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Navigating Information Technology Horizons[SM]

Play it Again…*SANmelody 2.0*

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A little over a year ago, DataCore introduced *SANmelody*, a virtualizing storage solution for small-to-midsize IT operations.[1] Virtualization is happening everywhere in information technology[2] and storage virtualization makes sense for just about every IT operation, small to large.[3] Based on DataCore's full SANsymphony suite, it was a way to make a *Windows XP*, *2000*, or *2003 Server* into a disk server, with the requisite management, virtualization, and load balancing to implement a homegrown SAN. Hosting the SANmelody in a Windows environment leverages the benefits of Microsoft's utilities, but does not limit the software to supporting only Windows environments: it can manage UNIX, Linux and Novell stored data as well.

The product has been very popular. NEC has signed up as an OEM for SANmelody, selling it in Japan to great acclaim. More recently, Promise Technology, which ships 1.8 million RAID controller cards per year, has licensed a limited-to-four-disks version, *SANmelody Lite*, to include with every RAID card that it ships. And, during this time, iSCSI has gained great momentum in the marketplace, making the benefits of a SAN affordable for smaller organizations. **If you have been waiting for the right moment to do something about your storage, the moment is at hand.**

In the recently-announced version 2.0, DataCore is making the following enhancements available, which make the product even more relevant, useful, and easier to deploy.

1. ***Reduces Administrative Pain*** – SANmelody 2.0 includes *Virtual Capacity* auto-provisioning of Networked Managed Volumes. This software banishes the need to manually pre-provision and tweak storage volumes for different applications. This feature carries no restrictions of server, disks, or network. You can use Fibre Channel, or iSCSI, or both.

2. ***Offers Plenty of Power*** – Although all storage virtualization involves some indirection, SANmelody is not a lightweight performer. SANmelody Fibre Channel and iSCSI implementations clocked impressive SPC-1 I/O benchmarks of 19,949.72 IOPS and 9,298.56 IOPS[4], respectively, which is the throughput at which the response time started to degrade rapidly.[5] The SPC-1 price/performance metric, which is a function of the total system price over three years[6]

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[1] See **The Clipper Group Navigator** *DataCore's SANMelody Disk Server Software Delivers Build-to-Suit Block Storage* dated March 17, 2004, and available at http://www.clipper.com/research/TCG2004023.pdf.

[2] See *Understanding the Role of IT Virtualization - It's a Matter of Architecture* in **The Clipper Group Explorer** dated September 8, 2004, and available at http://www.clipper.com/research/TCG2004074.pdf

[3] For a more technical look at buying storage virtualization, see *Top 10 Buying Considerations for Storage Virtualization Solution* in **The Clipper Group Explorer** dated September 8, 2004, and available at http://www.clipper.com/research/TCG2005028.pdf.

[4] According to George Teixeira, CEO of DataCore, DataCore's performance comes from the software's support of multi-threading, allowing more efficient polling. This advantage will grow more effective as processor sets evolve.

[5] This may seem irrelevant to a smaller enterprise with modest workloads. It does, however, provide an unbiased comparison of the two protocols.

[6] Including software, cabling, and maintenance but excluding the server hosting the workload generator.

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at the benchmark IOPS rate, is $4.06 for Fibre Channel and $4.86 for iSCSI[7], according to the vendor. If you think that, as a small company, these performance numbers don't mean a lot to you, think of your business processes, think of the ability to build, easily, your SANmelody environment as small as suits your purpose, including the possibility of using "slower" ATA drives for your production data.

4. *Supports Business Continuance* – SANmelody 2.0 lets you use the iSCSI transport for failover. With two disk servers running SANmelody, the software can mirror data between the two arrays, and can failover across the Internet. The arrays do not have to be the same size or brands of drives – there just has to be adequate capacity at both ends. This brings business continuance to the smaller business at a refreshingly easy and inexpensive entry point.

5. *Can Be Deployed On A Sliver Of A Server* – SANmelody now supports VMware's and Microsoft's server virtualization products. This allows the SANmelody host to function as a full virtual infrastructure for the small Windows/Linux business, i.e., residing in the same server as your business applications.

6. *Does Even More* – SANmelody now supports other key Windows Capabilities including Windows Storage Server 2003's *Virtual Disk Services (VDS), Volumes Shadow Copy Services (VSS),* and *Multipath I/O (MPIO).* Its volume pass-through feature allows it to manage live data that resides on Windows. The I/O performance benchmark numbers demonstrate why you would want this data to be managed by SANmelody. Even businesses requiring relatively high performance may be able to get away with Ethernet networks and Ethernet skill sets.

7. *Does NAS, too* – SANmelody 2.0's support for Windows files means it can also be used to serve files to a NAS head, providing the file service to complement its block-serving capabilities. It can also serve disks to a NAS head, providing the file-level access to complement the block-level access that it offers. This completes the basic infrastructure needed by small IT operations.

With these developments, the red and amber lights of pause and caution that have held smaller enterprises back from networking all their storage, including their block-access storage, have turned green. It is time to get going. The first step in prudent haste is to get familiar with the possibilities. SANmelody allows you to do this at no cost with free 30-day-trial download, with equipment you probably already have on site. The pricing for SANmelody, depending on the options selected, is generally from $1,000 to $10,000.

Conclusion

Once again, DataCore is, playing a song tailored to businesses with small- to medium-sized IT operations – those with cogent needs for an efficient storage environment, but limited budget and skills. This year, the tempo of business has quickened with a new focus on growth. Now, there is no reason not to take up the efficiencies of networked storage, and join the dance.

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[7] This makes sense since ATA drives are about half the price of FC drives. The (excluded) cost of acquiring and maintaining FC skills is not part of the benchmark, but may be a significant factor relevant to the smaller enterprise that would like to avoid that cost.

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