

MIMESweeper for SMTP 5.2

Virtualisation Support

Introduction

A number of customers have requested that Clearswift support MIMESweeper for SMTP within a virtual environment. Users are increasingly seeing the following benefits from using a virtualised environment:

- Consolidation
- Improved hardware utilisation
- High availability
- Disaster recovery

Some customers are already operating in a virtual environment. Indeed Clearswift has been doing the same for the last couple of years internally for both development and support purposes.

To date, no specific issues have been reported relating to running the software in a virtual environment. The only concerns encountered are with regards to performance, specifically the overhead of running within this type of environment.

This document details the extent of this support and the version of VMware within which the software is supported.

Supported Virtualisation Version

Clearswift will support the running of MIMESweeper for SMTP within a VMware ESX Server environment for the following versions of the software:

- VMware ESX Server version: 2.5 and above
- MIMESweeper for SMTP version: 5.2 SP2 and above

Hardware Requirements

The standard hardware requirements for deploying a MIMESweeper for SMTP on a physical box as listed in the product pre-requisites are as follows

Hardware	Low mail throughput	High mail throughput
Processor	Pentium III-class or better	Pentium IV-class or better
Processing speed	Single 800 MHz or higher	Dual 2.4 GHz or higher
RAM	1 GB or more	2 GB or more
Free disk space:		
On an NTFS-formatted hard disk	10 GB or more	30 GB or more
In the /temp directory	10 GB or more	30 GB or more

Therefore when using VMware it is essential that enough disk space and memory is allocated to that guest environment and that there is a suitable share on the physical processor time available on the host ESX server.

In addition to MIMESweeper for SMTP minimum requirements the host machine should also meet the minimum requirements specified for VMware ESX Server. See the following links for further information:

http://www.vmware.com/support/pubs/vi_pubs.html

http://www.vmware.com/pdf/vi3_systems_guide.pdf

Optimization

In a high mail throughput environment MIMESweeper for SMTP is an extremely disk intensive application. Under these circumstances it is recommended that as a minimum the system has a dedicated physical disk assigned to the virtual session hosting the MIMESweeper for SMTP. For maximum performance it is recommended that the operating system, SQL databases and quarantine message areas are all assigned dedicated physical disks.

Performance

Clearswift have executed a number of performance tests to investigate the impact of running MIMESweeper for SMTP in a virtualised environment.

These tests involved sending messages from the MMB3¹ message set to a MIMESweeper for SMTP running in both a virtual and non-virtual environment.

The test data used comprises a mix of message sizes and attachments to reflect a typical business environment. The test mix also includes viruses to cause the system to quarantine messages. The mix of messages were as follows

Message type	% of total (MMB3)	% virus (MMB3)
1k text message	15	
2k text message	18	
4k text message	16	
Message with Microsoft Word attachment	20	4
Message with Microsoft Excel attachment	17	3
Message with bitmap (BMP) attachment	5	1
Message with 1MB Microsoft PowerPoint attachment	2	
Message with 100K Microsoft PowerPoint attachment	5	2
Message with 2MB Microsoft Word attachment	2	

Two sets of tests were executed. The first involved adjusting the message "send rate" in order that the server's CPU was operating between 60% and 80%. This yielded a message per hour rate of

¹ <http://www.microsoft.com/exchange/evaluation/performance/mmb3.msp>

Environment	60-80%
With ESX Server	32,000
Without ESX Server	43,000
ESX overhead	23%

The second test involved saturating the system to determine the maximum number of messages the system could process in an hour.

Environment	Saturation
With ESX Server	52,000
Without ESX Server	66,000
ESX overhead	21%

Testing was performed on a Dell 1850 (Dual 3GHz CPU, 4GB RAM and two 40GB SCSI HD) running Windows 2003 Server R2 Standard Edition, using MIMESweeper for SMTP 5.2.10 and VMware ESX Server 3.0.

The MIMESweeper for SMTP was configured with the default policy.

Recommendations

- Customers looking towards virtualisation should carefully consider the hardware configuration that is being deployed. Special regard to the performance of the host server running the VMware ESX server, and the configuration of the Guest virtual environment regarding sufficient memory allocation and access to a fast disk subsystem must be taken.
- For resilience reasons it is recommended for running in a production environment that MIMESweeper for SMTP deployments are spread over multiple physical VMware ESX servers. This means that the entire system is not lost, should a single VMware server machine fail.