



Vmeter 4.0 Client

Quick Start Guide

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1 INTRODUCTION

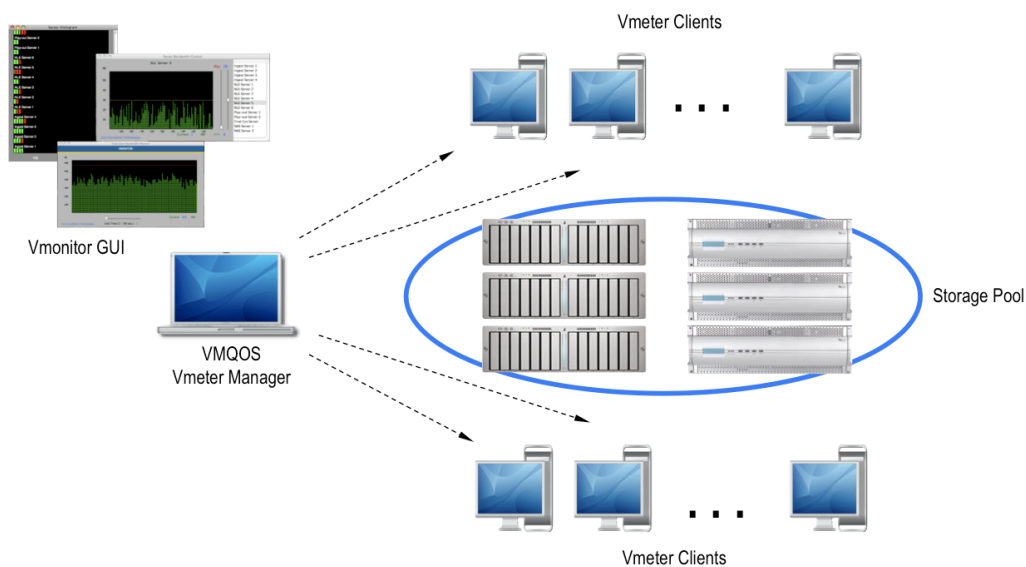
Vmeter enables users to limit or allocate bandwidth to SAN attached workstations. By allocating sufficient bandwidth to high priority processes such as playout servers, Vmeter ensures these processes are not interrupted by lower priority tasks by pacing these tasks with administrator-specified attributes. Attributes include limiting bandwidth to a specified maximum, or managing the entire SAN such that minimum guaranteed bandwidths are always allocated to specified high priority processes.

Vmeter 4.0 allows users to further sub-divide the SAN to multiple sub-SANs – Virtual SANs (refer to as VSAN), and manage the total available bandwidth and priority of the VSANs separately. With this feature, users are able to pace the I/O of SAN clients based on the given SAN Volumes.

Vmeter is delivered in two packages:

- Vmeter Client package; consists of:
 - Vmeter Client Driver
 - Vmeter Client CLI
 - Client Communication Daemon

- Vmeter server package; consists of:
 - VMQOS (Vmeter Manager CLI)
 - Server Communication Daemon



1.1 VSAN Support

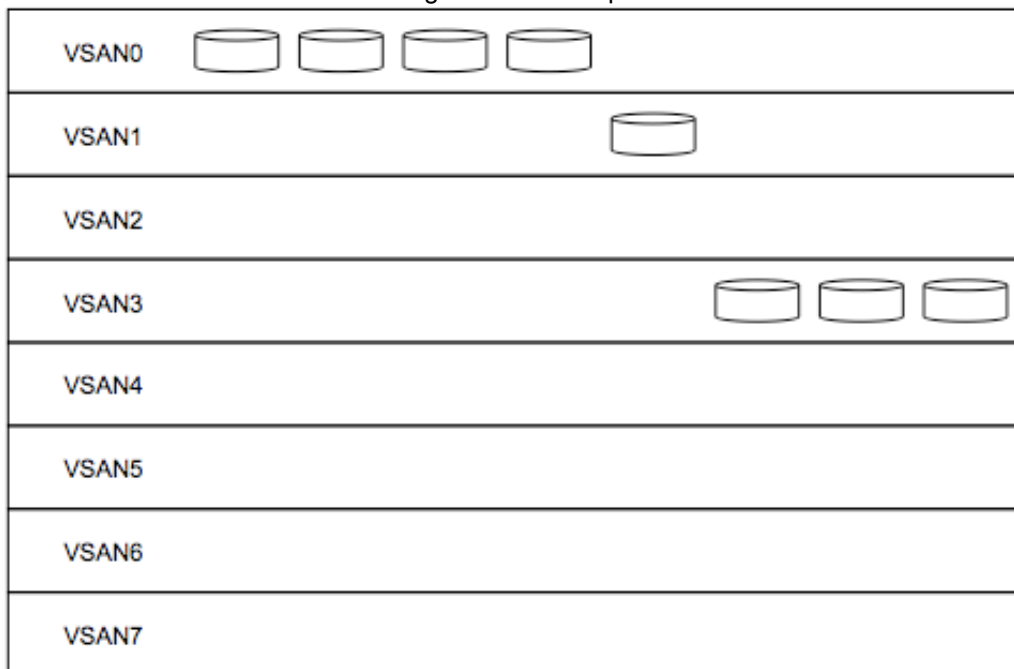
Vmeter 2.0 supports single SAN bandwidth management. All the LUNs that need to be managed by Vmeter should be grouped under a single SAN group. This may impose some limitations to users that have servers connected across multiple SAN systems and/or servers that have multiple SAN volumes in the case that users desire to have different bandwidth control policies for different SAN systems and/or SAN volumes.

Single SAN Group



Starting from Vmeter 3.0, it supports up to eight (8) Virtual SAN (refer to as VSAN) disk groups in a Vmeter management domain. Now you can assign the LUNs (refer to as disks in Vmeter) into any one of the VSAN groups and control the bandwidth of the VSAN separately.

Eight VSAN Groups



All VSANs are globally defined and mutually exclusive within the Vmeter management domain. It is recommended to consider assigning the VSANs to match with SAN volumes, i.e. to assign all the LUNs consists of a SAN volume into a single VSAN.

2 SETUP VMETER CLIENT

2.1 Install Software package

Double-click on the Vmeter-client package in Finder [Note: You must have administrative privileges to install the Vmeter Client package.]

2.2 Get License Key

- If the server has FCmeter HBA card installed, Vmeter is enabled by default. No license key is required.
- From the Terminal, go to `/Users/cfttech/vmeter/client/bin` and then execute `./videntify` to get the videntify (VID) output.

```
mdc1:bin admin$ pwd
/users/cfttech/vmeter/client/bin
mdc1:bin admin$ ./videntify
206036151181233014168192
```

- Submit the VID outputs along with LCN (License Certificate Number) to email: vmeter.support@vicom.com to get license keys. The sample format is below:

LCN	Host Name	VID
VMeter-09011001	video-server1	184272096187546140133137

NOTE: If you do not have a valid license key, the Vmeter client will manage bandwidth up to four (4) hours after restarting the Vmeter client.

2.3 Create Configuration File

- Go to `/Users/cfttech/vmeter/client` and then make a copy of `vmeter.conf.sample`, and then rename it to `vmeter.conf`.
- Open `vmeter.conf` by TextEdit and then enter an entry in the clients' section with the following information:

Hostname:	output of <code>uname -n</code> or IP address for the client
VID:	output of videntify of the client daemon
License:	license key
port #:	port number of the Vmeter client daemon
enabled:	true – Vmeter enabled; false – Vmeter disabled
min-MBPS:	reserved MBPS for the client
max-MBPS:	maximum MPBS allowed for the client system
min-RMBPS:	reserved Read MBPS for the client
max-RMBPS:	maximum Read MPBS allowed for the client system
min-WMBPS:	reserved Write MBPS for the client
max-WMBPS:	maximum Write MPBS allowed for the client system

NOTE: Set both VID and License to 0 if the server has FCmeter HBA card installed.

NOTE: The min-MBPS and max-MBPS will be disabled if any of Read MBPS or Write MBPS is not set to 0

2.4 Start Vmeter Client Driver

- Before starting the Vmeter client driver, you can run “**vmeter –validate**” command to check to see if the license is valid or not.

```
cd /Users/cfttech/vmeter/client
./vmeter-validate vmeter.conf
```

- Execute the following to start Vmeter client driver


```
sudo ./install vmeter.conf
```
- Restart the server

2.5 Check and tune the Vmeter settings

- Go to /Users/cfttech/vmeter/client/bin


```
cd /Users/cfttech/vmeter/client/bin
```
- To check the version, run “**./vmeter version**”


```
mdc1:bin admin$ ./vmeter version
VMETER version V4.0
```
- To check the license, run “**./vmeter license**”


```
mdc1:bin admin$ ./vmeter license
VMETER license is valid
```
- To check all disks (LUNs) managed by Vmeter, run “**./vmeter vdisks**”

```
mdc1:bin admin$ ./vmeter vdisks
```

Disk #	LUN#	VSAN#	Manufacturer	Model	Serial Number
0	2	0	Promise	VTrak	E610f 4953452000000000000000000000ADFACA135A227ED
1	0	0	APPLE	Xserve RAID	KC51000FXQ8GA0
2	0	0	Promise	VTrak	E610f 495345200000000000000000000040F2AD5204428101
3	1	0	VicomSys	SAN Engine	VICOM09294C00000001
4	0	0	VicomSys	SAN Engine	VICOM09294C00000000

NOTE: By default, Vmeter supports any FC storages. To remove disks from Vmeter management, edit info.plist to remove these disks. For further assistance, please send your questions to vmeter.support@vicom.com.

- To move disks to other VSANs, execute “**vmeter moveToVsan**” command. If there are several SAN volumes, you can assign these LUNs into any one of the VSAN groups and control the bandwidth of the VSAN separately.

```
mdc1:bin admin$ ./vmeter moveToVsan <VSAN#> <DISK#>
```

```
mdc1:bin admin$ sudo ./vmeter moveToVsan 1 0
mdc1:bin admin$ sudo ./vmeter moveToVsan 1 2
mdc1:bin admin$ sudo ./vmeter moveToVsan 2 3
mdc1:bin admin$ sudo ./vmeter moveToVsan 2 4
```

- To check these disks (LUNs) managed by VSAN0, run “**./vmeter vdisks –v 0**”

```
mdc1:bin admin$ ./vmeter vdisks -v 0
```

Disk #	LUN#	VSAN#	Manufacturer	Model	Serial Number
1	0	0	APPLE	Xserve RAID	KC51000FXQ8GA0

- To check these disks (LUNs) managed by VSAN1, run “./vmeter vdisks -v 1”

```
mdc1:bin admin$ ./vmeter vdisks -v 1
```

Disk #	LUN#	VSAN#	Manufacturer	Model	Serial Number
0	2	1	Promise	VTrak	E610f 4953452000000000000000000000ADFACA135A227ED
2	0	1	Promise	VTrak	E610f 495345200000000000000000000040F2AD5204428101

- Run “./vmeter vdisks -v 2” to check these disks (LUNs) managed by VSAN2

```
mdc1:bin admin$ ./vmeter vdisks -v 2
```

Disk #	LUN#	VSAN#	Manufacturer	Model	Serial Number
3	1	2	VicomSys	SAN Engine	VICOM09294C00000001
4	0	2	VicomSys	SAN Engine	VICOM09294C00000000

NOTE: run “./vmeter vdisk -v 3” or “./vmeter vdisks -v 4” or “./vmeter vdisks -v 5” to check other VSANs

NOTE: All the VSAN information resides in the VSAN configuration file, /Users/cftch/vmeter/client/vsan.conf. Copying this file to all Vmeter clients speeds up the setup of the Vmeter client driver in all Vmeter clients.

- Run “./vmeter config -v 0” to view the VSAN0 settings

```
mdc1:bin admin$ ./vmeter config -v 0
```

Name	Value
flowControl	true
samplePeriodMS	100
MBPS	64
Total IO MB	0
Read MBPS	0
Total Read IO MB	0
Write MBPS	0
Total Write IO MB	0

NOTE: run “./vmeter config -v 1” or “./vmeter config -v 2” or “./vmeter config -v 3” to view other VSANs

- Execute “vmeter config -v <VSAN#> -s <parameter list>” to modify the VSAN settings

flowControl If flowControl is set to be “true,” I/O bandwidth control is enabled. If it is set to “false,” bandwidth control is disabled.

samplePeriodMS This is the sampling interval

MBPS This is the maximum amount of I/O in MB per second allowed by Vmeter if flow control is enabled.

totalIO MB This is the maximum amount of outstanding I/O in MB allowed by Vmeter if flow control is enabled. If it is set to 0, this checking is disabled.

RMBPS This is the maximum Read amount of I/O in MB per second allowed by Vmeter if flow control is enabled. If it is set to 0, this checking is disabled.

totalRIOMB	This is the maximum Read amount of outstanding I/O in MB allowed by Vmeter if flow control is enabled. If it is set to 0, this checking is disabled.
WMBPS	This is the maximum Write amount of I/O in MB per second allowed by Vmeter if flow control is enabled. If it is set to 0, this checking is disabled.
totalWIOMB	This is the maximum Write amount of outstanding I/O in MB allowed by Vmeter if flow control is enabled.

```
mdc1:bin admin$ sudo ./vmeter config -v 2 -s flowControl=true
mdc1:bin admin$ sudo ./vmeter config -v 2 -s MBPS=55
mdc1:bin admin$ sudo ./vmeter config -v 2
```

Name	Value
flowControl	true
samplePeriodMS	100
MBPS	55
totalIOMB	0
Read MBPS	0
totalRealIOMB	0
Write MBPS	0
totalWriteIOMB	0

NOTE: All the VSAN information resides in the VSAN configuration file, /Users/cfttech/vmeter/client/vsan.conf

- Run “./vmeter perf -v 0” to view the performance and real time bandwidth control of the VSAN0

```
mdc1:bin admin$ ./vmeter perf -v 0
```

Performance Parameters (VSAN# 0):

	Read	Write	Total
MBPS	0	0	0
Last IOMB	0	0	0
Avg Blocked IOMB	0	0	0
Last Blocked IOMB	0	0	0
Pending IOMB	0	0	0
IOPS	0	0	0

NOTE: run “./vmeter perf -v 1” or “./vmeter perf -v 2” or “./vmeter perf -v 2” to check other VSANs

3 TECHNICAL SUPPORT

- Execute vmeter diagnostic log command to get a log file
 - Go to /users/cfttech/vmeter/client/logs
 - Save these logs and then zip them into one zip file
- Email your problem or questions along with the zip file to vmeter.support@vicom.com