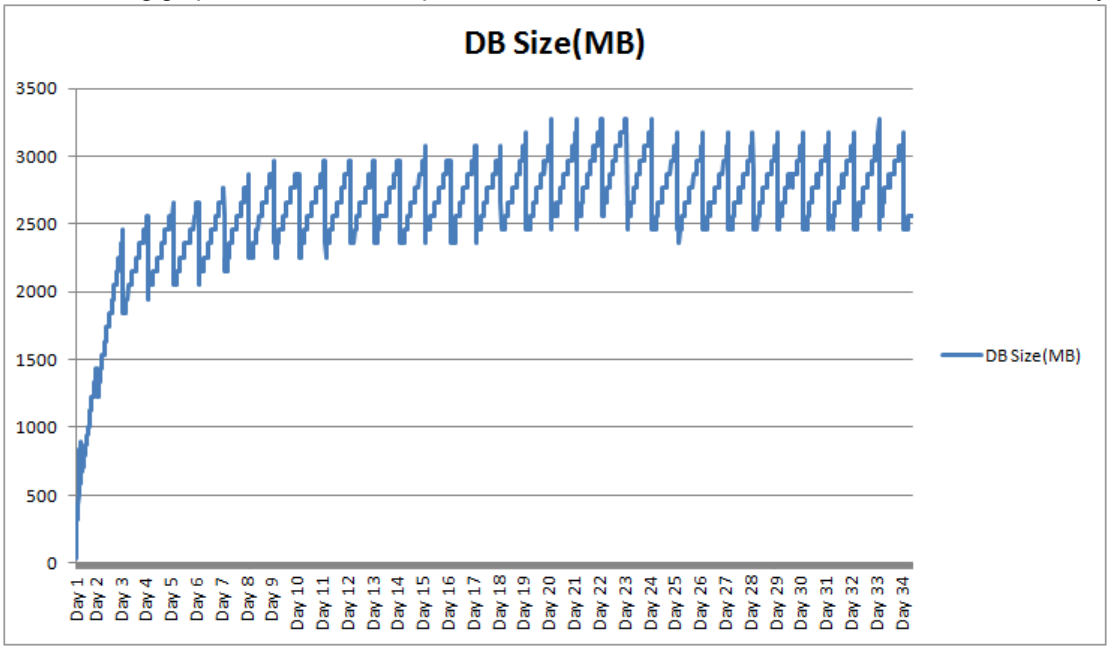



**Conclusion**

From the above graphs, it can be derived that there is a spike in the CPU utilization during the data collection cycles and the utilization comes down after the data collection cycle is complete. Memory utilization remains stable throughout all the tests carried out.

## Disk Space Utilization

The following graph shows the disk space utilization for the test scenario over a duration of 30 days.



### Conclusion

From the graph, it can be derived that the disk space utilization increases as data collection progresses.The dips in the graph appear when data is purged as part of daily maintenance in vPV.

# Test Scenario 2

vCenters and SCVMM data sources, having a total of 4000 instances, are added to vPV. For more information on the data sources and versions used, see "Data Source Versions" below. The vPV and vCenter servers are in the same subnet.

On an average, 2000 VMs were always up and running throughout the test duration (20 days). It can be noted that the results derived do not vary much due to the VMs that are down.

vPV was used to monitor and derive the results for the scenario.

The CPU utilization percentage, memory utilization percentage, and disk space utilization are observed for the test duration.

### Data Source Versions

The data sources added to vPV to run the tests were VMware vCenter Servers and Microsoft System Center Virtual Machine Manager (SCVMM). The versions of the data sources added are listed in the following table.

| Data Source | Versions | Instances |
|---|---|---|
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| Microsoft SCVMM | 2012 | 250 |

The test results were calculated for:

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# Results

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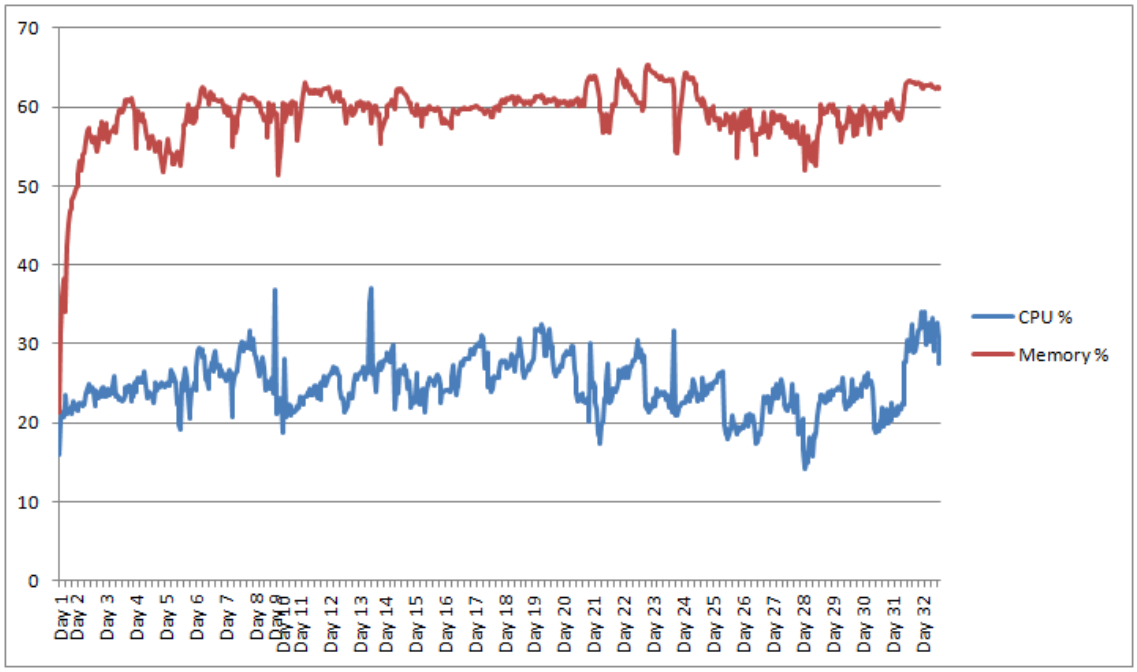


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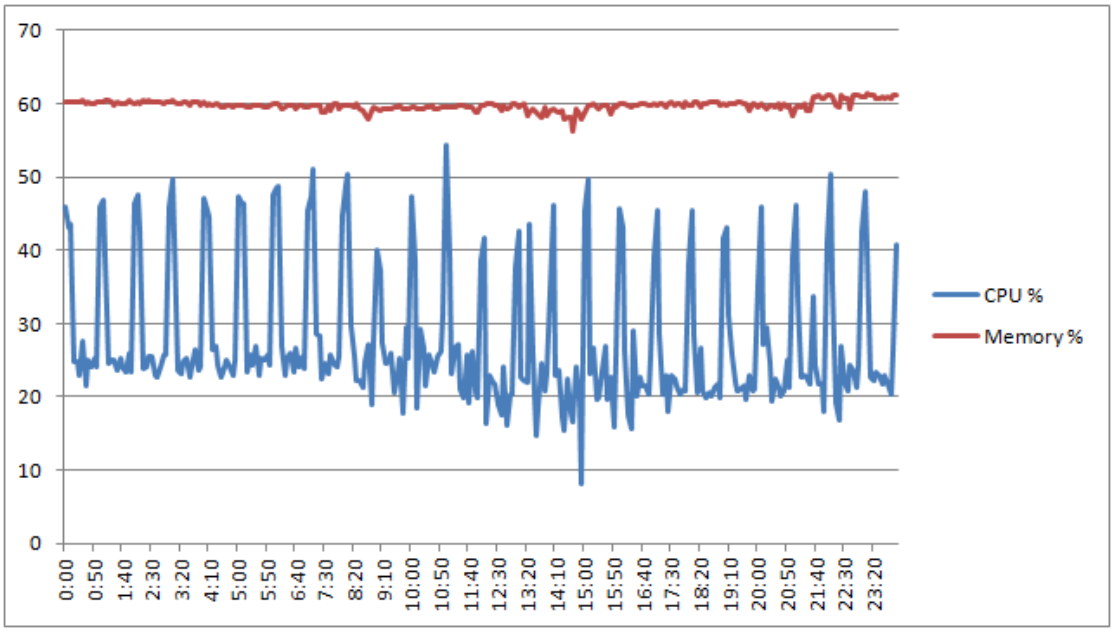


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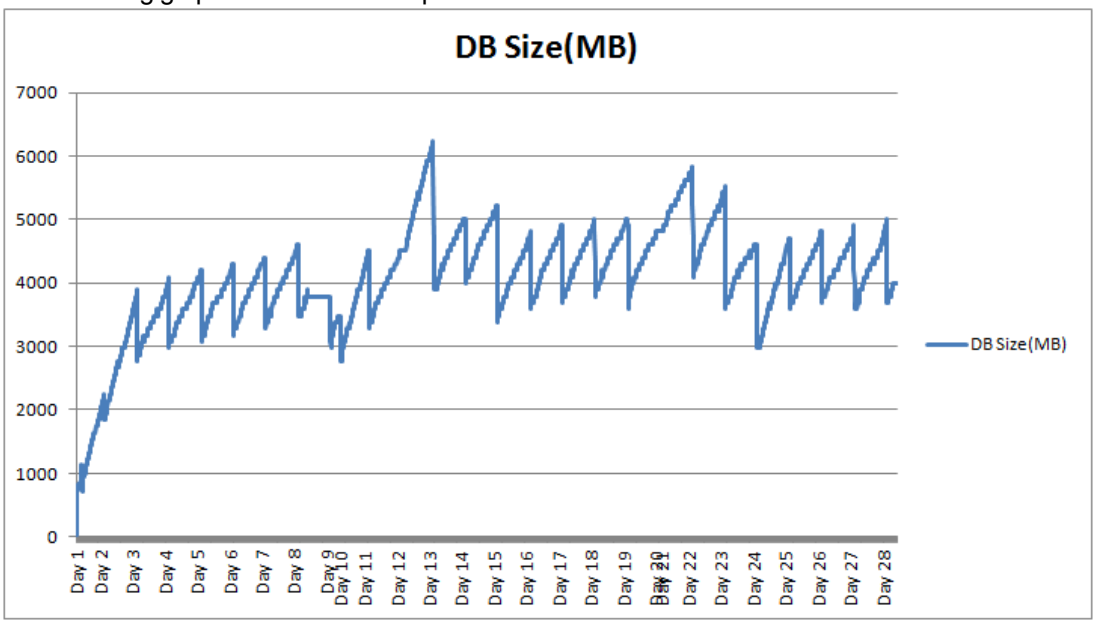

### Conclusion

From the graph, it can be derived that the disk space utilization increases as data collection progresses.The dips in the graph appear when data is purged as part of daily maintenance in vPV.

# Best Practices

Based on the tests run using vPV, following are the best practices on using the product for optimum results.

# Scalability

It is recommended to have a maximum of only 2000 instances for a typical setup having 2 CPUs and 4 GB memory. Instance count here includes the total number of VMs and hosts in the monitored environment. All VMs and hosts in both the powered on and off states are included in the instance count.

To monitor 4000 instances, increase the number of CPUs to 4 and memory capacity to 8 GB (ensure that the maximum heap size for Tomcat is set to 4 GB).

**Note:** The test scenarios conducted for obtaining sizing information did not include calculating UI response time.

# Data Retention

The default data retention values are listed in the following table.

| Data | Default Retention Period |
|---|---|
| 5 minutes | 1 day |
| 1 hour | 7 days |
| 24 hours | 30 days |

Increasing the retention period values is not a tested scenario and may affect the performance of vPV.