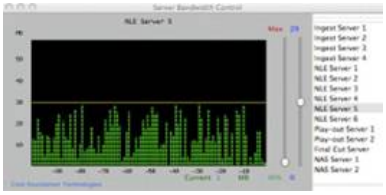
SOLUTION BRIEF

FCmeter™ Plus

Apple Video SAN Performance Acceleration and Streaming Management



Looking for a cost-effective way to boost the streaming performance of Apple video workgroup? Need to ensure clients get the bandwidth they need during performance-critical operations like ingest and play-to-air?

Here's an easy answer. Vicom's FCmeter Plus, a hardware-software bundle that boosts the streaming capacity of your workgroup through the addition of high-performance FCmeter Fibre Channel interface cards and Vmeter QoS management software. Simply install the FCmeter interface card and software on your MacPro workstations, specify your streaming priorities, and you'll raise the streaming capacity of your workgroup by 50-100 percent.

Concurrent I/O-intensive operations like playout or post-production of HD video often push shared SAN storage to its limits. As these limits are approached, operations like playout and ingest become problematic as frame drops interrupt streaming performance with increasing frequency. While adding RAID is a common way to solve this problem, it's both expensive and unnecessary.

Simple, Cost-Effective Performance Solution

The FCmeter Plus combination offers a simple, cost-effective path to upgrade workgroup performance. Together, FCmeter's high-performance, 8Gbit interface cards raise I/O bandwidth while Vmeter QoS management software ensures streaming operations like ingest and playout get the bandwidth they need by pacing the completion of less demanding tasks. Installed on SAN-attached clients, Vmeter software raises the overall performance of Apple SANs by controlling the I/O access rates of attached workstations. The result: FCmeter Plus increases I/O bandwidth and raises total streaming capacity at a fraction of the cost for a RAID-based performance upgrade.

FCmeter Plus, Vmeter, and Generic FC HBA Comparison

	Generic FC HBA	Vmeter	FCmeter Plus
8Gb FC connection	Yes	Thru FC HBA	Yes
SAN QoS Management	No	Yes	Yes (by Vmeter)

Key Features

High-performance Solution

- High-performance, 4x8Gb/sec PCIe-to-FC interface card which connects Mac OSX workstation to any FC storage system.
- Each quad-port interface card generates up to 6.4GB/sec streaming performance, and up to 200,000 IOPS per port.

SAN QoS Management

- Increases bandwidth efficiency and number of clients attached to a single video SAN.
- Ensures bandwidth availability for high-priority video processes by management of Xsan client access rates.
- Eliminates streaming interruptions from burst I/O conditions.

SAN Management and Diagnostic Software

- Includes SAN diagnostic utilities for performance tuning, and real-time event logging, which enables easy troubleshooting

FCmeter Plus Features

FCmeter's 8Gbit, PCIe-to-FC interface card raises aggregate streaming capacity to 6.4GB/second — enough for 40 uncompressed HD video streams simultaneously.

Vmeter SQM software:

- Eliminates frame drops due to unexpected I/O bursts.
- Dynamically limits workstation I/O demands according to preset levels
- Increases effective SAN bandwidth and the number of clients that can be supported by a given SAN/RAID configuration.
- Provides diagnostic logging and enables easy SAN troubleshooting and tuning.

FCmeter Hardware Specification

Model	FCM1184
Description	8Gb/sec quad-port PCIe-to-SAN interface card
Platform OS Support	Mac OSX 10.6 and 10.7
SAN File System Support	Xsan, StorNext, MetaSAN
Storage System Support	Xsan-compatible FC RAID, including Apple Xserve RAID, Promise VTrak, ActiveRAID, and Vicom Vxr-II (other storage systems can be certified and supported under custom request)
Host Connectivity	PCI Express 2.0, PCIe x 8 physical connector
Fibre Channel Specifications	Four 8Gb/sec Fibre Channel ports per interface card Protocol/Topology Standards: ANSI Fibre Channel (FC-PH, FC-PH-2, FC-PH-3, FC-PLDA, FC-FLA) ANSI Fibre Channel Arbitrated Loop (FC-PLDA, FC-AL, FC-AL-2) ANSI Fibre Channel Fabric (FC-FLA, FC-GS-2) Classes of Service: Class 3 Data Transfer Rate: 2, 4, or 8 Gb/sec; Port Type: N(L)_Port
FC Port Connectivity	SFP and SFP+ with LC-style connector Maximum 150m for 8Gb/s optical, OM3 multi-mode cable
Maximum Throughput	8Gb/sec and 200,000 IOPS per port
FC Meter Operating Environment	Power consumption: 6.2 Watts (typical) Operating Temperature: 0ºC to 55ºC (32ºF to 131ºF) Humidity 10% to 90% (non-condensing)
FC Meter Form Factor	PCI Express card (6.6 in. x 2.45 in.)